# **INSTALLATION MANUAL**







Revision date: August 2014

LITERATURE PART #5.95.0000.000\*



21 South Field Drive, Elmira, Ontario, N3B 0A6 - Tel: (519)-669-5421 - Fax: (519)-669-8912 Website: www.trylon.com

### NEW SUPERTITAN PACKAGING

Trylon TSF and the Stock Products group are proud to announce a major innovation for our SuperTitan Tower packaging. Trylon will no longer use wood crates to package SuperTitan sections 1 - 12HD, and their corresponding foundations. Instead the section's tower legs will be used to create a metal crate, pictured above (Patent Pending).



Within the tower legs all of the diagonals and sectional hardware will be nested. Steel end-caps are used seal the ends of the sections. This packaging, which will be fully implemented over the next few months, has been rigorously tested to ensure durability and strength in transport and will protect against the potential for a loss of section parts/hardware. During testing the new self-contained packaging vastly outperformed the existing wood crate.

This improved form of packaging will provide the customer with a product where the packaging material is up to 95.5% lighter and uses 72% less space in shipping (comparison photos can be seen below). This results in lowered freight costs and a cost savings to our end customers. This lowered freight also represents a reduced carbon footprint associated with shipping the tower material. An additional "Green" benefit is the reduction of waste on site. Empty crates no longer need to be disposed of as the Steel end-caps can be easily collected and recycled.

Trylon is extremely proud of our Packaging team for developing an innovative solution. We hope you the customer enjoy the environmental & cost benefits from the new design.

# SuperTitan Unpacking Manual:

Step 1: Place SuperTitan section on flat, sturdy surface. Check section for any signs of damage.



<u>Step 2</u>: Disassemble the bolt connection that is connecting the end-cap to the top section leg.



Step 3: Remove Leg, exposing the section's hardware on the inside.



Step 4: Carefully remove the section's hardware, taking care to ensure all parts are accounted for.



<u>Step 5</u>: Disassemble the remaining bolt connections, and separate the section legs from the end-cap.



Step 6: Review SuperTitan Installation Manual, Part Number 5.95.0000.000.







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### SuperTitan Manual Update:

#### Dear Customer;

Thank you for purchasing one of our SuperTitan Towers! Welcome to the Trylon family, we hope that you enjoy your tower purchase and that this tower meets your expectations of a high quality product. Ensuring quality in our products is something that Trylon always strive to achieve and we believe that it shows.

One of the ways we want to help you the customer is to indicate some updates to our product that are not yet shown in our manual. Please review the below update notes:

- 1) FOR PAGES 28-41(Dwg#1.620.014-1.620.0029): Sections 2F-13FHD will now have an additional hole on both sides of the angle at the bottom of the leg. This additional hole has been added to facilitate Trylon's NEW SuperTitan Packaging method. The addition of these two holes does not in any way affect the structural integrity of the leg.
- FOR PAGES 17-25(Dwg#1.620.0058-1.620.0066): For Sections #13-21, all diagonal members now have two bolt holes at either end of the member. This change has been made to allow for easier installation. The addition of the second hole does not affect the diagonal's structural integrity.

If you ever have a question regarding the above or your tower in general please feel free to call our office at (519) 669-5421 or email <a href="mailto:info@trylon.com">info@trylon.com</a> and ask for a representative from the Stock Products Team. We will gladly answer any questions you may have.

Thanks for taking the time to review and we hope you enjoy your tower.

Sincerely

The Stock Products Team Trylon TSF



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SUPERTITAN SELF SUPPORT

SUPERTITAN TOWER INSTRUCTION SHEET  1) Check all tower sections for damage before signing the shipping papers. 2) ID any material that is damaged or missing, note it on all copies of the shipping papers for future reference. (note: do not attempt to repair damaged members, as this will weaken the structure.) 3) Assembly instructions are located in a plastic bog with the hardware. 4) Check for proper quantities of hardware. But sizes are noted on the assembly drawings. 5) Before erection, check for loose or missing bolts and tighten or replace as required.	SUPERTITAN TOWER INSTRUCTION SHEET  1) Erection should be undertaken by qualified and experienced personnel only. 2) Prior to erection verify trueness of all sections. (See Supertitan Tower Section Field Assembly Instructions 5) for method.) This is an important first step in achieving tower plumb. To skip this step will make it more complicated to correct any problems which may arise during erection. 3) Erection can be done lifting one section at a time or lifting assemblies of multiple sections, using a gin pole or a crane. Whatever the chosen method, care must always be taken to achieve and maintain	REV.	BY: REV.	BY: CHK.	DESCRIP	TION	DATE
6) Excavate for concrete base as shown on foundation drawing and install reinforcing bars.  7) Assembly 5 foot base section and place in exacavation. Top of base leg must be 18" above finished concrete. Plumb tower section with a transit or level.  8) Pour concrete and aflow to harden for one (i) week.  9) Tower may be eracted one (i) section at a time by using the gin pole method or by lifting section with a crane, (note: do not attoch antenno before tower is eracted and all boths are tightness of the control	tower plumb throughout the process. Each method presents it's own problems.  4) If erection is undertoken in high wind conditions, core must be taken to counter only effect on tower plumb before find splice bolt tiphtening.  5) If erection is undertoken using a gin pole, the effect of the rig (weight and pull direction) on tower plumb must be considered and countered.  6) If tower is to be erected in lifts consisting of multiple sections. Lifts must be assembled without introducing bends or twists. Lift assembly must be an a level surface using timber cribbing as needed. With splice bolts brought "smu split" as defined in 10) of the Supertition Tower Instruction Sheet.  7) When lifting multiple sections care must be taken in choosing slinging method and the points to avoid introducing any deformations during the lifting process.  8) When connecting lifts on the lower splice botts are first installed hand tight until the lifting line or crane or gin pole rig can be slocked off sufficiently to eliminate any effect on lower plumb. Only then can they be brought to "smu girplit" condition.  9) Tower plumb should be monitared continuously during erection by observing deflection of each leg using a transit or a theoditike. As soon as a problem is detected the cause should be found an corrected. Before continuing with erection all splices should then be tightened fully, starting at the bottom and moving up. Full tightness is defined in section 10) of Supertition Tower instruction Sheet.  10) When all sections are installed and tower plumb is confirmed all remaining "smu tight" splice botts should be fully tightened. Starting with the lowest and moving upwords.						
		REFE	RENC	E DRA	AWINGS:		
SUPERTITAN TOWER SECTION FIELD ASSEMBLY INSTRUCTIONS.	SUPERTITAN OVERVIEW	Di	RAWIN	NG NUN	ABER I	DRAWING N	UMBER
	1) All towers are triangular in cross section.						
<ol> <li>Assembly should be undertaken by qualified and experienced personal only.</li> <li>To determine the top of a leg, the leg part number is stamped towards the top end of the leg.</li> </ol>	Legs constructed from 350W structural angle formed to 60 degrees.     Diagonals and horizontals constructed from 350W structural angle.						
<ol> <li>To ensure trueness sections must be assembled on a level surface. Timbers and adjustable jack stands can be used to create an assembly jig for this purpose.</li> </ol>	4) Bolts are ASTM-A325. 5) All tower components including bolts are hot dipped galvanized.						
<ol> <li>Assemble one complete face (two legs C/W all bracing) on the jig, leaving bolts hand tight. All bracing should be installed with the heel of the angle towards the top of the section.</li> </ol>	<ol><li>The middle of diagonal members are designed to support a climber of maximum 200 pounds.</li></ol>						
5) Measure the c/c distance between the top bolt of leg 1 and the bottom bolt of leg 2. Repeat this measurement	<ol> <li>Towers are available in pre-assembled sections or knock-down sections.</li> <li>Knock-down tower must be professionally assembled with the use of proper assembly jigs.</li> </ol>						
between top bolt of leg 2 and bottom and bottom bolt of leg 1. Both measurements will be identical if assembly is true. Adjust leg positions until this is achieved and carefully tighten one brace at each end of section. Verify	<ol><li>Knock-down tower are ideal for large quantity requirements where freight cost is a major factor.</li></ol>						
trueness and tighten all bolts fully.	10) Tower may be constructed using any sequential portion of the twelve 10-foot sections which comprise this structure. For example, the top 80 feet may be chosen to support a small antenna load or the						
6) Install the top two diagonals and the bottom diagonal of the other faces on each leg of the assembled face. Lift leg 3 over the center and connect those six members to it. Install all remaining bracing on both faces leaving bolts	the bottom 80 feet could be selected to support a larger antenna load.  11) Please refer to our tower design program to determine the right tower for your requirements.	-			_		
hand tight.  7) Measure for and achieve trueness of new faces as described in 4) above. Fully tighten all bolts.	11) Floude feler to our tower design program to determine the right tower for your requirements.						
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SUPERTITAN INSTRUCTIONS

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#### TURN-OF-NUT TIGHTENING

1. AFTER ALIGNING THE HOLES IN A JOINT, SUFFICIENT BOLTS SHALL BE PLACED AND BROUGHT TO A SNUG-TIGHT CONDITION TO ENSURE THAT THE PARTS OF THE JOINT ARE BROUGHT INTO FULL CONTACT WITH EACH OTHER. "SNUG-TIGHT" IS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING A SPUD WRENCH. 2. FOLLOWING THE INITIAL SNUGGING OPERATION, BOLTS SHALL BE PLACED IN ANY REMAINING OPEN HOLES AND BROUGHT TO SNUG-TIGHTNESS. RE-SNUGGING MAY BE NECESSARY IN LARGE JOINTS. 3. WHEN ALL BOLTS ARE SNUG-TIGHT, EACH BOLT IN THE JOINT SHALL THEN BE TIGHTENED ADDITIONALLY BY THE APPLICABLE AMOUNT OF RELATIVE ROTATION GIVEN IN THE CHART BELOW, WITH TIGHTENING PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT TO IT'S FREE EDGES. DURING THIS OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH, UNLESS THE BOLT AND NUT ARE MATCH-MARKED TO ENABLE THE AMOUNT OF RELATIVE ROTATION TO BE DETERMINED. 4. ANY BOLT THAT IS LOOSENED AFTER INITIAL TENSION NEEDS TO BE REPLACED.

Bolt Diameter (Inch)	Bolt Length (inch)	Turns beyond snug tight	Bolt Diameter (Inch)	Bolt Length (inch)	Turns beyond snug tight	Bolt Diameter (Inch)	Bolt Length (inch)	Turns beyond snug tight
1/2	up to 2 inch	1/3	1/2	over 2 up to 4 inch	1/2	1/2	over 4 inch	2/3
5/8	up to 2.5 inch	1/3	5/8	over 2.5 up to 5	1/2	5/8	over 5	2/3
3/4	up to 3 inch	1/3	3/4	over 3 up to 6	1/2	3/4	over 6	2/3
7/8	up to 3.5 inch	1/3	7/8	over 3.5 up to 7	1/2	7/8	over 7	2/3
1	up to 4 inch	1/3	1	over 4 up to 8	1/2	1	over 8	2/3

NOTE: TOLFRANCE ON ROTATION = 30° OVER OR UNDER. NOTE: BOLT LENGTH IS MEASURED FROM THE UNDERSIDE OF THE HEAD TO THE EXTREME END OF POINT.

DRAWING NUMBER

DESCRIPTION

DATE

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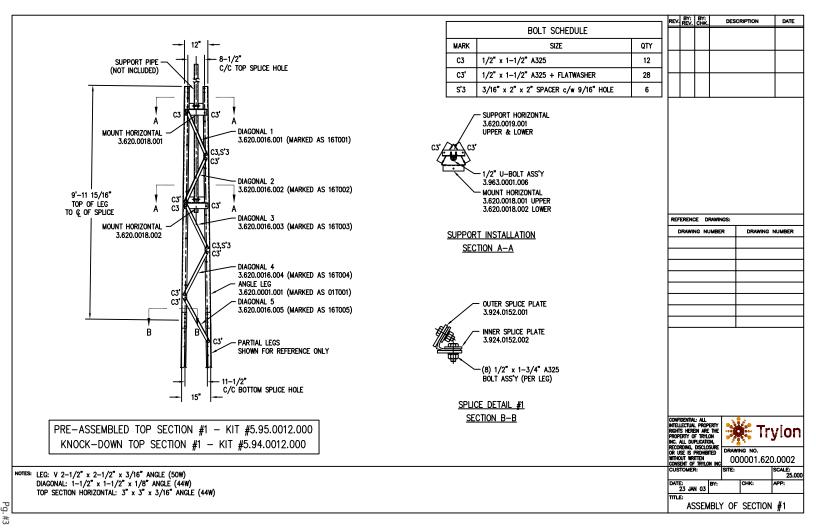
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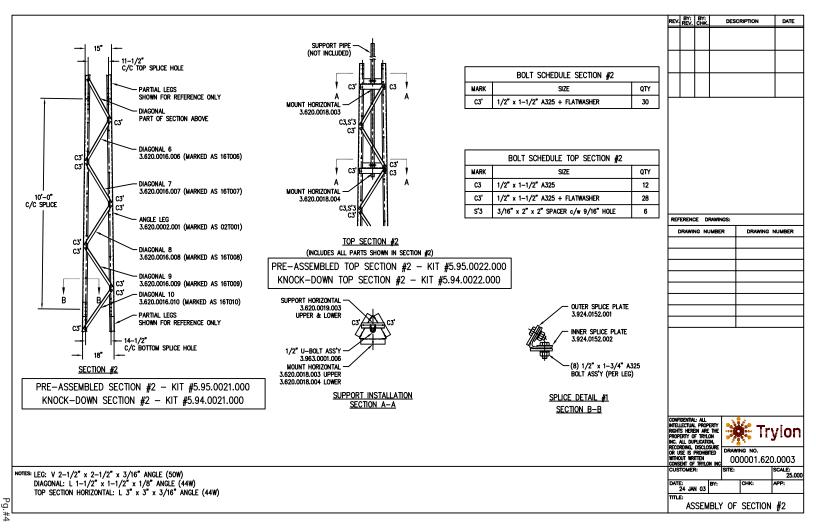
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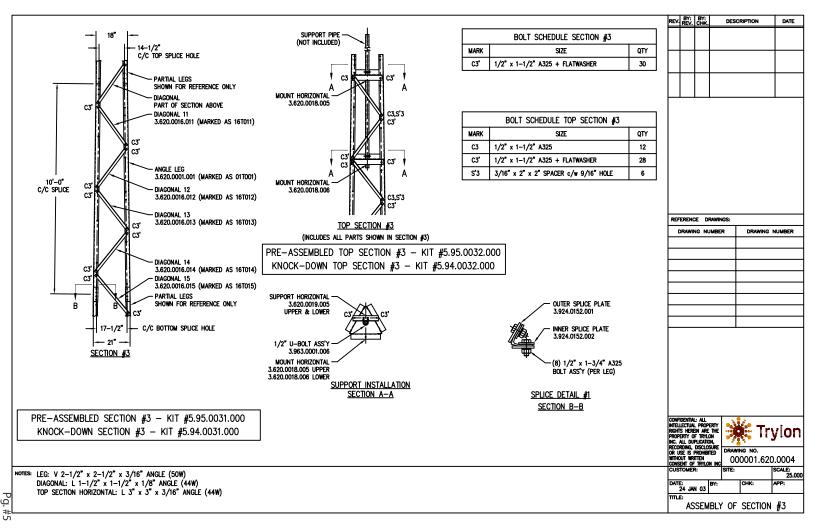
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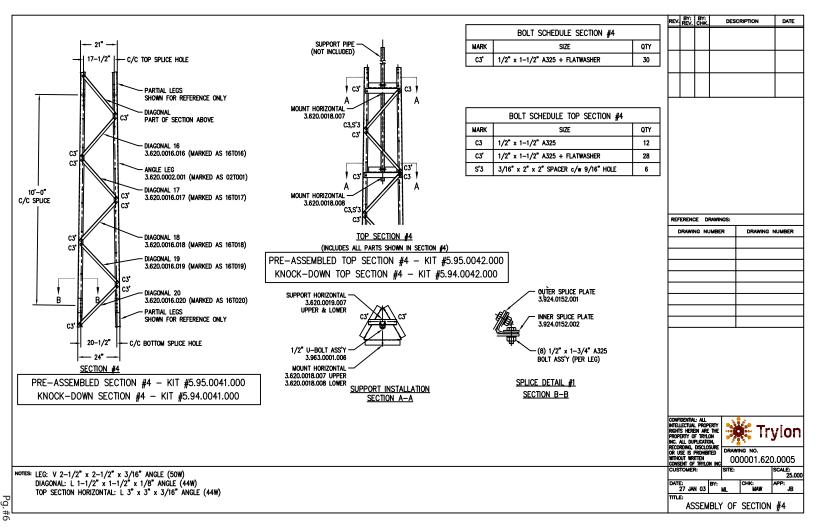
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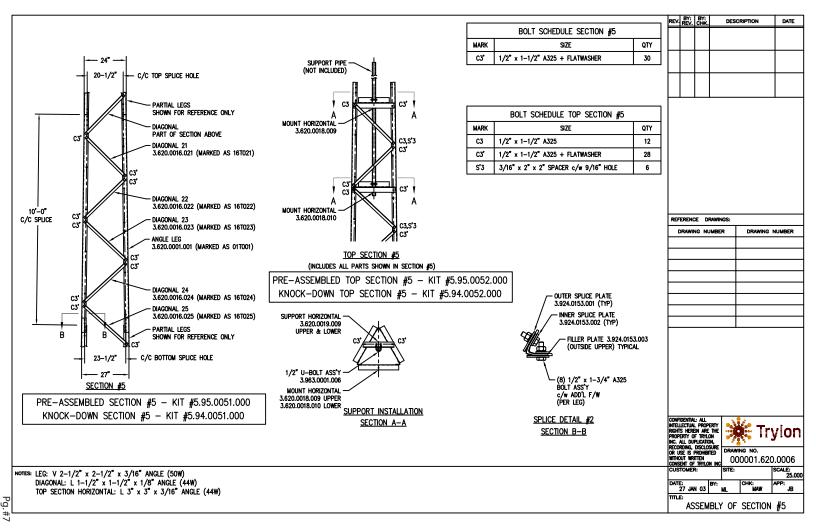
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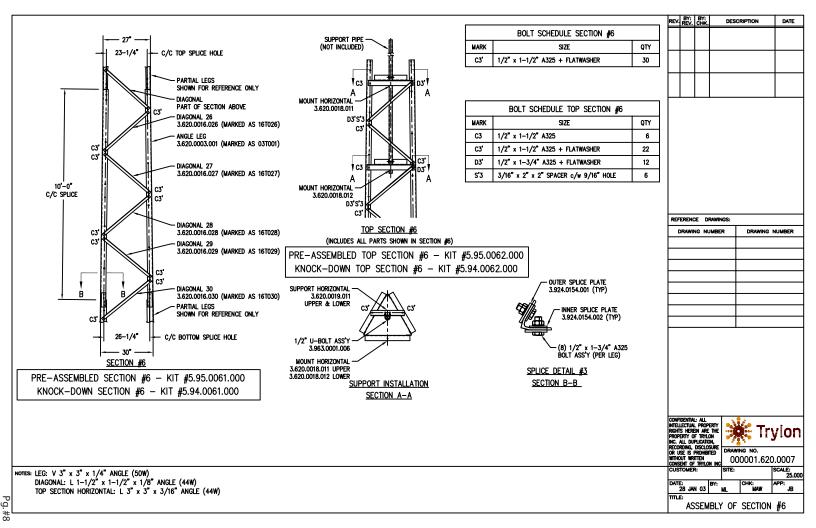


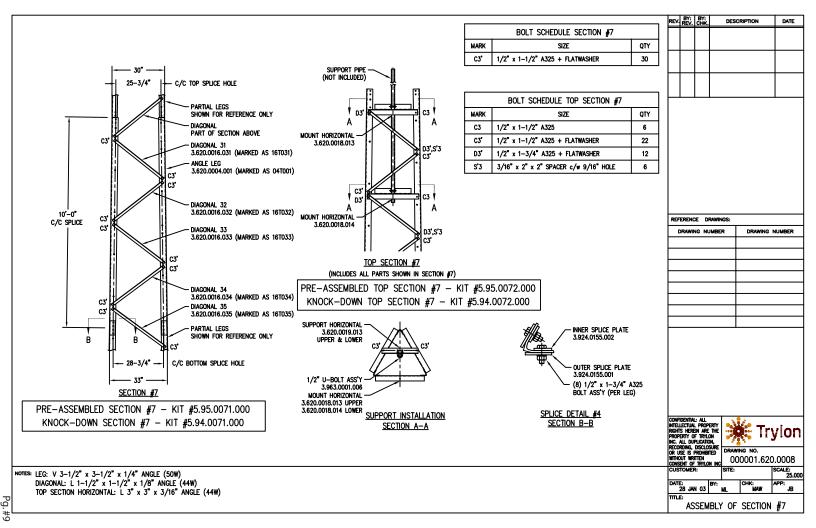


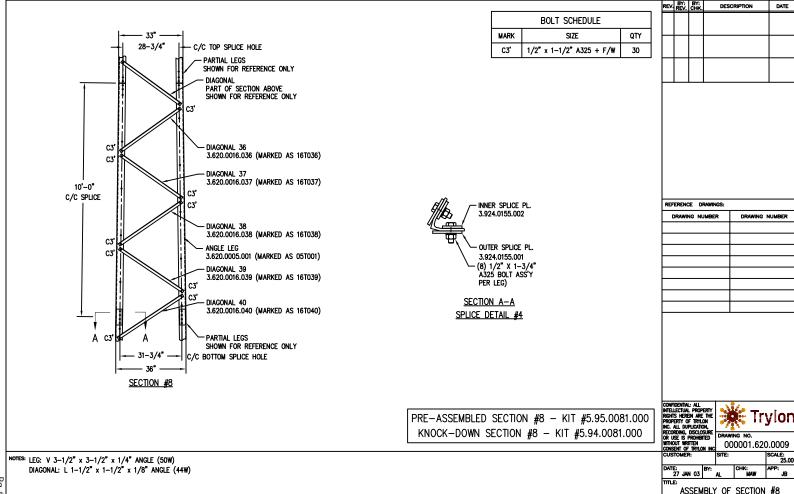




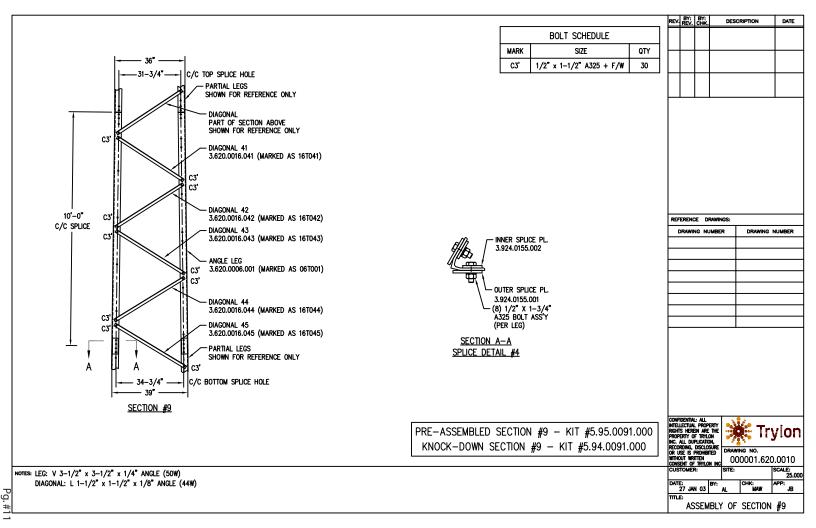


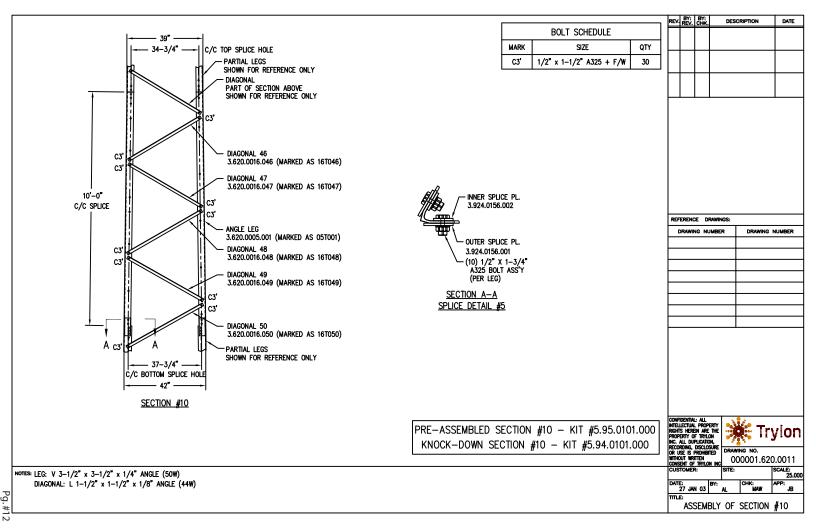


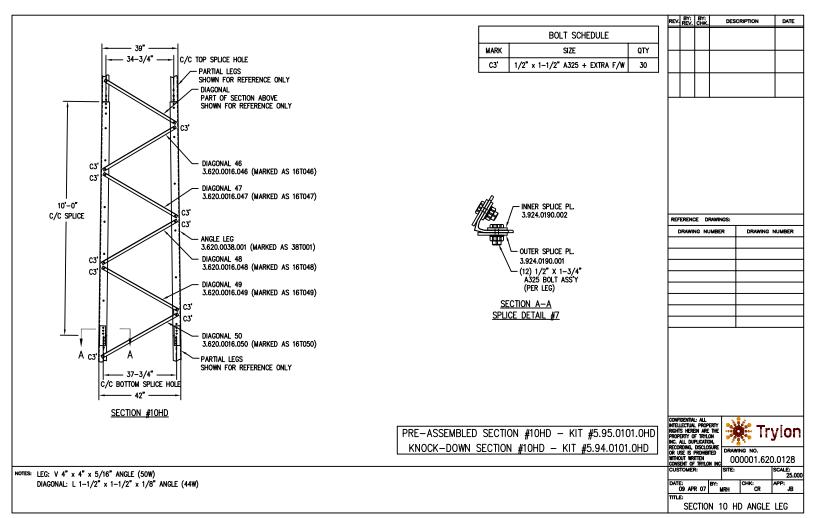


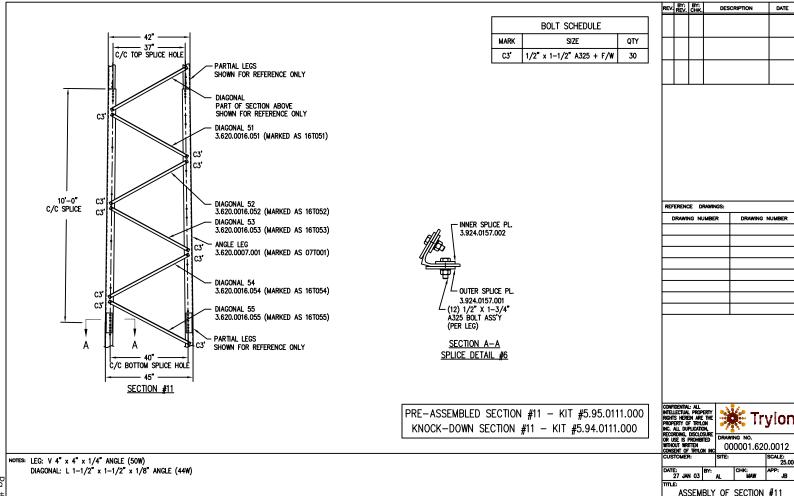


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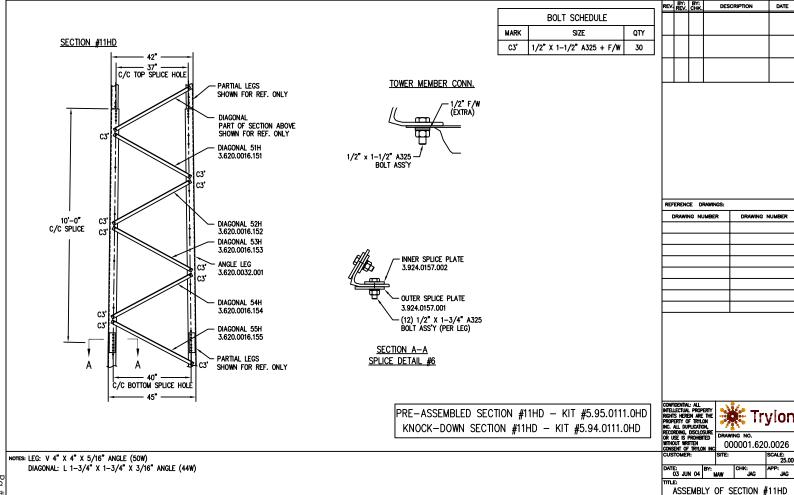




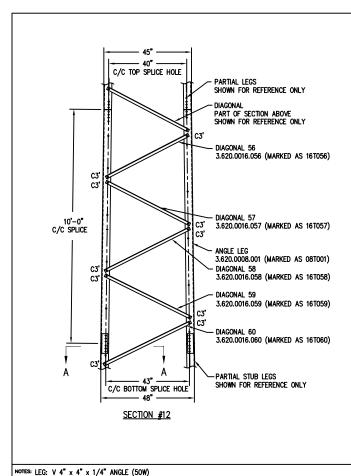




Pg. #13



#1



BOLT SCHEDULE									
MARK	SIZE	QTY							
C3'	1/2" x 1-1/2" A325 + F/W	30							

REFERENCE DRAWINGS: DRAWING NUMBER DRAWING NUMBER

REV. BY: BY:

DESCRIPTION

DATE

PRE-ASSEMBLED SECTION #12 - KIT #5.95.0121.000 KNOCK-DOWN SECTION #12 - KIT #5.94.0121.000

INNER SPLICE PL.

OUTER SPLICE PL. 3.924.0157.001

-(12) 1/2" X 1-3/4" A325 BOLT ASS'Y

(PER LEG)

SECTION A-A

SPLICE DETAIL #6

3.924.0157.002

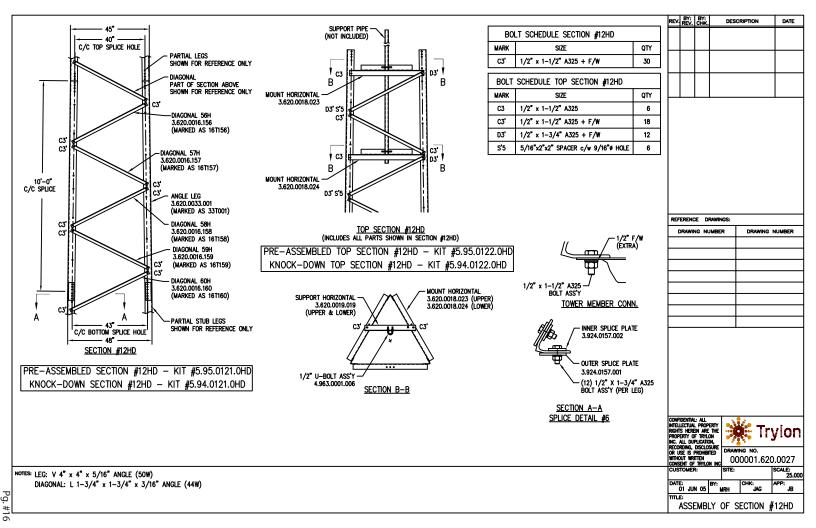
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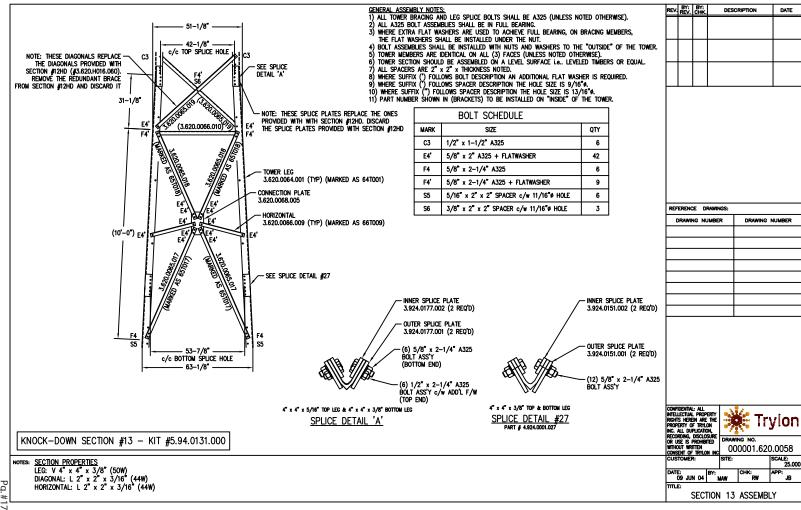
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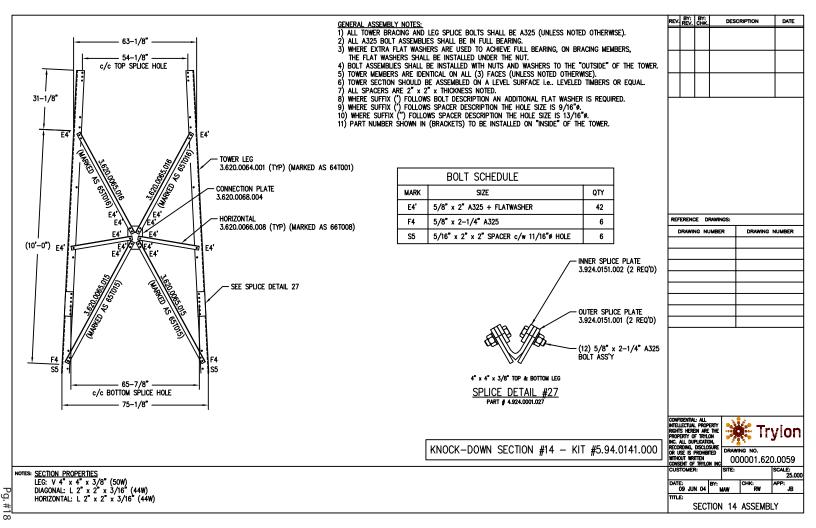
ASSEMBLY OF SECTION #12

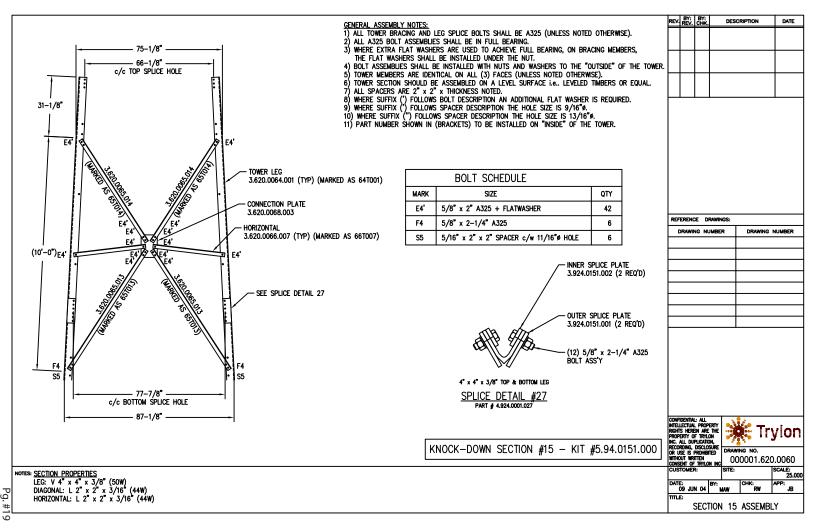
DIAGONAL: L 1-1/2" x 1-1/2" x 1/8" ANGLE (44W)

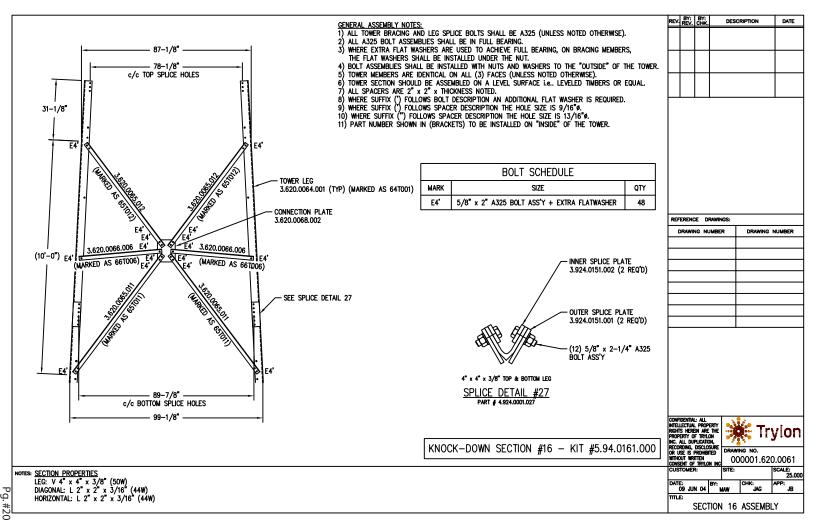


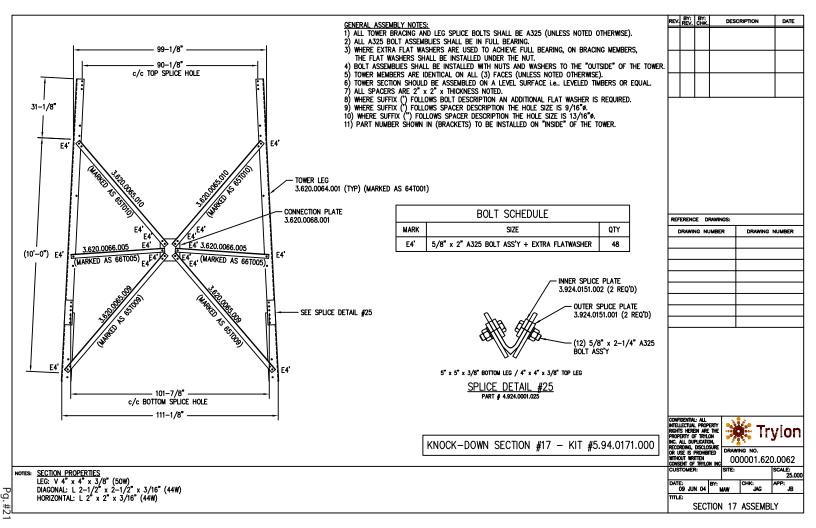


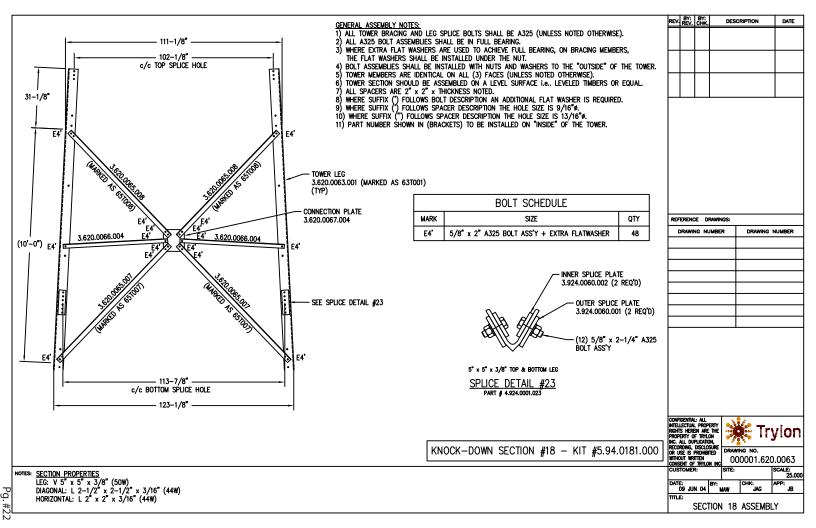
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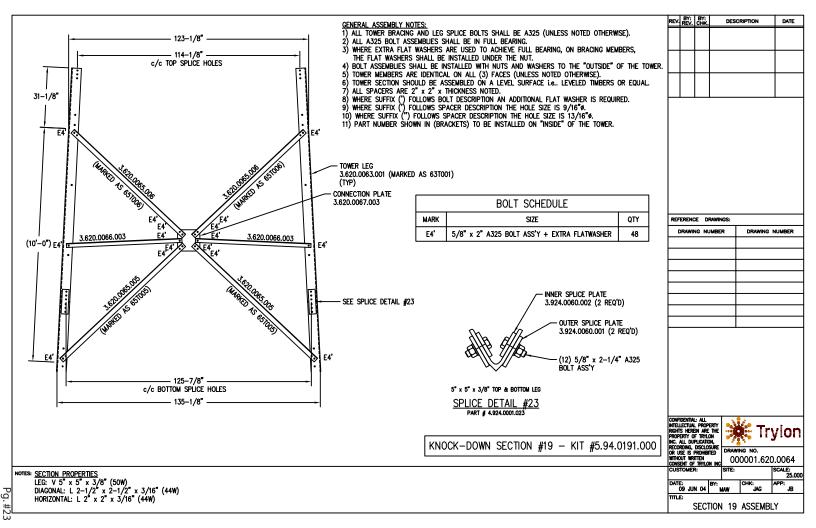


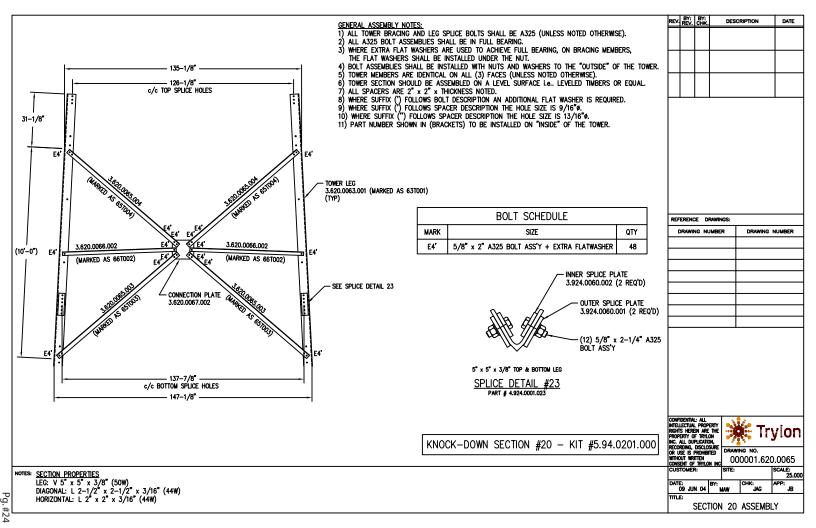


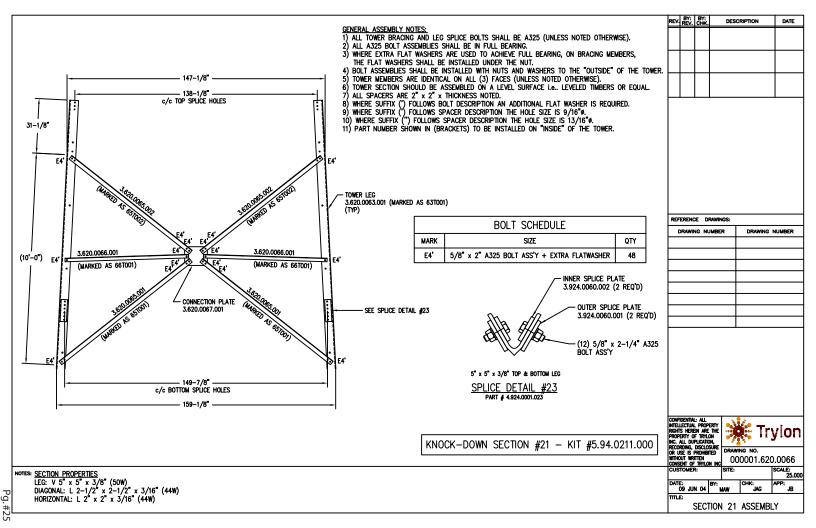






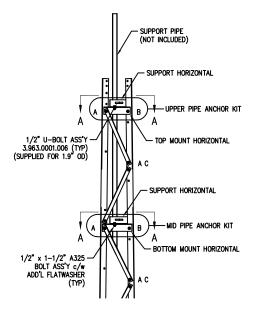


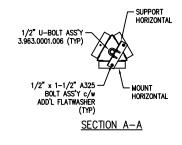




BOLT SCHEDULE (SECT. 1 TO 5						
MARK	SIZE	QTY				
Α	1/2" x 1-1/2" A325	12				
В	1/2" x 1-1/2" A325 + FLATWASHER	10				
С	3/16"x2"x2" SPACER c/w 9/16"ø HOLE	6				

BOLT SCHEDULE (SECT. 6 TO 1							
MARK	SIZE	QTY					
Α	1/2" x 1-3/4" A325 + FLATWASHER	12					
В	1/2" x 1-1/2" A325	10					
С	3/16"x2"x2" SPACER c/w 9/16"ø HOLE	6					





NOTE: SUPPORT HORIZONTAL IS DESIGNED TO ACCOMMODATE 1.9"OD THRU 4-1/2" OD SUPPORT PIPES. SUPPORT PIPES AND U-BOLTS SOLD SEPARATELY.

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DESCRIPTION

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TOP MOUNT DETAILS

NOTES: 1) REFER TO DWG. 000001.620.0032 FOR KIT NUMBERS AND COMPONENT PART NUMBERS FOR THE SUPPORT HORIZONTAL AND MOUNT HORIZONTAL.

2) THE SAME PART NUMBER IS UTILIZED FOR BOTH THE UPPER AND MID SUPPORT HORIZONTAL WITHIN EACH SECTION.

# TOP MOUNT KITS

KIT NUMBER	SECTION NUMBER	DESCRIPTION	MOUNT HORIZONTAL	SUPPORT HORIZONTAL
4.83.0001.001	1	UPPER PIPE ANCHOR	3.620.0018.001	3.620.0019.001
4.83.0001.002	1	MID PIPE ANCHOR	3.620.0018.002	3.620.0019.001
4.83.0002.001	2	UPPER PIPE ANCHOR	3.620.0018.003	3.620.0019.003
4.83.0002.002	2	MID PIPE ANCHOR	3.620.0018.004	3.620.0019.003
4.83.0003.001	3	UPPER PIPE ANCHOR	3.620.0018.005	3.620.0019.005
4.83.0003.002	3	MID PIPE ANCHOR	3.620.0018.006	3.620.0019.005
4.83.0004.001	4	UPPER PIPE ANCHOR	3.620.0018.007	3.620.0019.007
4.83.0004.002	4	MID PIPE ANCHOR	3.620.0018.008	3.620.0019.007
4.83.0005.001	5	UPPER PIPE ANCHOR	3.620.0018.009	3.620.0019.009
4.83.0005.002	5	MID PIPE ANCHOR	3.620.0018.010	3.620.0019.009
4.83.0006.001	6	UPPER PIPE ANCHOR	3.620.0018.011	3.620.0019.011
4.83.0006.002	6	MID PIPE ANCHOR	3.620.0018.012	3.620.0019.011
4.83.0007.001	7	UPPER PIPE ANCHOR	3.620.0018.013	3.620.0019.013
4.83.0007.002	7	MID PIPE ANCHOR	3.620.0018.014	3.620.0019.013
4.83.0008.001	8	UPPER PIPE ANCHOR	3.620.0018.015	3.620.0019.015
4.83.0008.002	8	MID PIPE ANCHOR	3.620.0018.016	3.620.0019.015
4.83.0009.001	9	UPPER PIPE ANCHOR	3.620.0018.017	3.620.0019.016
4.83.0009.002	9	MID PIPE ANCHOR	3.620.0018.018	3.620.0019.016
4.83.0010.001	10	UPPER PIPE ANCHOR	3.620.0018.019	3.620.0019.017
4.83.0010.002	10	MID PIPE ANCHOR	3.620.0018.020	3.620.0019.017
4.83.0011.001	11	UPPER PIPE ANCHOR	3.620.0018.021	3.620.0019.018
4.83.0011.002	11	MID PIPE ANCHOR	3.620.0018.022	3.620.0019.018
4.83.0012.001	12	UPPER PIPE ANCHOR	3.620.0018.023	3.620.0019.019
4.83.0012.002	12	MID PIPE ANCHOR	3.620.0018.024	3.620.0019.019

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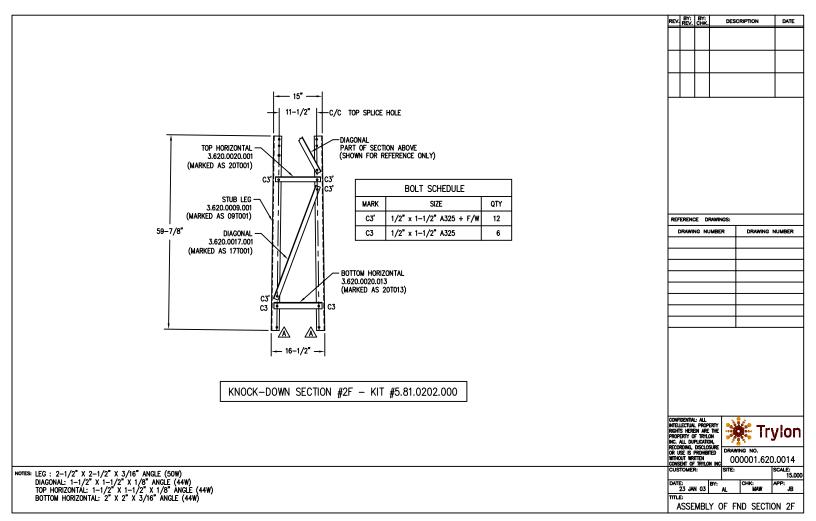
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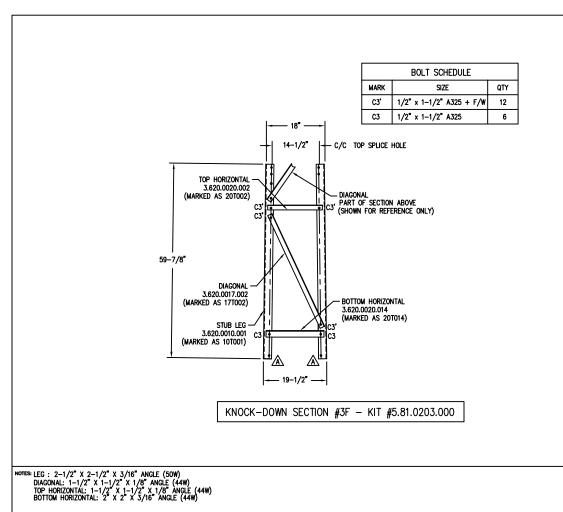
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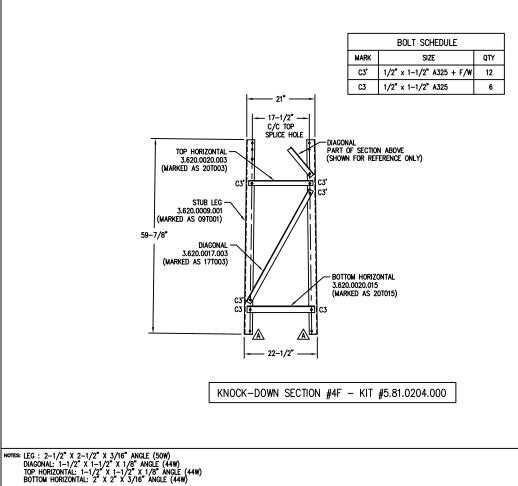
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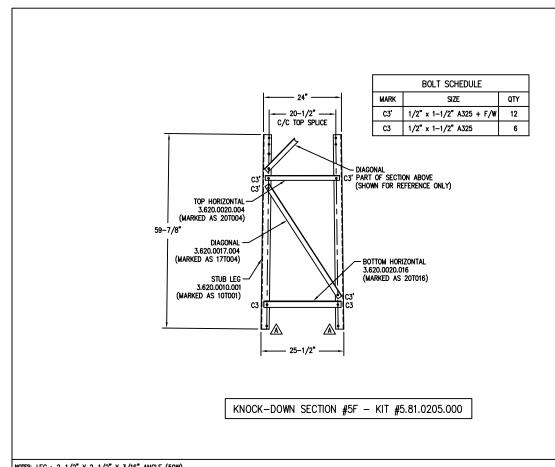
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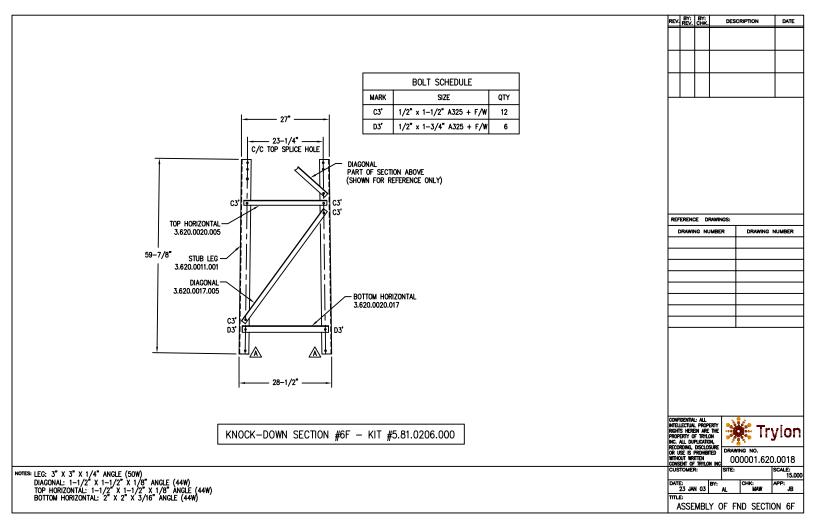
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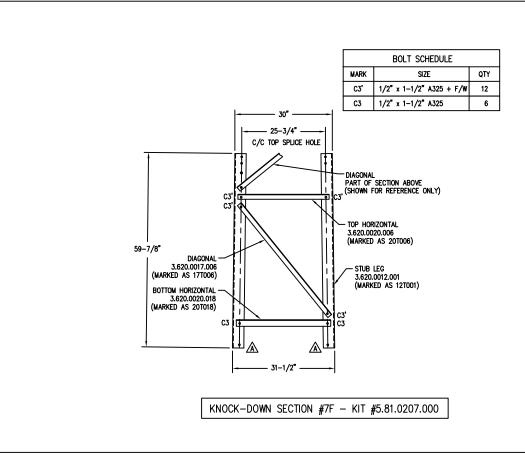
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ASSEMBLY OF FND SECTION 5F

NOTES: LEG: 2-1/2" X 2-1/2" X 3/16" ANGLE (50W)
DIAGONAL: 1-1/2" X 1-1/2" X 1/8" ANGLE (44W)
TOP HORIZONTAL: 1-1/2" X 1-1/2" X 1/8" ANGLE (44W)
BOTTOM HORIZONTAL: 2" X 2" X 3/16" ANGLE (44W)





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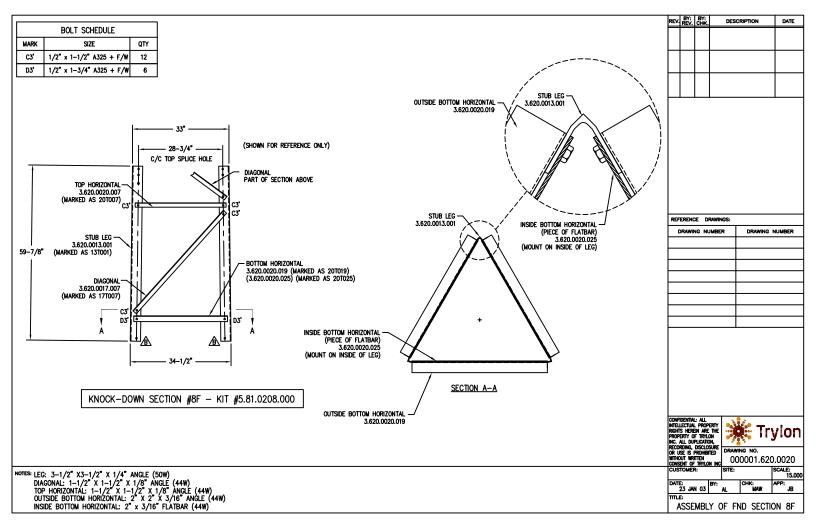
NOTES: LEG: 3-1/2" X 3-1/2" X 1/4" ANGLE (50W)
DIAGONAL: 1-1/2" X 1-1/2" X 1/8" ANGLE (44W)
TOP HORIZONTAL: 1-1/2" X 1-1/2" X 1/8" ANGLE (44W)
BOTTOM HORIZONTAL: 2" X 2" X 3/16" ANGLE (44W)

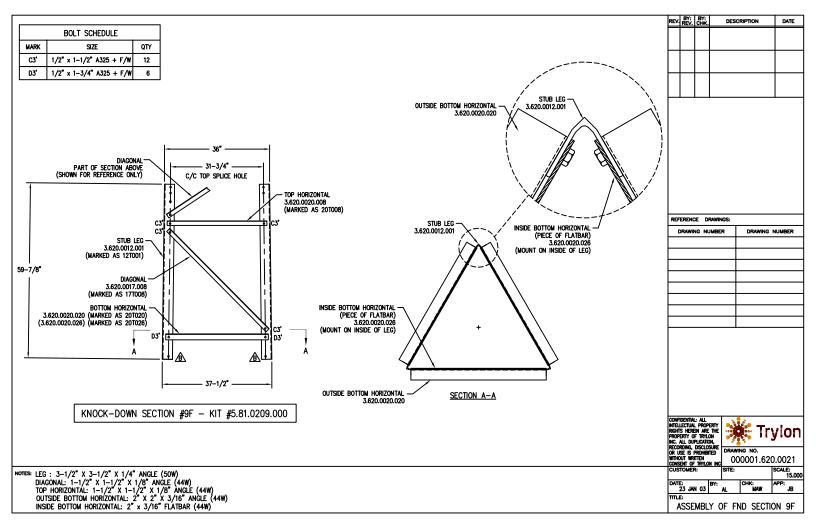
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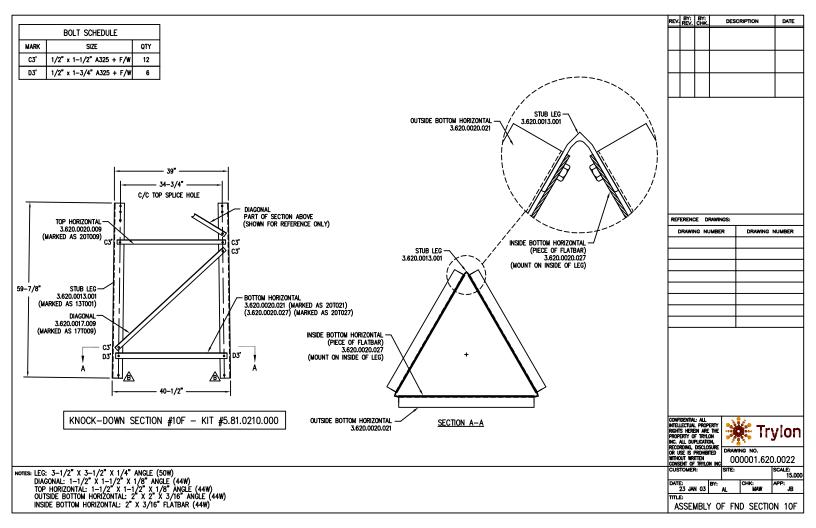
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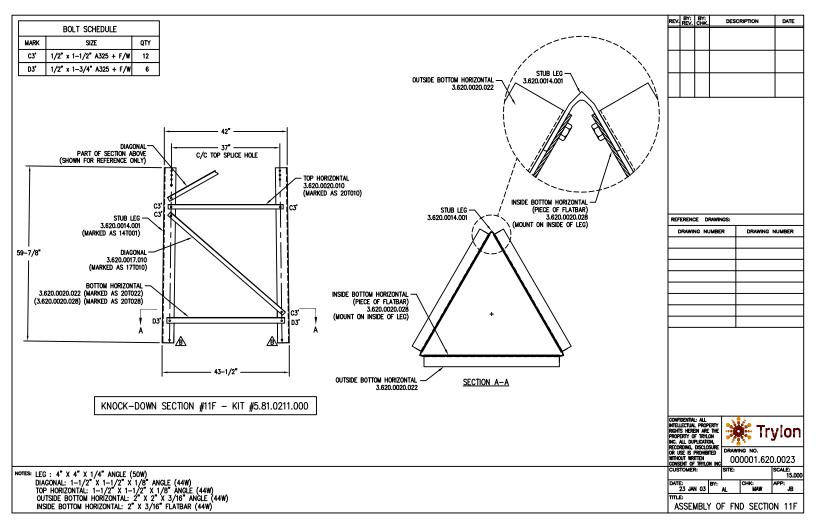
ASSEMBLY OF FND SECTION 7F

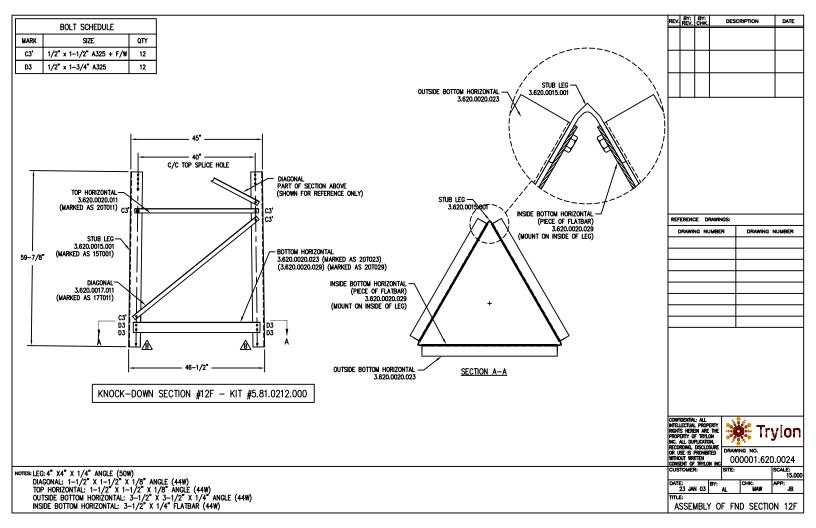
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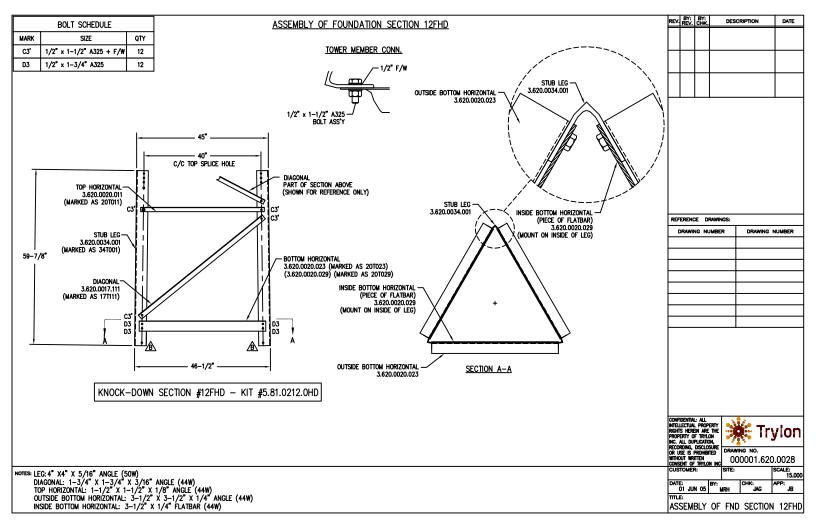


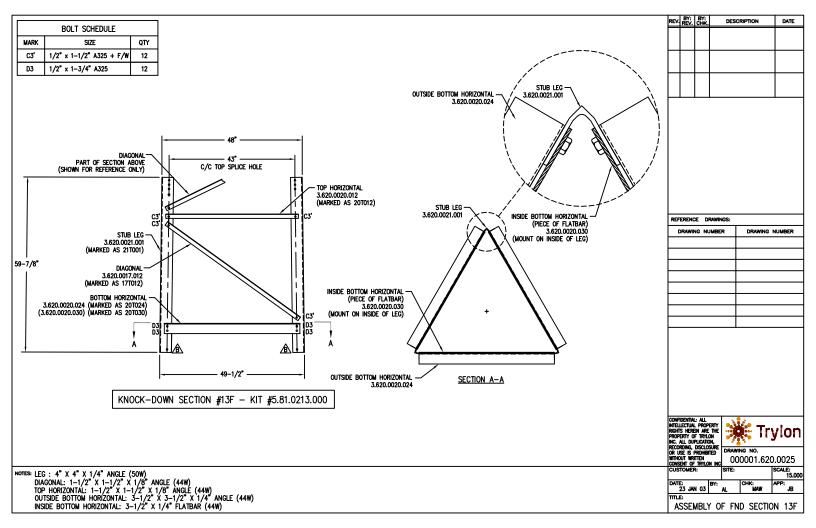


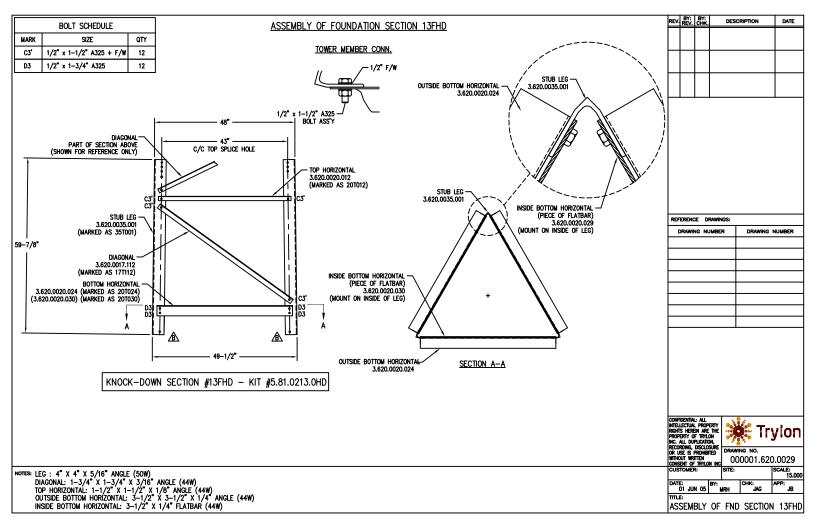


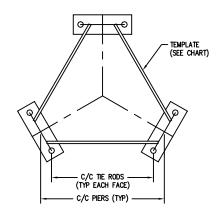












PART No.	SECTION No.	C/C PIERS	C/C TIE RODS
3.620.0031.001A	2F	13-3/4"	9-1/4"
3.620.0031.002A	3F	16-3/4"	12-1/4"
3.620.0031.003A	4F	19-3/4"	15-1/4"
3.620.0031.004A	5F	22-3/4"	18-1/4"
3.620.0031.005A	6F	25-3/8"	20-7/8"
3.620.0031.006A	7F	28-1/16"	23-9/16"
3.620.0031.007A	8F	31-1/16"	26-9/16"
3.620.0031.008A	9F	34-1/16"	29-9/16"
3.620.0031.009A	10F	37-1/16"	32-9/16"
3.620.0031.010A	11F	39-13/16"	35-5/16"
3.620.0031.011A	12F	42-13/16"	38-5/16"
3.620.0031.012A	13F	45-13/16"	41-5/16"

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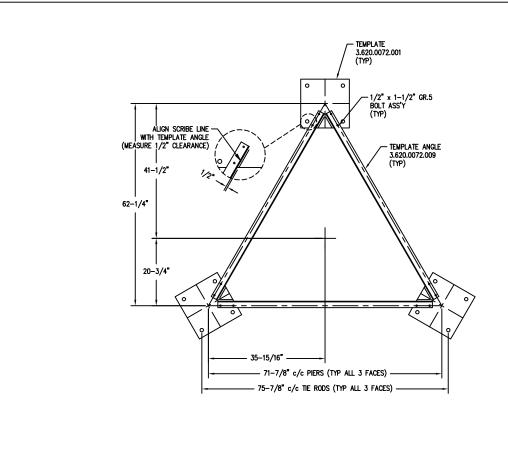
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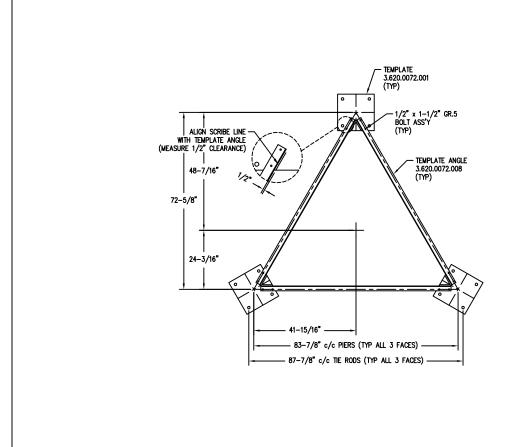
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SECTION 14 TEMPLATE



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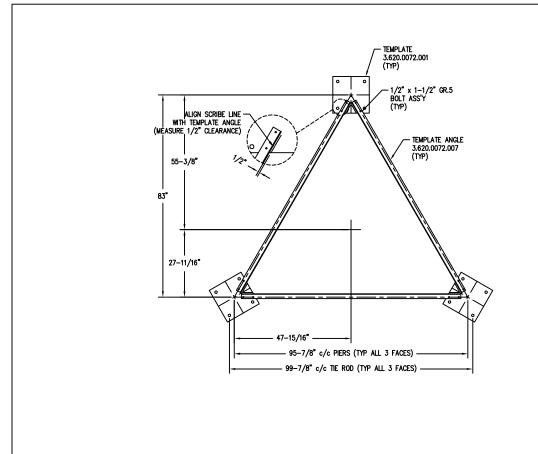
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CONSENT OF TRYLON INC. 000001.620.0103

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SECTION 15 TEMPLATE



NOTES: 1) FOUNDATION CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO POURING CONCRETE.

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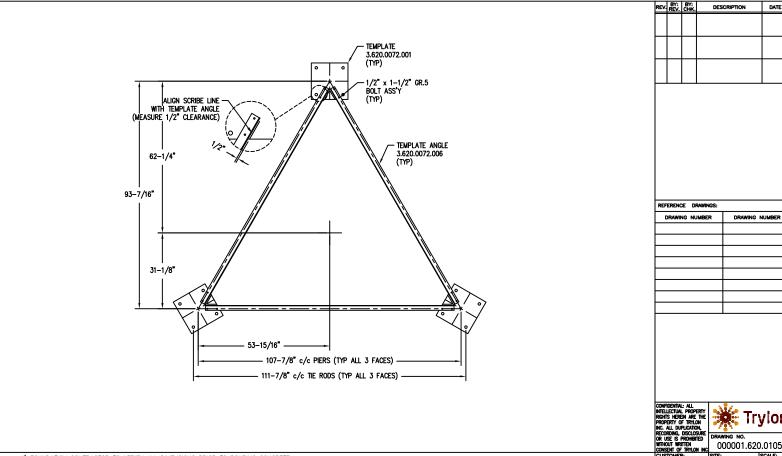
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SECTION 16 TEMPLATE

KIT #4.79.0000.517



NOTES: 1) FOUNDATION CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO POURING CONCRETE.

KIT #4.79.0000.518

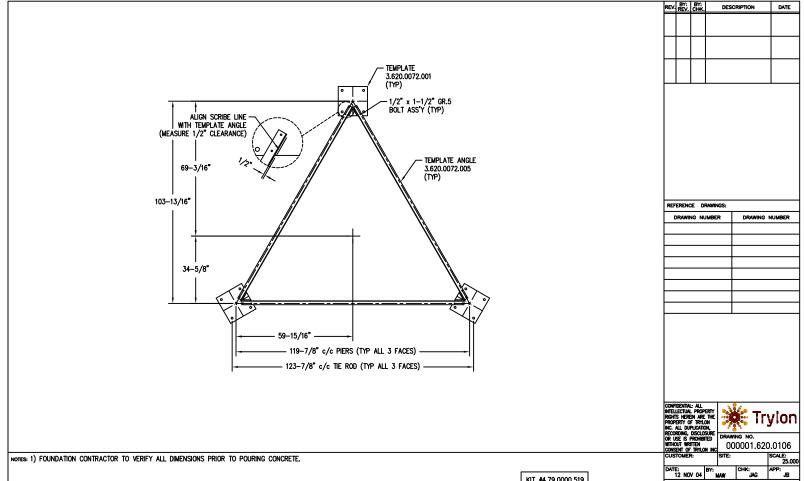
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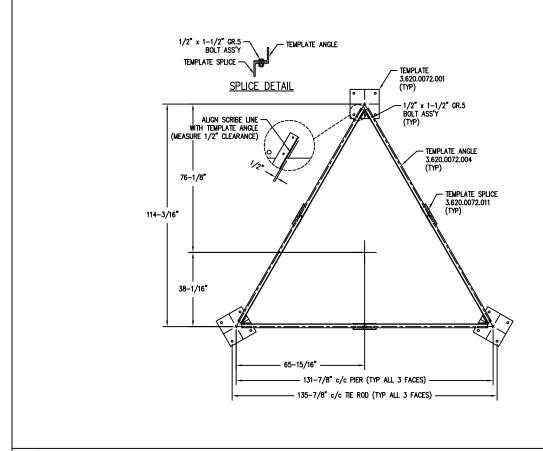
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SECTION 17 TEMPLATE



KIT #4.79.0000.519

SECTION 18 TEMPLATE



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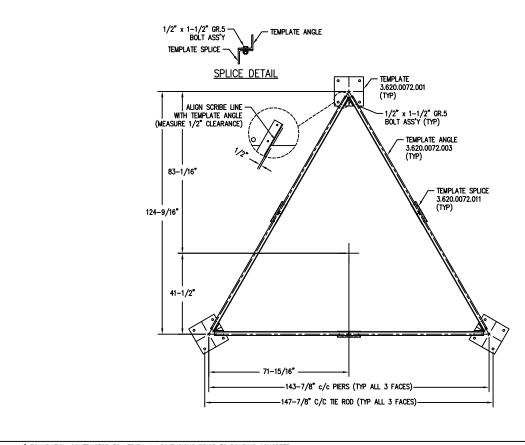
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CONSENT OF TRYLON INC

DRAWING NO. 000001.620.0107

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SECTION 19 TEMPLATE

NOTES: 1) FOUNDATION CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO POURING CONCRETE.



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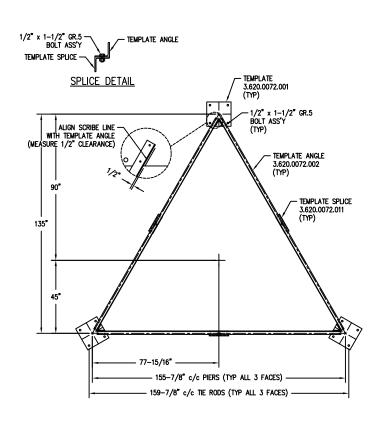
SECTION 20 TEMPLATE

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NOTES: 1) FOUNDATION CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO POURING CONCRETE.

KIT #4.79.0000.521



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NOTES: 1) FOUNDATION CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO POURING CONCRETE.

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DESCRIPTION	PAGE
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Pad/Pier Installation / Section 18-21	55
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Base Feet & Hilti Bolts Instructions / Section 14 - 21	61

FOUNDATION NOTES: GENERAL:		П				
1) THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND DETAILS BEFORE PROCEEDING WITH THE WORK. 2) ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF ACI STANDARDS. 3) FOUNDATIONS ARE DESIGNED FOR NORMAL DRY SOIL CONDITIONS. 4) NORMAL DRY SOIL CONDITIONS ARE ASSUMED WITH AN ALLOWABLE BEARING CAPACITY OF 3500psf. THESE CONDITIONS						
4) NORMALD DATA SUM STATE OF CONDITIONS ARE ASSUMED WITH AN ALLOWABLE BEARING SURFACE IS EXPOSED. NOTIFY ENGINEER IF SITE CONDITIONS DO NOT COMPLY WITH DESIGN CONDITIONS.  5) THE TOWER BASE PAD SHALL BE PLACED AGAINST UNDISTURBED SOIL.  6) ALL GALVANIZED STEEL IN CONTACT WITH SOIL IS TO BE COATED WITH ROOF PATCH.  CONCRETE:  1) CONCRETE CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF STANDARD ACI—318.  2) CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF NOT LESS THAN 3600 psi.  3) CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF NOT LESS THAN 3600 psi.  3) CONCRETE SHALL CONTAIN AN AIR ENTRAINING AGENT. TOTAL AIR CONTENT TO BE 5% TO 7% FOR THE SIZE OF AGGREGATE BEING USED. THE AIR ENTRAINING AGENT SHALL BE COMPATIBLE WITH THE WATER REDUCING AGENT.  4) THE USE CALCIUM CHLORIDE OR ACCELERATING ADMIXTURES IS PROHIBITED.  6) SLUMP SHALL BE 3" ± 1".  7) IF THE AIR TEMPERATURE IS 41 DEGREES F OR LESS, THE TEMPERATURE OF THE CONCRETE AT TIME OF PLACING SHALL BE GETWEEN 59 AND 86 DEGREES F.			•			
8) PROVIDE EFFECTIVE MEANS OF MAINTAINING THE TEMPERATURE OF CONCRETE IN PLACE AT A MINIMUM OF 50 DEGREES	REFI	ERENCE	E DRA	AWINGS:		
F AND A MAXIMUM OF 86 DEGREES F FOR THREE DAYS AFTER PLACING. WHEN THE MEAN DAILY AIR TEMPERATURE IS LESS THAN 41 DEGREES F PROVIDE PROTECTION FOR NEWLY PLACED CONCRETE BY MEANS OF SUITABLE	_	RAWIN	IG NUN	MBER	DRAWIN	NG NUMBER
enclosures or raised coverings, heat and insulation.						
9) CHAMFER EXPOSED CORNERS OF CONCRETE (APPROX. 3/4"). REINFORCEMENT:						
1) CLEAN REINFORCEMENT OF ANY LOOSE SCALE, DIRT OR OTHER COATINGS WHICH WOULD DESTROY OR REDUCE BONDING.		—			-	
REJECT BARS WITH KINKS OR BENDS NOT SHOWN ON THE FOUNDATION DETAILS.  2) ALL REINFORCEMENT SHALL HAVE A MINIMUM OF 3" CONCRETE COVER.						
3) REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING WITH ASTM A615 (GRADE 60).						
<u>Backfilling:</u> 1) Backfill shall be placed in thin lifts (maximum 6") and compacted to a minimum of 95 percent of						
STANDARD PROCTOR MAXIMUM DRY DENSITY. IN THE EVENT THAT EXCAVATED MATERIALS ARE NOT SUITABLE FOR						
BACKFILL, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY AND COMPACT SUITABLE CLEAN MATERIAL TO MEET THAT REQUIREMENT.						
I WILLET HITAL REQUIREMENT. STANDARDS:						
1) FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH EIA-222-F.						
2) CONCRETE WORK SHALL BE ACCORDANCE WITH ACI 318. 3) REINFORCEMENT FOR CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318.						
G TELL GOLDEN TO CONSIDER STREET TO THE STREET THE STREET						
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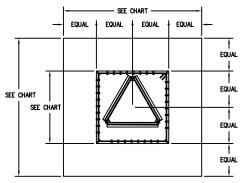
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EIA FOUNDATION NOTES

DATE

# SUPER TITAN SS CONCRETE FOUNDATION - TOWERS WITH BOTTOM SECT #2-12HD

SINGLE PAD DESIGN WITH 1 PIER (SHALLOW EXCAVATION DEPTH, (1) LARGE AREA)



				cu	BIS YARDS CONCRE	ETE
IF BOTTOM TOWER SECTION IS:	FOUNDATION PAD SIZE (FT)	PIER SIZE (FT)	VERTICAL PIER BAR (X)	PAD CONCRETE VOLUME	PIER CONCRETE VOLUME	TOTAL VOLUME
#12 / 12HD	10'-6" x 10'-6"	5'-6" x 5'-6"	36	6.1	3.9	10.0
<b>#</b> 11	10'-0" x 10'-0"	5'-6" x 5'-6"	36	5.6	3.9	9.5
#10	9'-6" x 9'-6"	5'-0" x 5'-0"	30	5.0	3.2	8.2
#9	9'-0" x 9'-0"	5'-0" x 5'-0"	30	4.5	3.2	7.7
#8	8'-6" x 8'-6"	4'-6" x 4'-6"	26	4.0	2.6	6.6
<b>#</b> 7	7'-6" x 7'-6"	4'-6" x 4'-6"	26	3.1	2.6	5.7
#6	7'-0" x 7'-0"	4'-0" x 4'-0"	20	2.7	2.1	4.8
<b>#</b> 5	6'-6" x 6'-6"	4'-0" x 4'-0"	20	2.4	2.1	4.5
#4	6'-6" x 6'-6"	4'-0" x 4'-0"	20	2.4	2.1	4.5
<b>#</b> 3	6'-6" x 6'-6"	4'-0" x 4'-0"	20	2.4	2.1	4.5
#2	6'-0" x 6'-0"	4'-0" x 4'-0"	20	2.0	2.1	4.1

TOWER BASE SECTION — REFER TO SECTION ASS'Y  10M #4 TIES EQUALLY  SPACED AT APPROX. 6" c/c	PROJECTION
SPACED AT APPROX. 6 c/c  (x) 20M (#6) VERTICAL BARS c/w STD. HOOK SEE CHART FOR QUANITY	12"
20M (#6) BARS EQUALLY SPACED AT APPROX. 12" UNDSTURBED SOIL	1

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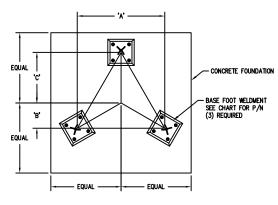
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DATE: BY: MRH

EIA - REGULAR FND - NDS

		DRY SOIL	

- 2) ALLOWABLE BEARING CAPACITY: 3500 psf
- 3) DRY DENSITY OF BACKFILL MATERIAL: 100pcf (COMPACT TO 95% SPD)
- 4) REBAR DEFORMED BARS GRADE 60 5) MINIMUM 28 DAY CONRETE STRENGTH 3600 psi



KIT NUMBER	KIT NUMBER	FITS TOWER				BASE FOOT
w/ TIE RODS	w/o TIE RODS	SECTION NUMBER	'A'	,B,	,c,	WELDMENT P/N
4.79.0000.014	4.79.0000.314	13	59-7/8"	17-1/4"	34-9/16"	3.620.0062.001
4.79.0000.015	4.79.0000.315	14	71-7/8*	20-3/4"	41-1/2"	3.620.0062.001
4.79.0000.016	4.79.0000.316	15	83-7/8"	24-3/16"	48-7/16"	3.620.0062.001
4.79.0000.017	4.79.0000.317	16	95-7/8"	27-11/16"	55-3/8"	3.620.0062.001
4.79.0000.018	4.79.0000.318	17	107-7/8"	31-1/8"	62-1/4"	3.620.0062.001
4.79.0000.019	4.79.0000.319	18	119-7/8"	34-5/8"	69-3/16"	3.620.0061.001
4.79.0000.020	4.79.0000.320	19	131-7/8"	38-1/16"	76-1/8"	3.620.0061.001
4.79.0000.021	4.79.0000.321	20	143-7/8"	41-1/2°	83-1/16"	3.620.0061.001
4.79.0000.022	4.79.0000.322	21	155-7/8"	45"	90"	3.620.0061.001

BASE FOOT WELDMENT SEE CHART FOR P/N (2) HEX NUTS & (1) FLATWASHER LEVELLING NUT 1-1/2" GROUT	(4) 1" x 48" TIE ROD
(2) HEX NUTS	42" EMBEDMENT
FOUNDATION PLATE 3.620.0074.001 (TYP)	CONCRETE FOUNDATION

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REFERENCE DRAWINGS: DRAWING NUMBER

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DESCRIPTION

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DRAWING NUMBER

DRAWING NO. 000001.620.0067

DATE: BY: CHK:

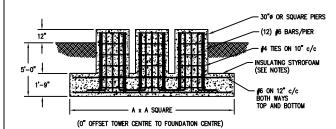
TIE ROD ANCHOR INSTALLATION

NOTES: 1	IICE	TEMPI ATE	DDUVIDED	TO DECEMBED Y	POSITION TIE RODS	

2) FOUNDATIONS MUST BE DESIGNED FOR SITE SPECIFIC SOIL CONDITIONS.

## SUPER TITAN SS CONCRETE FOUNDATION - TOWERS WITH BOTTOM SECT #14-21 SINGLE PAD DESIGN WITH 3 PIERS

(SHALLOW EXCAVATION DEPTH, (1) LARGE AREA, FROST CONSIDERATIONS)



TOWER SECTION

### FOUNDATION NOTES:

### GENERAL:

- 1) ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL STANDARDS.
- 2) FOUNDATIONS DESIGNED FOR NORMAL DRY SOIL CONDITIONS.
  - THE TOWER BASE PAD SHALL BE PLACED AGAINST UNDISTURBED SOIL.

### CONCRETE:

- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF NOT LESS THAN 4000 psi.
   CONCRETE SHALL CONTAIN AN AIR ENTRAINING AGENT.
- 3) THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4in.
- THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4
   SLUMP SHALL BE 3in +/- 1in.
- 5) ALL GROUT SHALL BE NON-FERROUS AND NON SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 psi AT 28 DAYS. EDGES GROUT SHALL BE TAPERED OFF AT 45'.

### REINFORCEMI

- 1) ALL REINFORCEMENT SHALL HAVE A MINIMUM OF 3in CONCRETE COVER.
- 2) REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING WITH A MINIMUM YIELD OF 60 ksi.

### BACKEILLING:

1) BACKFILL SHALL BE PLACED IN THIN LIFTS (MAXIMUM 6 INCHES) AND COMPACTED TO A MINIMUM OF 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY. IN THE EVENT THAT EXCAVATED MATERIALS ARE NOT SUITABLE FOR BACKFILL, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY AND COMPACT SUITABLE CIFAN MATERIAL TO MEFT THAT REGUIREMENT.

### INSUATION:

AXIAL

OVERTURNING MOMENT | SHEAR

 WHERE FROST PENETRATION DEPTHS EXCEED 6ft PLACE INSULATING STRYROFOAM ON SLAB EXTENDING 3ft PAST THE EDGE OF THE SLAB. HIGHLOAD 40 INSULATION BY DOW CHEMICALS IS RECOMMENDED.

		-

DESCRIPTION

DATE

REV. BY: BY:

DRAWING NUMBER	DRAWING NUMBER
•	

BOTTOM	A	PAD	rnd Pier	SQ PIER	TOTAL RND	TOTAL SQ	(KIPSFT)	(KIPS)	(KIPS)
#14	12'-6"	10.13	0.77	0.98	12.45	13.08	209.39	6.47	4.72
<b>#</b> 15	13'-6"	11.81	0.77	0.98	14.13	14.76	260.37	7.81	5.46
<i>#</i> 16	14'-0"	12.70	0.77	0.98	15.02	15.66	375.16	9.49	6.38
<b>#</b> 17	14'-6"	13.63	0.77	0.98	15.95	16.58	350.72	9.17	6.71
<b>#</b> 18	15'-0"	14.58	0.77	0.98	16.90	17.53	459.57	10.67	7.99
<b>#</b> 19	16'-0"	16.59	0.77	0.98	18.91	19.54	580.67	12.19	9.25
<b>#</b> 20	17'-0"	18.73	0.77	0.98	21.05	21.68	735.27	13.96	10.60
#21	18'-0"	21.00	0.77	0.98	23.32	23.95	885.16	15.54	11.91

CUBIC YARDS of CONCRETE

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REFERENCE DRAWINGS:

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SCALE:

40.000

DRAWING NO.

000001.620.0120

CUSTOMER: SITE:

TE: BY: CHK:

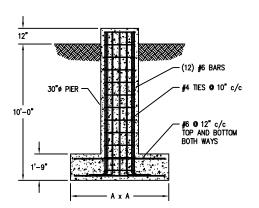
EIA SINGLE PAD 3 PIER NDS

NOTES: 1) THEORECTICAL CONCRETE VOLUMES GIVEN. ADD 10% TO THAT GIVEN WHEN ORDERING THE CONCRETE.

- 2) BEFORE POURING CONCRETE, PLACE THE FOUNDATION TEMPLATE TO ENSURE FIT BETWEEN TEMPLATE AND PIERS.
- 3) IF CONCRETE SAVINGS ARE DESIRED, PLEASE SEE OUR PAD AND PIER DESIGN ON DRAWING 1.620.0121.

# SUPERTITAN S.S. FOUNDATION DESIGN - BASE SECTION #18 to #21

(PAD AND PIER; DEEP EXCAVATION DEPTH, (3) SMALL AREAS, NO FROST CONSIDERATIONS)



### FOUNDATION NOTES:

### GENERAL:

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL STANDARDS.
- FOUNDATIONS DESIGNED FOR NORMAL DRY SOIL CONDITIONS.
- 3) THE TOWER BASE PAD SHALL BE PLACED AGAINST UNDISTURBED SOIL.

- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF NOT LESS THAN 4000 psi. 2) CONCRETE SHALL CONTAIN AN AIR ENTRAINING AGENT.
- 3) THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4 in. SLUMP SHALL BE 3 in +/- 1 in
- 4) ALL GROUT SHALL BE NON-FERROUS AND NON SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 psi AT 28 DAYS, EDGES GROUT SHALL BE TAPERED OFF AT 45°.

- 1) ALL REINFORCEMENT SHALL HAVE A MINIMUM OF 3 in CONCRETE COVER.
- 2) REINFORCING STEEL SHALL BE DEFORMED BARS WITH A MINIMUM YIELD OF 60 ksi.

### BACKFILLING:

1) BACKFILL SHALL BE PLACED IN THIN LIFTS (MAXIMUM 6 INCHES) AND COMPACTED TO A MINIMUM OF 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY. IN THE EVENT THAT EXCAVATED MATERIALS ARE NOT SUITABLE FOR BACKFILL, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY AND COMPACT SUITABLE CLEAN MATERIAL TO MEET THAT REQUIREMENT.

DESCRIPTION

DATE

REV. BY: BY:

DRAWING NUMBER	DRAWING NUMBER

REFERENCE DRAWINGS:

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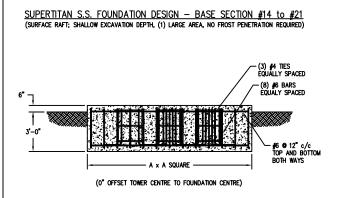
SCALE: CUSTOMER:

DATE: 28 MAR 06

EIA PAD & PIER - NDS

TOWER SECTION			CUBIC YARDS of CONCRETE (EACH)				OVERTURNING MOMENT	SHEAR	AXIAL
BOTTOM	Α	PAD	rnd Pier	SQ PIER	TOTAL RND	TOTAL SQ	(KIPSFT)	(KIPS)	(KIPS)
#14	-	ı	-	-	-	-			
<b>#</b> 15	-	-	-	-	-	-			
#16	-	-	-	-	-	-			
#17	-	-	-	-	-	-			
<b>#</b> 18	7'-0"	3.18	1.68	2.14	4.68	5.32	459.57	10.67	7.99
#19	7'-6"	3.65	1.68	2.14	5.33	5.79	580.67	12.19	9.25
#20	8'-0"	4.15	1.68	2.14	5.83	6.29	735.27	13.96	10.60
#21	8'-6"	4.68	1.68	2.14	6.36	6.82	885.16	15.54	11.91

- NOTES: 1) "-" THIS OPTION IS N/A IN TOWERS WITH SMALL FACE WIDTHS
  - 2) THEORETICAL CONCRETE VOLUMES GIVEN. ADD 10% TO THAT GIVEN WHEN ORDERING THE CONCRETE.
  - 3) BEFORE POURING CONCRETE, PLACE THE FOUNDATION TEMPLATE TO ENSURE FIT BETWEEN TEMPLATE AND PIERS.
  - 4) IF A SINGLE POUR WITH A BIG BLOCK OF CONCRETE IS DESIRED, SEE OUR DRAWING 01.620.0122. THAT DESIGN REQUIRES THAT NO FROST PENETRATION OCCURS.
  - 5) ANOTHER ALTERNATE DESIGN SEE DWG 01.620.0120 (RAFT DESIGN)



### FOUNDATION NOTES:

## GENERAL:

- 1) ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL STANDARDS.
- FOUNDATIONS DESIGNED FOR NORMAL DRY SOIL CONDITIONS.
- 3) THE TOWER BASE PAD SHALL BE PLACED AGAINST UNDISTURBED SOIL.

- 1) CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF NOT LESS THAN 4000 psi. 2) CONCRETE SHALL CONTAIN AN AIR ENTRAINING AGENT.
- 3) THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4in.
- 4) SLUMP SHALL BE 3in +/- 1in.
- 5) ALL GROUT SHALL BE NON-FERROUS AND NON SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 psi AT 28 DAYS, EDGES GROUT SHALL BE TAPERED OFF AT 45'.

- 1) ALL REINFORCEMENT SHALL HAVE A MINIMUM OF 3in CONCRETE COVER.
- 2) REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING WITH A MINIMUM YIELD OF 60 ksi.
- 3) HORIZONTAL TIES MAY BE 40 ksi.

REFERENCE DRAWINGS: DRAWING NUMBER

REV. BY: BY:

DRAWING NUMBER

DESCRIPTION

DATE

# THIS FOUNDATION IS NOT SUITABLE FOWHERE GROUND FROST PENETRATION IS EXPECTED.

TOWER SECTION	N .	CUBIC YARDS of CONCRETE	OVERTURNING MOMENT	SHEAR	AXIAL
BOTTOM	A	TOTAL	(KIPSFT)	(KIPS)	(KIPS)
#14	12'-6"	20.25	209.39	6.47	4.72
#15	13'-6"	23.63	260.37	7.81	5.46
#16	14'-0"	25.41	375.16	9.49	6.38
<b>#</b> 17	14'-6"	27.25	350.72	9.17	6.71
#18	15'-0"	29.17	459.57	10.67	7.99
#19	16'-0"	33.19	580.67	12.19	9.25
#20	17'-0"	37.46	735.27	13.96	10.60
#21	18'-0"	42.00	885.16	15.54	11.91

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SCALE:

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DRAWING NO.

WITHOUT WRITTEN CONSENT OF TRYLON IN 000001.620.0124

CUSTOMER: 28 MAR 08 MRH

EIA SURFACE RAFT NDS

NOTES: 1) THEORETICAL CONCRETE VOLUME GIVEN. ADD 10% TO THAT GIVEN WHEN ORDERING THE CONCRETE.

2) BEFORE POURING CONCRETE, PLACE THE FOUNDATION TEMPLATE TO ENSURE FIT BETWEEN TEMPLATE c/c OF BASE ANCHORS.

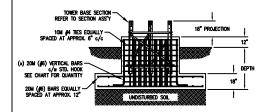
3) IF FROST PENETRATION OCCURS, AND CONCRETE SAVINGS ARE DESIRED SEE DRAWINGS 01.620.0120, AND/OR 01.620.0122.

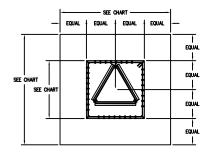
	REV.	REV.	CHK.	DES	CRIPTION	DAIL
COURT VALUE AND A STATE OF THE						
FOUNDATION NOTES: GENERAL						
SCHEMAN. 1) THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND DETAILS BEFORE PROCEEDING WITH THE WORK. 2) ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF CSA STANDARDS.						
3) FOUNDATIONS ARE DESIGNED FOR NORMAL DRY SOIL CONDITIONS.	$\vdash$		$\vdash$			
4) NORMAL DRY SOIL CONDITIONS ARE ASSUMED WITH AN ALLOWABLE BEARING CAPACITY OF 150 KPg. THESE CONDITIONS SHOULD BE VERIFIED ON SITE BY A GEOTECHNICAL CONSULTANT WHEN THE BEARING SURFACE IS EXPOSED, NOTIFY						
ENGINEER IF SITE CONDITIONS DO NOT COMPLY WITH DESIGN CONDITIONS.	$\vdash$					
5) THE TOWER BASE PAD SHALL BE PLACED AGAINST UNDISTURBED SOIL.						
6) ALL GALVANIZED STEEL IN CONTACT WITH SOIL IS TO BE COATED WITH ROOF PATCH.						
CONCRETE:						
1) CONCRETE CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD CAN3-A23.3.						
2) CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF NOT LESS THAN 25 MPg.						
3) CONCRETE SHALL CONTAIN AN AIR ENTRAINING AGENT. TOTAL AIR CONTENT TO BE 5% TO 7% FOR THE SIZE OF AGGREGATE BEING USED. THE AIR ENTRAINING AGENT SHALL BE COMPATIBLE WITH THE WATER REDUCING AGENT.						
4) THE MAXIMUM SIZE OF COARSE AGRECATE SHALL BE 19mm.						
7) THE USE CALCIUM CHLORIDE OR ACCELERATING ADMIXTURES IS PROHIBITED.						
6) SLUMP SHALL BE 76mm ± 25mm.						
7) IF THE AIR TEMPERATURE IS 5 DEGREES C OR LESS. THE TEMPERATURE OF THE CONCRETE AT TIME OF PLACING						
SHALL BE BETWEEN 15 AND 30 DEGREES C.						
8) PROVIDE EFFECTIVE MEANS OF MAINTAINING THE TEMPERATURE OF CONCRETE IN PLACE AT A MINIMUM OF 10 DEGREES						
C AND A MAXIMUM OF 30 DEGREES C FOR THREE DAYS AFTER PLACING. WHEN THE MEAN DAILY AIR TEMPERATURE	REF	ERENC	E DR	AWINGS:		
IS LESS THAN 5 DEGREES C PROVIDE PROTECTION FOR NEWLY PLACED CONCRETE BY MEANS OF SUITABLE	Η,	PAWIN	4G NUI	MBFD	DRAWING N	IIMBED
ENCLOSURES OR RAISED COVERINGS, HEAT AND INSULATION.  9) CHAMFER EXPOSED CORNERS OF CONCRETE (APPROX. 19mm).	H	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10 110		Distance is	
a) Charles EAPOED CORNERS OF CONCRETE (APPROX. Tamm). REINFORCEMENT:	_					
NO. INCLAIM REINFORCEMENT OF ANY LOOSE SCALE, DIRT OR OTHER COATINGS WHICH WOULD DESTROY OR REDUCE BONDING.						
REJECT BARS WITH KINKS OR BENDS NOT SHOWN ON THE FOUNDATION DETAILS.						
2) ALL REINFORCEMENT SHALL HAVE A MINIMUM OF 76mm CONCRETE COVER.						
3) REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING WITH CSA STANDARD G30.18 (GRADE 600).						
BACKFILLING:	-					
1) BACKFILL SHALL BE PLACED IN THIN LIFTS (MAXIMUM 150mm) AND COMPACTED TO A MINIMUM OF 95 PERCENT OF						
STANDARD PROCTOR MAXIMUM DRY DENSITY. IN THE EVENT THAT EXCAVATED MATERIALS ARE NOT SUITABLE FOR BACKFILL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY AND COMPACT SUITABLE CLEAN MATERIAL.						
BACKFILL, IT SHALL BE HE RESPONSIBILIT OF THE CONTRACTOR TO SOPPLY AND COMPACT SUITABLE CLEAN MATERIAL.  TO MEET THAT REQUIREMENT.						
STANDARDS:						
1) FOUNDATIONS ARE DESIGNED IN ACCORDANCE WITH CAN/CSA-S37-D1.						
2) CONCRETE WORK SHALL BE ACCORDANCE WITH CAN3-A23.3.						
3) REINFORCEMENT FOR CONCRETE SHALL BE IN ACCORDANCE WITH CAN3—A23.1.						
	COMP	IDENTIAL	. 411		• .	
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	PROP	erty o	in are ' F tryloi	N   🧀	Mari II√	/lor
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	OR U	ISE IS F OUT WRI	PROHIBITI	ED DRA	WING NO.	0057
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CSA FOUNDATION NOTES

NOTES:1) THESE NOTES ARE TO BE USED WITH FOUNDATION DETAILS SHOWN ON DWG. 000001.620.0052.

### SUPER TITAN SS CSA FOUNDATION DEISGN - BASE SECTION #2 - #12HD





USE_W	HEN FROST AN OR EQUA						
	<del> </del>					YARDS OF CONC	
TOWER BASE WIDTH	PAD WIDTH	PIER SIZE	DEPTH	VERT. PIER BAR QTY.	PAD CONC VOL.	PIER CONC VOL.	TOTAL VOL.
#12 / #12HD	11'-6" x 11'-6"	5'-6" x 5'-6"	4'-0"	36	7.4	3.9	11.3
<i>#</i> 11	10'-6" x 10'-6"	5'-6" x 5'-6"	4'-0"	36	6.1	3.9	10.0
<b>#</b> 10	10'-0" x 10'-0"	5'-0" x 5'-0"	4°-0°	30	5.6	3.2	8.8
<b>1</b> 9	9'-6" x 9'-6"	5'-0" x 5'-0"	4'-0"	30	5.0	3.2	8.2
<b>/8</b>	9'-0" x 9'-0"	4'-6" x 4'-6"	4°-0°	26	4.5	2.6	7.1
₽7	8'-6" x 8'-6"	4'-6" x 4'-6"	4'-0"	26	4.0	2.6	6.6
<b>#</b> 6	7'-6" x 7'-6"	4'-0" x 4'-0"	4°-0°	20	3.1	2.1	5.2
<b>#</b> 5	7'-0" x 7'-0"	4'-0" x 4'-0"	4'-0"	20	2.7	2.1	4.8
#	7-0" x 7-0"	4'-0" x 4'-0"	4°-0"	20	2.7	2.1	4.8
<b>₽</b> 3	6'-6" x 6'-6"	4'-0" x 4'-0"	4°-0°	20	2.4	2.1	4.5
#2	6'-6" x 6'-6"	4'-0" x 4'-0"	4'-0"	20	2.4	2.1	4.5

USE WHI THAN 4'-0" B	USE WHEN FROST DEPTH IS GREATER THAN 4'-0" BUT LESS THAN OR EQUAL TO 6'-0"						CUBIC YARDS OF CONCRETE			
TOWER BASE WIDTH	PAD WIDTH	PIER SIZE	DEPTH	VERT. PIER BAR QTY.	PAD CONC VOL.	PIER CONC VOL.	TOTAL VOL.			
#12 / #12HD	10'-6" x 10'-6"	5'-6" x 5'-6"	6'-0"	36	6.1	6.2	12.3			
<i>#</i> 11	10'-0" x 10'-0"	5'-6" x 5'-6"	6°-0°	36	5.6	6.2	11.8			
<b>#</b> 10	9'-6" x 9'-6"	5'-0" x 5'-0"	6'-0"	30	5.0	5.1	10.1			
19	9'-0" x 9'-0"	5'-0" x 5'-0"	6°-0°	30	4.5	5.1	9.6			
<b>#</b> 8	8'-6" x 8'-6"	4'-6" x 4'-6"	6°-0°	26	4.0	4.1	8.1			
₽7	7'-6" x 7'-6"	4'-6" x 4'-6"	6'-0"	26	3.1	4.1	7.2			
<b>#</b> 6	7-0" x 7-0"	4'-0" x 4'-0"	6°-0°	20	2.7	3.3	6.0			
<b>#</b> 5	6'-6" x 6'-6"	4'-0" x 4'-0"	6'-0"	20	2.4	3.3	5.7			
#	6'-6" x 6'-6"	4'-0" x 4'-0"	6°-0°	20	2.4	3.3	5.7			
<b>#</b> 3	6'-0" x 6'-0"	4'-0" x 4'-0"	6'-0"	20	2.0	3.3	5.3			
<b>#</b> 2	6'-0" x 6'-0"	4'-0" x 4'-0"	6°-0°	20	2.0	3.3	5.3			

USE WHE	N FROST DE	PTH_IS_GRE	ATER .				
IHAN 60. BI	JI LESS IHA	CUBIC	C YARDS OF CONC	RETE			
TOWER BASE WIDTH	PAD WIDTH	PIER SIZE	DEPTH	VERT. PIER BAR QTY.	PAD CONC VOL.	PIER CONC VOL.	TOTAL VOL.
#12 / #12HD	10'-0" x 10'-0"	5'-6" x 5'-6"	8'-0"	36	5.6	8.4	14.0
<i>g</i> 11	9'-6" x 9'-6"	5'-6" x 5'-6"	8'-0°	36	5.0	8.4	13.4
<b>#</b> 10	9'-0" x 9'-0"	5'-0" x 5'-0"	8'-0"	30	4.5	6.9	11.4
<b>1</b> 9	8'-6" x 8'-6"	5°-0" x 5°-0"	8'-0°	30	4.0	6.9	10.9
#8	8'-0" x 8'-0"	4'-6" x 4'-6"	8'-0"	26	3.6	5.6	9.2
₽ P	7'-0" x 7'-0"	4'-6" x 4'-6"	8'-0°	26	2.7	5.6	8.3
<b>#</b> 6	6'-6" x 6'-6"	4'-0" x 4'-0"	8'-0"	20	2.4	4.5	6.9
<b>#</b> 5	6'-0" x 6'-0"	4'-0" x 4'-0"	8'-0"	20	2.0	4.5	6.5
#	6'-0" x 6'-0"	4'-0" x 4'-0"	8'-0"	20	2.0	4.5	6.5
<b>43</b>	5'-6" x 5'-6"	4'-0" x 4'-0"	8'-0°	20	1.7	4.5	6.2
#2	5'-6" x 5'-6"	4'-0" x 4'-0"	8'-0"	20	1.7	4.5	6.2

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SCALE: 30.000

DRAWING NO. 000001.620.0052

CUSTOMER: DATE: 24 APR 03 BY:

CSA FOUNDATION DETAILS

NOTES: 1) REFER TO DWG. 000001.620.0053 FOR FOUNDATION NOTES.

								Ţ	REV.	BY: REV.	BY:	Γ
KIT NUMBER	SECTION No.	C/C PIERS	BASE FOOT	ROCK ANCHOR	ROCK BOLT No.	EMBEDMENT	HORIZONTAL	F		IXEV.	OH.	F
4.79.0000.102	2F	13-3/4"	3.620.0023.001	5/8" x 98"	R1S-05-A13	7"-6"	3.620.0020.001					l
4.79.0000.103	3F	16-3/4"	3.620.0024.001	5/8" x 98"	R1S-05-A13	7'-6"	3.620.0020.002	ŀ	-	_	_	ŀ
4.79.0000.104	4F	19-3/4"	3.620.0023.001	5/8" x 98"	R1S-05-A13	7'-6"	3.620.0020.003					l
4.79.0000.105	5F	22-3/4"	3.620.0024.001	5/8" x 98"	R1S-05-A13	7'-6"	3.620.0020.004	L				L
4.79.0000.106	6F	25-3/8"	3.620.0025.001	7/8" x 122"	R1S-07-C14	9'-0"	3.620.0020.005					l
4.79.0000.107	7F	28-1/16"	3.620.0026.001	7/8" x 122"	R1S-07-C14	9'-0"	3.620.0020.006					l
4.79.0000.108	8F	31-1/16"	3.620.0027.001	7/8" x 122"	R1S-07-C14	9'-0"	3.620.0020.007	t				_
4.79.0000.109	9F	34-1/16"	3.620.0026.001	7/8" x 122"	R1S-07-C14	9'-0"	3.620.0020.008					
4.79.0000.110	10F	37-1/16"	3.620.0027.001	7/8" x 122"	R1S-07-C14	9'-0"	3.620.0020.009					
4.79.0000.111	11F	39-13/16"	3.620.0028.001	7/8" x 122"	R1S-07-C14	9'-6"	3.620.0020.010					
4.79.0000.112	12F	42-13/16"	3.620.0029.001	7/8" x 122"	R1S-07-C14	9'-6"	3.620.0020.011					
4.79.0000.113	13F	45-13/16"	3.620.0028.001	7/8" x 122"	R1S-07-C14	9'-6"	3.620.0020.012					

	<b>V</b>	
HORIZONTAL —		
BASE FOOT —	1/2" x 1-1/2" A32 BOLT ASS'Y c/w ADD'L FLATWASHER	25
(2) HEX NUTS — Re (1) FLATWASHER	ADD'L FLATWASHER  — KEYHOLE PLATE	
LEVELLING NUT —	- RETHOLE PLATE	AND HEX NOT
3" TO 3-1/2" GROUT -	8"	BOLT PROJECTION
GROUT FILLED DRILL HOLE —		
GROOT FILLED DRILL HOLE		I Embedment
(2) ROCK ANCHORS —		
(2) 110011 2110110110		
##	# #	
		10"
UU	U U	<del></del>

ROCK ANCHOR DIA.	DRILL HOLE DIA.	KEYHOLE PLATE	TO SET SHELL	TENSION LOAD
5/8"	1-3/4"	3.906.0006.002	125 ftlbs	13,550 lbs
7/8"	1-3/4"	3.906.0006.004	390 ftlbs	27,700 lbs

### WILLIAMS' SUPER HIGH TENSILE ROCK BOLT (SOLID) INSTALLATION INSTRUCTIONS

NOMINAL BOLT DIAMETER = SEE CHART

REQUIRED HOLE DIAMETER IN ROCK = SEE CHART WILLIAMS' PART NUMBER: SEE CHART

PROCEDURE:

- 1) DRILL HOLE TO PROPER SIZE, BATTER AND \*DEPTH SHOWN ON THE DRAWINGS\*, DRILL THE HOLE TEN (10) INCHES DEEPER THAN EMBEDMENT LENGTH SHOWN.
- 2) PLACE THE WILLIAMS' SUPER HIGH TENSILE ROCK BOLT IN POSITION IN THE HOLE WITH SUFFICIENT PROJECTION. TORQUE THE BOLT TO APPROXIMATELY (SEE CHART) ft lbs TO SET SHELL.
- 2a) IF SHELL DOES NOT ENGAGE WITH THE ROCK, REFÉR TO PROJECT ENGINEER FOR INSTRUCTIONS.

  3) PLACE A SMALL AMOUNT OF QUICK SETTING GROUT AROUND THE TOP OF THE BOLT. WHILE AT THE SAME TIME INSTALL THE DE-AIR GROUT TUBE (12 INCHES LONG) AND THE BEARING PLATE.
- 4) CLEAN THE THREADS ABOVE THE BEARING PLATE AS WELL AS THE NUTS WITH OIL. USE A PULL JACK TO APPLY A TENSION LOAD OF (SEE CHART) Ibs INTO THE BOLT AND INSTALL SECOND NUT TO LOCK ASSEMBLY.
  5) BLOW COMPRESSED AIR AROUND THE SOLID BOLT TO ASSURE SYSTEM IS CLEAR. PUMP "M—BED STANDARD"
- OR OTHER CEMENTIOUS, NON-SHRINKING GROUT AROUND THE BOLT UNTIL A CONTINUOUS FLOW OF GROUT IS SEEN COMING OUT OF THE DE-AIR TUBE.
- 6) ALL ANCHOR RODS PLACED IN ROCK SHALL BE GROUTED IN PLACE WITH A NON-FERROUS, NON-SHRINKING GROUT HAVING A MINIMUM COMPRESSIVE STRENGTH OF 27.5 MPa.
- 7) INSTALLATION COMPLETE.

DRAWING NUMBER

DESCRIPTION

DATE

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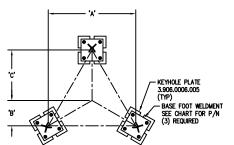
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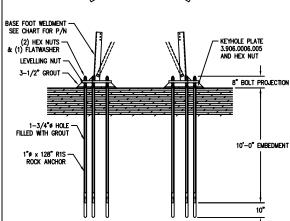
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ROCK BOLT SECT. #2-12HD

DTES: 1	THIS	RASE	FOOT	KIT	12	ISFFIII	FOR	CULIND	AND	SULID	BUCK	FOUNDATIONS	WHERE	HOLES	CAN	RF	FIFI D	DRILL ED	INTO	THE	BUCK	

KEYHOLE PLATE (TYP) BASE FOOT (TYP)





KIT NUMBER	FITS TOWER SECTION NUMBER	'Α'	,B,	,c,	BASE FOOT WELDMENT P/N
4.79.0000.114	13	59-7/8"	17-1/4"	34-9/16"	3.620.0062.001
4.79.0000.115	14	71-7/8"	20-3/4"	41-1/2"	3.620.0062.001
4.79.0000.116	15	83-7/8"	24-3/16"	48-7/16"	3.620.0062.001
4.79.0000.117	16	95-7/8"	27-11/16"	55-3/8"	3.620.0062.001
4.79.0000.118	17	107-7/8"	31-1/8"	62-1/4°	3.620.0062.001
4.79.0000.119	18	119-7/8"	34-5/8"	69-3/16"	3.620.0061.001
4.79.0000.120	19	131-7/8"	38-1/16"	76-1/8"	3.620.0061.001
4.79.0000.121	20	143-7/8"	41-1/2"	83-1/16"	3.620.0061.001
4.79.0000.122	21	155-7/8"	45°	90"	3.620.0061.001

### WILLIAMS' SUPER HIGH TENSILE ROCK BOLT (SOLID) INSTALLATION INSTRUCTIONS

NOMINAL BOLT DIAMETER = 1.0 INCHES

REQUIRED HOLE DIAMETER IN ROCK = 1.75 INCHES WILLIAMS' PART NUMBER: R1S-08-C14

PROCEDURE:

INCHES DEEPER THAN EMBEDMENT LENGTH SHOWN ON THE DRAWINGS\*. DRILL THE HOLE TWELVE (12)

NICHES DEEPER THAN EMBEDMENT LENGTH SHOWN.

2) PLACE THE WILLIAMS' SUPER HIGH TENSILE ROCK BOLT IN POSITION IN THE HOLE WITH SUFFICIENT PROJECTION.
TORQUE THE BOLT TO APPROXIMATELY 500 ft lbs TO SET SHELL.

2a) IF SHELL DOES NOT ENGAGE WITH THE ROCK, REFER TO PROJECT ENGINEER FOR INSTRUCTIONS.

3) PLACE A SMALL AMOUNT OF QUICK SETTING GROUT AROUND THE TOP OF THE BOLT WHILE AT THE SAME

TIME INSTALL THE DE-AIR GROUT TUBE (12 INCHES LONG) AND THE BEARING PLATE.

4) CLEAN THE THREADS ABOVE THE BEARING PLATE AS WELL AS THE NUTS WITH OIL. USE A PULL JACK TO

APPLY A TENSION LOAD OF 36,350 lbs into the Bolt and install second nut to lock assembly.

5) Blow Compressed air around the soud bolt to assure system is clear. Pump "m—bed standard" or other cementious, non-shrinking grout around the Bolt until a continuous flow of grout is seen coming out of the DE—air tube.

6) ALL ANCHOR RODS PLACED IN ROCK SHALL BE GROUTED IN PLACE WITH A NON-FERROUS, NON-SHRINKING GROUT HAVING A MINIMUM COMPRESSIVE STRENGTH OF 27.5 MPa.

7) INSTALLATION COMPLETE.

KEA.	Ė		
		_	

DESCRIPTION

DATE

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REFERENCE DRAWINGS:



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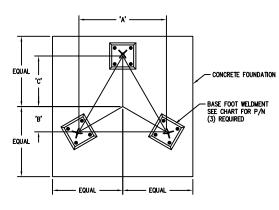
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ROCK BOLT INST. SEC. #13-21

NOTES: 1) USE TEMPLATE PROVIDED TO PROPERLY POSITION ROCK BOLTS.



kit number	FITS TOWER SECTION NUMBER	'A'	,B,	,C,	BASE FOOT WELDMENT P/N	HY150 CARTRIDGES
4.79.0000.214	13	59-7/8"	17-1/4"	34-9/16"	3.620.0062.001	4
4.79.0000.215	14	71-7/8"	20-3/4"	41-1/2"	3.620.0062.001	4
4.79.0000.216	15	83-7/8"	24-3/16"	48-7/16"	3.620.0062.001	4
4.79.0000.217	16	95-7/8"	27-11/16"	55-3/8"	3.620.0062.001	4
4.79.0000.218	17	107-7/8"	31-1/8"	62-1/4"	3.620.0062.001	4
4.79.0000.219	18	119-7/8"	34-5/8"	69-3/16"	3.620.0061.001	4
4.79.0000.220	19	131-7/8"	38-1/16"	76-1/8"	3.620.0061.001	4
4.79.0000.221	20	143-7/8"	41-1/2"	83-1/16"	3.620.0061.001	4
4.79.0000.222	21	155-7/8"	45°	90"	3.620.0061.001	4

BASE FOOT WELDMENT
SEE CHART FOR P/N

(2) HEX NUTS
& (1) FLATWASHER

LEVELLING NUT

1-1/2" GROUT

OF BOLT PROJECTION

24" EMBEDMENT

DRILL HOLE (PER MANUFACTURER'S SPEC)
FILL HOLE WITH HILTI HY-150 ADHESIVE

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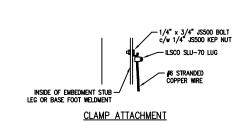
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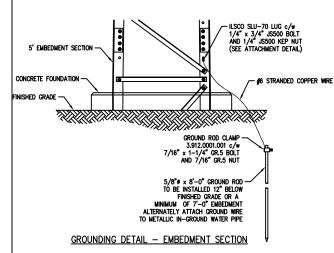
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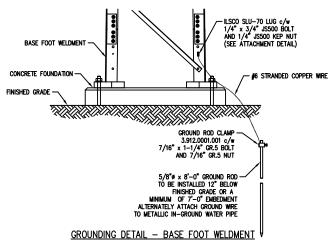
HILTI BOLT INSTALLATION

- SUFFICIENT TO PREVENT BREAKAWAY OF CONCRETE AROUND THE HILTI BOLTS.
- 2) USE TEMPLATE PROVIDED TO PROPERLY POSITION HILTI RODS.
  3) NEW FOUNDATIONS MUST BE DESIGNED FOR SITE SPECIFIC SOIL CONDITIONS.



SUPERTITAN BASIC GROUNDING KIT P/N 4.91.0103.000						
QUANTITY	PART NO.	DESCRIPTION				
1	3.912.0006.001	5/8"ø x 8' Lg. GROUND ROD				
3	1301404	#6 B.S.C. WIRE				
1	1302090	ILSCO SLU-70 LUG				
1	1205011	1/4" x 3/4" JS500 BOLT				
1	1205020	1/4" JS500 KEP NUT				
1	3.912.0001.001	GROUND ROD CLAMP				
1	1201091	7/16" x 1-1/4" GR.5 HEX HEAD BOLT				
1	1201080	7/16" GR.5 HEX NUT				





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GROUNDING DETAIL

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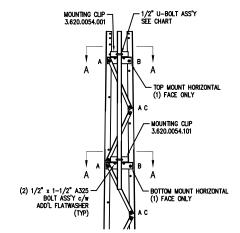
NOTES: 1) THERE ARE TWO TYPES OF SUPERTITAN ANCHOR DESIGNS. ONE IS A 5' EMBEDMENT SECTION WHICH IS THE DEFAULT FOR BOTTOM TOWER SECTIONS #2 THROUGH #12HD. THE OTHER IS A BASE FOOT WELDMENT KIT WITH ANCHOR RODS. THIS TYPE B IS THE DEFAULT WITH BOTTOM SECTIONS #13-21.

# (2) 1/2" x 1-1/2" A325 — SEE CHART BOLT ASSY c/w ADD'L FLATWASHER

MOUNTING CLIP (1) FACE ONLY

SECTION A-A

1/2" U-BOLT ASS'Y



## 1.9" OD PIPEMOUNT KITS

1.9 OD 1 II EMOCIVI (113								
SECT. No.	MOUNT KIT No.	TOP MNT. HORIZ.	BTTM. MNT. HORIZ.	PIPEMOUNT	U-BOLT ASS'Y			
1	4.84.0001.001	3.620.0018.001	3.620.0018.002	3.960.0013.100	4.963.0001.006			
2	4.84.0001.002	3.620.0018.003	3.620.0018.004	3.960.0013.100	4.963.0001.006			
3	4.84.0001.003	3.620.0018.005	3.620.0018.006	3.960.0013.100	4.963.0001.006			
4	4.84.0001.004	3.620.0018.007	3.620.0018.008	3.960.0013.100	4.963.0001.006			
5	4.84.0001.005	3.620.0018.009	3.620.0018.010	3.960.0013.100	4.963.0001.006			
6	4.84.0001.006	3.620.0018.011	3.620.0018.012	3.960.0013.100	4.963.0001.006			
7	4.84.0001.007	3.620.0018.013	3.620.0018.014	3.960.0013.100	4.963.0001.006			
8	4.84.0001.008	3.620.0018.015	3.620.0018.016	3.960.0013.100	4.963.0001.006			
9	4.84.0001.009	3.620.0018.017	3.620.0018.018	3.960.0013.100	4.963.0001.006			
10	4.84.0001.010	3.620.0018.019	3.620.0018.020	3.960.0013.100	4.963.0001.006			
11	4.84.0001.011	3.620.0018.021	3.620.0018.022	3.960.0013.100	4.963.0001.006			
12	4.84.0001.012	3.620.0018.023	3.620.0018.024	3.960.0013.100	4.963.0001.006			

# 4.5" OD PIPEMOUNT KITS

SECT. No.	MOUNT KIT No.	TOP MNT. HORIZ.	BTTM. MNT. HORIZ.	PIPEMOUNT	U-BOLT ASS'Y
1	4.84.0006.001	3.620.0018.001	3.620.0018.002	3.960.0011.103	4.963.0001.207
2	4.84.0006.002	3.620.0018.003	3.620.0018.004	3.960.0011.103	4.963.0001.207
3	4.84.0006.003	3.620.0018.005	3.620.0018.006	3.960.0011.103	4.963.0001.207
4	4.84.0006.004	3.620.0018.007	3.620.0018.008	3.960.0011.103	4.963.0001.207
5	4.84.0006.005	3.620.0018.009	3.620.0018.010	3.960.0011.103	4.963.0001.207
6	4.84.0006.006	3.620.0018.011	3.620.0018.012	3.960.0011.103	4.963.0001.207
7	4.84.0006.007	3.620.0018.013	3.620.0018.014	3.960.0011.103	4.963.0001.207
8	4.84.0006.008	3.620.0018.015	3.620.0018.016	3.960.0011.103	4.963.0001.207
9	4.84.0006.009	3.620.0018.017	3.620.0018.018	3.960.0011.103	4.963.0001.207
10	4.84.0006.010	3.620.0018.019	3.620.0018.020	3.960.0011.103	4.963.0001.207
11	4.84.0006.011	3.620.0018.021	3.620.0018.022	3.960.0011.103	4.963.0001.207
12	4.84.0006.012	3.620.0018.023	3.620.0018.024	3.960.0011.103	4.963.0001.207

BO	OLT SCHEDULE (SECT. 1 TO	5)
MARK	SIZE	QTY
A	1/2" x 1-1/2" A325	4
В	1/2" x 1-1/2" A325 + FLATWASHER	2
С	3/16"x2"x2" SPACER c/w 9/16"ø HOLE	2

BOLT SCHEDULE (SECT. 6 TO 1						
MARK	SIZE	QTY				
A	1/2" x 1-3/4" A325 + FLATWASHER	4				
В	1/2" x 1-1/2" A325	2				
С	3/16"x2"x2" SPACER c/w 9/16"ø HOLE	2				

REV.	BY: REV.	BY: CHK.	DESCRIPTION	DATE

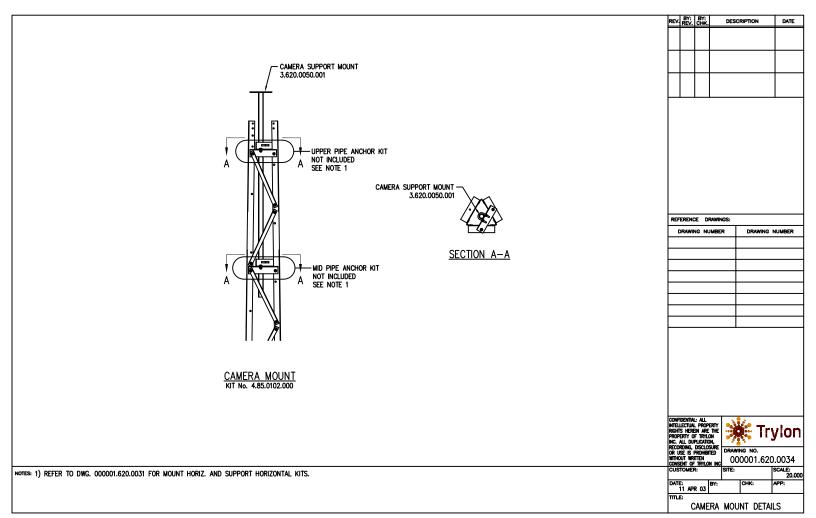
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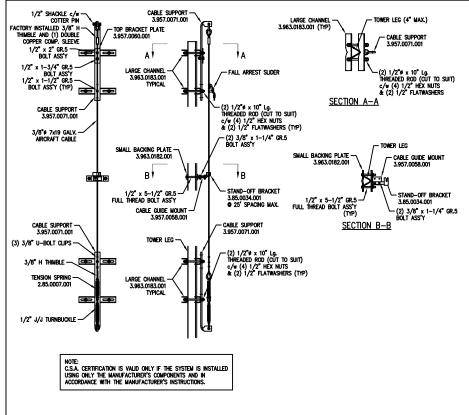
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CUSTOMER:



DRAWING NO. 000001.620.0033

SIDE MOUNT DETAILS





### INSTRUCTIONS

### INSTALLATION STEPS

- BODY HARNESS: The Cougar Cable System is designed to be used with a full body homess. Body belts are not an acceptable alternative. Please review the instructions included with the body homess for details on proper fitting and use.
- 2) TOP BRACKET: Install top bracket in center of the mount at upper elevation. Tighten nuts on backer plates using "turn of the nut method" and exercising care not to over tighten nuts and bend backer plates.
- CABLE: Attach cable to top bracket using the shackle provided and install the cotter pin to prevent the bolt from unscrewing.
- 4) LOWER BRACKET: Install the lower bracket in the mount center and connect all hardware as shown in the drawing to the left.

  Tighten the turnbuckle until the spring has \* to \* of deflection.
- 5) STAND-OFF BRACKETS: Install stand-off brackets at opproximately 25 boto intervals. The stand-off brackets should be installed such that the coble will lie in the center of the stand-off bracket. The clip on the stand-off bracket is spring loaded and should firmly grip the 3/8° coble.
- CABLE TERMINATION: After the system is installed excess cable can be cut off.
- 7) SLIDER: The stainless steel slider is removable and should be stored inside. Consult the instruction sheet provided with the slider for information on care, use and maintenance.

### OPERATION

- The Cougar Cable System is provided as an integrated kit and may not be used for other applications or in conjunction with other Fall Protection Systems. CSA Certification is void if components are purchased or introduced outside of this kit.
- if any part of the system has experienced a fall arrest, the system shall be removed from service, inspected and repaired before using.
- 3) The Cougar Cable System is designed to arrest the fall of a single person at a time although multiple users can use the system to access the work place. Only one climber can actively utilize the system at one time. All other climbers must be tied-off reproportately.
- 4) The Cougar Cable System is designed to be used in a vertical operating position. The system must be installed plumb (±3") to ensure proper activation of the slider brake cam.
- 5) The upper mounting bracket is designed to absorb energy if a fall occurs and reduce potential injury to the climber. Since many materials exhibit britteness and behave differently at extreme cold it is recommended that no climbing occur at temperatures less than minus 30° Celaius.

DESCRIPTION

DATE

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DRAWING NO. 000001.620.0042

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CUSTOMER: SITE: SCALE:
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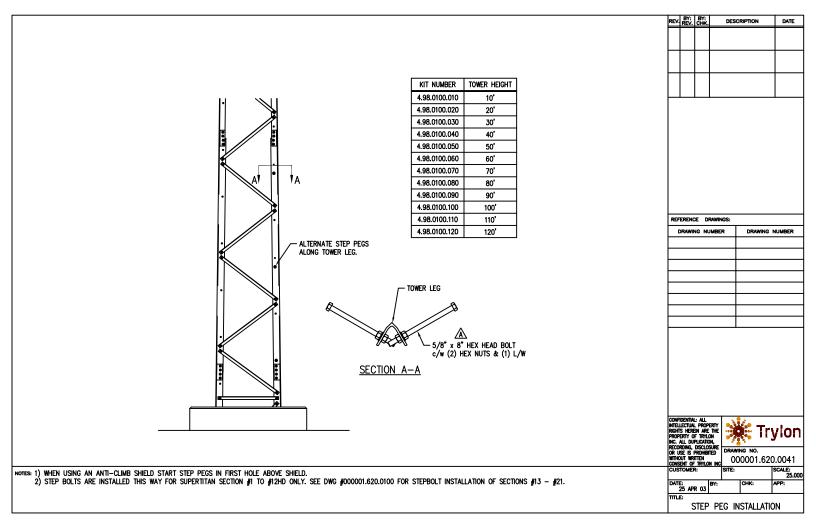
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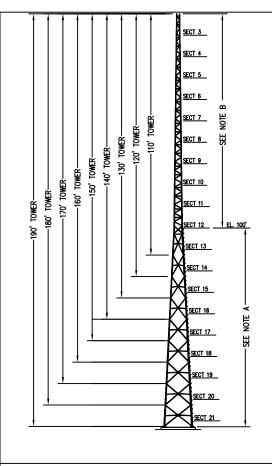
DATE: 25 APR 03

SUPERTITAN SAFETY CABLE

NOTES: 1) THE UPPER SAFETY CABLE SUPPORT MUST BE ATTACHED TO A STRUCTURE CAPABLE OF SUPPORTING A	A STATIC LOAD OF 500016	s.
--	-------------------------	----

2) WARNING: ANY SLIDER WHICH HAS EXPERIENCED A FALL ARREST SHOULD NOT BE USED AFTER SUCH FALL ARREST.









-PEG KITS
KIT NUMBER
4.98.S300.190
4.98.S300.180
4.98.S300.170
4.98.S300.160
4.98.S300.150
4.98.S300.140
4.98.S300.130
4.98.S300.120
4.98.S300.110

to TOP.

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100'

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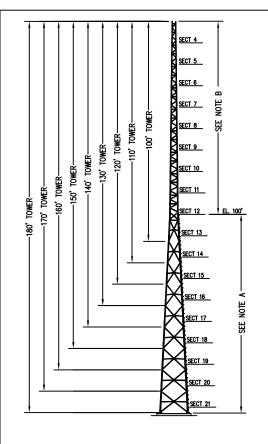
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STOMER:
STOE:
S300 SERIES
S00.000

DATE: BY: CHK:

NOTES: 1) SECTIONS 3-12 UTILIZE STEP-PEGS THAT SIMPLY SCREW INTO PRE-PUNCHED 11/16	١	) SECTION	S 3-	-12 II	(TILLIZE	STEP-	-PEGS	THAT	SIMPLY	SCREW	INTO	PRF-	-PLINCHED	11/	/16"	HOLES	IN	THE	TOWER LEGS	•
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<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

<sup>3)</sup> THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.







S400 STEP -PEG KITS							
TOWER HEIGHT	KIT NUMBER						
180'	4.98.S400.180						
170'	4.98.S400.170						
160'	4.98.S400.160						
150'	4.98.S400.150						
140'	4.98.S400.140						
130'	4.98.S400.130						
120'	4.98.S400.120						
110'	4.98.S400.110						
100'	4.98.S400.100						

to TOP.

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100'

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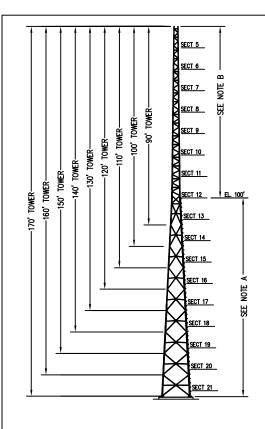
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SCALE: 300.000 S400 SERIES DATE: BY:

INTES: 1	A SECTIONS	4_12	HITHITE	STEP_PEGS	THAT	SIMPLY	SCREW II	NTO PRF.	_PI INCHED	11 /16	" HOLES IN	THE TOWER LEGS.	

<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

<sup>3)</sup> THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.







S500 STEP -PEG KITS							
TOWER HEIGHT	KIT NUMBER						
170'	4.98.S500.170						
160'	4.98.S500.160						
150'	4.98.S500.150						
140'	4.98.S500.140						
130'	4.98.S500.130						
120'	4.98.S500.120						
110'	4.98.S500.110						
100'	4.98.S500.100						
90'	4.98.S500.090						

to TOP.

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100'

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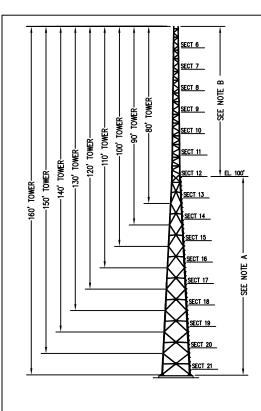
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CUSTOMER: SITE: S500 SERIES 300.000

DATE: 19 NOV 04 BY: CHK: APP: TITLE:

<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

<sup>3)</sup> THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.







S600 STEP -PEG KITS						
TOWER HEIGHT	KIT NUMBER					
160'	4.98.S600.160					
150'	4.98.S600.150					
140'	4.98.S600.140					
130'	4.98.S600.130					
120'	4.98.S600.120					
110'	4.98.S600.110					
100'	4.98.S600.100					
90'	4.98.S600.090					
80'	4.98.\$600.080					

to TOP.

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100'

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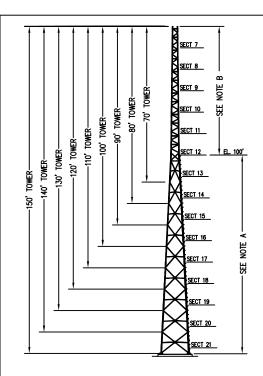
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ON INC ORAWING NO. 000001.620.0113

NOTES: 1) SECTION	s 6–12 utilize stef	-PEGS THAT SIMPLY SCRE	w into pre-punched 11/16	" HOLES IN THE TOWER LEGS.
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<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

<sup>3)</sup> THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.







S700 STEP -PEG KITS							
TOWER HEIGHT	KIT NUMBER						
150'	4.98.S700.150						
140'	4.98.S700.140						
130'	4.98.S700.130						
120'	4.98.S700.120						
110'	4.98.S700.110						
100'	4.98.S700.100						
90'	4.98.S700.090						
80'	4.98.S700.080						
70'	4.98.5700.070						

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100' to TOP.

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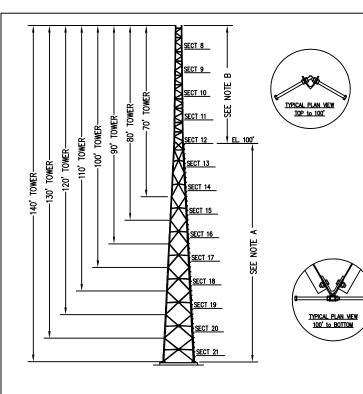
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DRAWING NO. 000001.620.0114

NOTES: 1) S	ECTIONS	7-12 UTILIZE	STEP-PEGS	THAT	SIMPLY	SCREW INTO	PRE-PUNCHED	11/16	HOLES IN	THE	TOWER LEGS.	
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<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

<sup>3)</sup> THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.



S800 STEP -PEG KITS							
TOWER HEIGHT	KIT NUMBER						
140'	4.98.S800.140						
130'	4.98.S800.130						
120'	4.98.S800.120						
110'	4.98.S800.110						
100'	4.98.S800.100						
90'	4.98.S800.090						
80'	4.98.\$800.080						
70'	4.98.S800.070						

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100' to TOP.

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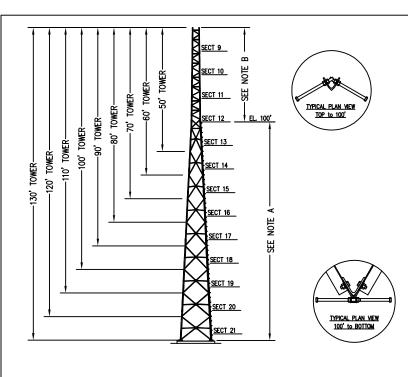
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CUSTOMER: SITE: S800 SERIES 300.000

DATE: 19 NOV 04 PY: CHK: APP:

NOTES: 1) SEC	TIONS 8-1:	2 UTILIZE	STEP-PEGS	THAT	SIMPLY	SCREW INTO	PRE-PUNCHED	11/16	" HOLES IN	THE	TOWER LEGS.	
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- 2) SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.
- 3) THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.



S900 STEP -PEG KITS							
TOWER HEIGHT	KIT NUMBER						
130'	4.98.S900.130						
120'	4.98.S900.120						
110'	4.98.S900.110						
100'	4.98.S900.100						
90'	4.98.S900.090						
80'	4.98.S900.080						
70'	4.98.S900.070						
60'	4.98.S900.060						
50'	4.98.S900.050						

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100' to TOP.

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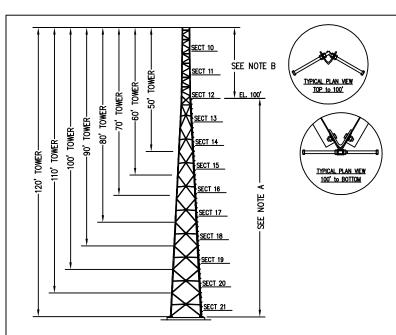
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DATE: BY: CHK: APP: TITLE:

NOTES: 1)	SECTIONS 9-12	UTILIZE STEP	-PEGS THAT	SIMPLY	SCREW INTO	PRE-PUNCHED	11/16*	HOLES IN	THE TOWER LEGS.	
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<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

<sup>3)</sup> THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.



S1000 STEP -PEG KITS							
TOWER HEIGHT	KIT NUMBER						
120'	4.98.1000.120						
110'	4.98.1000.110						
100'	4.98.1000.100						
90'	4.98.1000.090						
80'	4.98.1000.080						
70 <b>'</b>	4.98.1000.070						
60'	4.98.1000.060						
50'	4.98.1000.050						

A. REFER TO DWG. 01.620.0100
FOR STEP PEG LADDER ASSEMBLY
for 100' to BOTTOM.
B. REFER TO DWG. 01.620.0041 FOR
STEP PEG INSTALLATION FOR 100'
to TOP.

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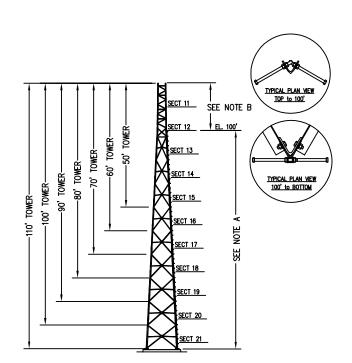
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CLIMBING STEP-PEG KITS

NOTES: 1	SECTIONS	10-12 U	TILIZE S	TEP-PEGS	THAT	SIMPLY	SCRFW	INTO F	PRF-I	PUNCHED	11 /16"	HOLES I	N THE	TOWER	LEGS.

<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

3) THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.



S1100 STEP -PEG KITS							
TOWER HEIGHT	KIT NUMBER						
110'	4.98.1100.110						
100'	4.98.1100.100						
90'	4.98.1100.090						
80'	4.98.1100.080						
70'	4.98.1100.070						
60'	4.98.1100.060						
50'	4.98.1100.050						

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100' to TOP.

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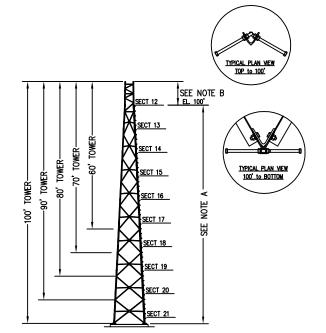
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CLIMBING STEP-PEG KITS

NOTES: 1) SECTIONS 11-12 UTILIZE STEP-PEGS THAT SIMPLY SCREW INTO PRE-PUNCHED	11/16	NCHED 117	6" HOLES IN	THE TOWER LE	GS.
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<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.

3) THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.



S1200 STEP -PEG KITS						
TOWER HEIGHT	KIT NUMBER					
100'	4.98.1200.100					
90'	4.98.1200.090					
80'	4.98.1200.080					
70 <b>°</b>	4.98.1200.070					
60'	4.98.1200.060					

A. REFER TO DWG. 01.620.0100 FOR STEP PEG LADDER ASSEMBLY for 100' to BOTTOM. B. REFER TO DWG. 01.620.0041 FOR STEP PEG INSTALLATION FOR 100' to TOP.

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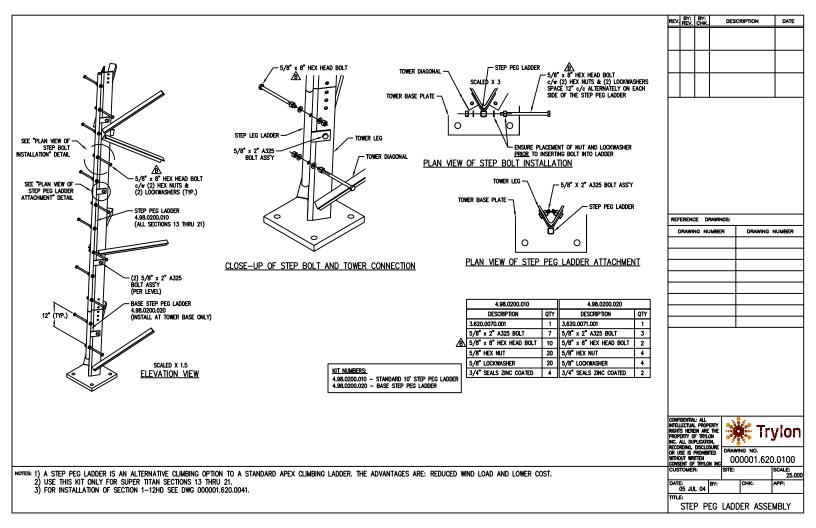
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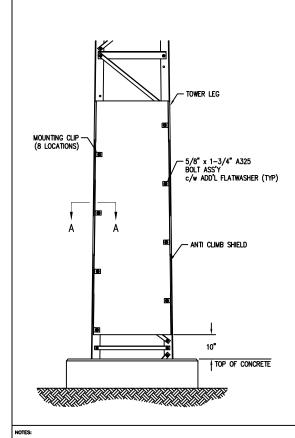
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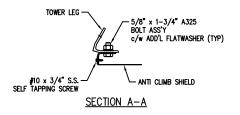
NOTES: 1	SECTIONS 12	UTILIZE	STEP-PEGS	THAT	SIMPLY	SCREW IN1	O PRE	-PUNCHED	11.	/16"	HOLES IN	THE	TOWER LE	EGS.

<sup>2)</sup> SECTIONS 13-21 UTILIZE STEP-PEG LADDER SECTIONS WHICH CLAMP ONTO THE TOWER LEG AT 2 POINTS.
3) THE VERY BOTTOM UTILIZES AN 18" LONG BASE STEP PEG LADDER THAT CLAMPS ONTO THE BASE FOOT WELDMENT.





KIT NUMBER	SECTION NUMBER	ANTI CLIMB SHIELD	MOUNTING CLIP
4.92.0001.001	1	3.620.0053.001	3.620.0053.200
4.92.0001.002	2	3.620.0053.002	3.620.0053.200
4.92.0001.003	3	3.620.0053.003	3.620.0053.200
4.92.0001.004	4	3.620.0053.004	3.620.0053.200
4.92.0001.005	5	3.620.0053.005	3.620.0053.200
4.92.0001.006	6	3.620.0053.006	3.620.0053.200
4.92.0001.007	7	3.620.0053.007	3.620.0053.200
4.92.0001.008	8	3.620.0053.008	3.620.0053.200
4.92.0001.009	9	3.620.0053.009	3.620.0053.200
4.92.0001.010	10	3.620.0053.010	3.620.0053.200
4.92.0001.011	11	3.620.0053.011	3.620.0053.200
4.92.0001.012	12	3.620.0053.012	3.620.0053.200



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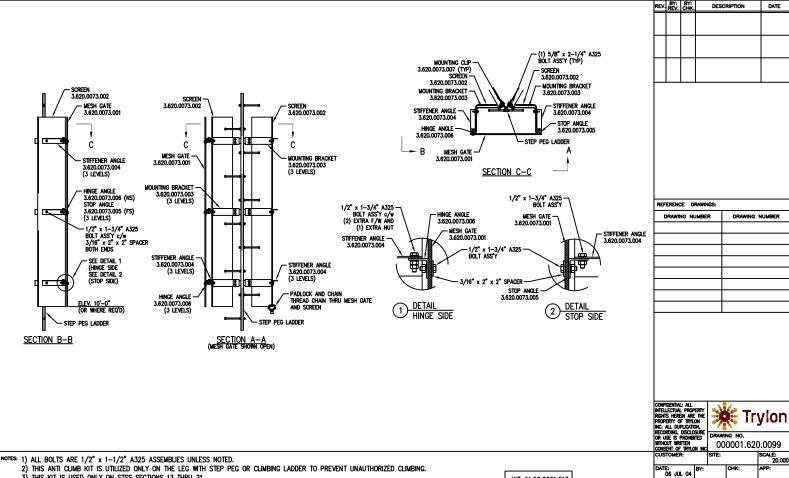
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DATE: BY: 29 APR 03

ANTI CLIMB INSTALLATION



2) THIS ANTI CLIMB KIT IS UTILIZED ONLY ON THE LEG WITH STEP PEG OR CLIMBING LADDER TO PREVENT UNAUTHORIZED CLIMBING.

3) THIS KIT IS USED ONLY ON STSS SECTIONS 13 THRU 21.

KIT #4.92.0001.213

ANTI CLIMB MESH ASSEMBLY



21 SOUTH FIELD DRIVE P.O. BOX 186 ELMIRA, ON N3B 2Z6

TEL: (519) 669-5421 FAX: (519) 669-4187

**CANADA** 

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