




**AMERICAN TOWER®**  
**ATC TOWER SERVICES**  
**3500 REGENCY PARKWAY**  
**SUITE 100**  
**CARY, NC 27518**  
**PHONE: (919) 468-0112**  
**COA: 2006031326**

306030 - LEES SUMMIT, MISSOURI

298 FT GUYED TOWER MODIFICATIONS

AS-BUILT SIGN-OFF		
DESCRIPTION	SIGNATURE	DATE
CONTRACTOR NAME		
CONTRACTOR REPRESENTATIVE (PRINT NAME)		
CONTRACTOR REPRESENTATIVE (SIGNATURE)		
REDEVELOPMENT P.M. (PRINT NAME)		
REDEVELOPMENT P.M. (SIGNATURE)		

PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET	SHEET TITLE	REV.
ATC PROJECT NUMBER: OAA713535_C6_13  CUSTOMER: AT&T MOBILITY  CUSTOMER SITE NAME: LEES SUMMIT, MO  CUSTOMER SITE NUMBER: KS4019  SITE ADDRESS: 111 SW HOOK ROAD LEES SUMMIT, MO 64082  DATE: 05/01/18  GEOGRAPHIC COORDINATES: 38.86509167 -94.3771	THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER OAA713535_C3_11 DATED 04/20/18. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.	B-1	BILL OF MATERIALS	0
		IGN	IBC GENERAL NOTES	0
		SIC	SPECIAL INSPECTION CHECKLIST	0
		A-1	MODIFICATION PROFILE	0
		A-2	MID-PANEL HORIZONTAL INSTALLATION DETAILS	0
		A-3	MID-PANEL HORIZONTAL INSTALLATION DETAILS	0
		A-4	GUY WIRE TENSION CHART	0
		A-5	GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS	0
		F-1	HORIZONTAL & MID-PANEL HORIZONTAL FABRICATION DETAILS	0
		F-2	MID-PANEL HORIZONTAL WELDMENT FABRICATION DETAILS	0
		F-3	MID-PANEL HORIZONTAL FABRICATION DETAILS	0
		TP-7	7% TENSION PLATE FABRICATION DETAILS	0
		TP-15	15% TENSION PLATE FABRICATION DETAILS	0



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0	FIRST ISSUE	KIR	05/01/18

ATC SITE NUMBER:  
306030  
  
ATC SITE NAME:  
LEES SUMMIT  
  
MISSOURI  
  
SITE ADDRESS:  
111 SW HOOK ROAD  
LEES SUMMIT, MO 64082

DRAWN BY:	KIR
APPROVED BY:	FB/KCI
DATE DRAWN:	05/01/18
ATC JOB NO:	OAA713535_C6_13

COVER

SHEET NUMBER: COVER	REVISION: 0
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## BILL OF MATERIALS

SHEET NUMBER:

B-1

REVISION:

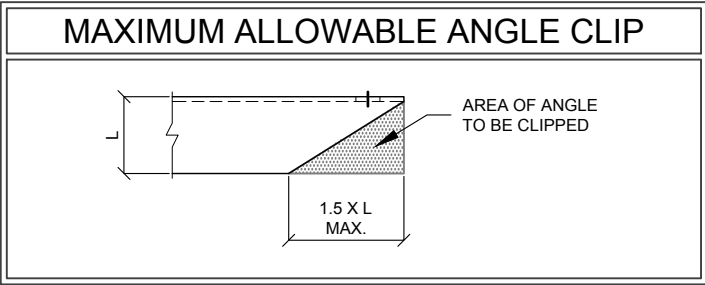
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GENERAL

1. ALL WORK TO BE COMPLETED PER APPLICABLE LOCAL, STATE, FEDERAL CODES AND ORDINANCES AND COMPLY WITH ATC MASTER SPECIFICATIONS FOR WIRELESS TOWER SITES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND ABIDING BY ALL REQUIRED PERMITS.
2. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
4. ANY SUBSTITUTIONS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
5. ANY MANUFACTURED DESIGN ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER ANSI/TIA-322 AND ANSI/ASSE A10.48, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
8. CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

STRUCTURAL STEEL

1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
3. ALL U-BOLTS SHALL BE ASTM A36 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
5. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
6. ALL STRUCTURAL STEEL EMBEDDED IN THE CONCRETE SHALL BE APPLIED WITH (2) BRUSHED COATS OF POLYGUARD CA-14 MASTIC OR EQUIVALENT. REFER TO THE MANUFACTURER SPECIFICATIONS FOR SURFACE PREPARATION AND APPLICATION. APPLICATION OF POLYGUARD 400 WRAP IS NOT ESSENTIAL.
7. CONTRACTOR SHALL PERFORM WORK ON ONLY ONE (1) TOWER FACE AND REPLACE/REINFORCE ONE (1) BOLT/MEMBER AT A TIME.
8. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.



PAINT

1. AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1L.

WELDING

1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
2. ALL WELDS SHALL BE INSPECTED VISUALLY. IF DIRECTED BY ENGINEER OF RECORD, 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
3. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
4. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
5. ALL WELDING ON LATTICE TOWERS SHALL BE DONE WITH E70XX ELECTRODES. ALL WELDING ON POLE STRUCTURES SHALL BE DONE WITH E80XX ELECTRODES UNLESS NOTED OTHERWISE.
6. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

BOLT TIGHTENING PROCEDURE

1. STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC SPECIFICATIONS.
2. FLANGE BOLTS SHALL BE INSTALLED AND TIGHTENED USING DIRECT TENSION INDICATING (DTI) SQUIRTER WASHERS. DTI SQUIRTER WASHERS ARE TO BE INSTALLED AND ORIENTED / TIGHTENED PER MANUFACTURER SPECIFICATIONS TO ACHIEVE DESIRED LEVEL OF BOLT PRE-TENSION.
3. IN LIEU OF USING DTI SQUIRTER WASHERS, FLANGE BOLTS MAY BE TIGHTENED USING AISC / RCSC "TURN-OF-THE-NUT" METHOD, PENDING APPROVAL BY THE ENGINEER OF RECORD (EOR). TIGHTEN FLANGE BOLTS USING THE CHART BELOW:

BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS		
1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

4. SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

8.2.1 TURN-OF-NUT PRETENSIONING  
BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

5. ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

APPLICABLE CODES AND STANDARDS

1. ANSI/TIA: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, 222-G EDITION.
2. 2012 INTERNATIONAL BUILDING CODE.
3. ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 318, LATEST EDITION.
4. CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
5. AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
6. AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION.

SPECIAL INSPECTION

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH IBC 2012, SECTION 1704 AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:

a) STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELD ONLY)

b) HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 EXTENSION FLANGE BOLTS TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD)
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER IN ACCORDANCE WITH IBC 2012, SECTION 1704, UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.



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IBC GENERAL NOTES

SHEET NUMBER: <b>IGN</b>	REVISION: <b>0</b>
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MODIFICATION INSPECTION NOTES

THE SPECIAL INSPECTION (SI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE SI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR AND THE INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED FROM AMERICAN TOWER CORPORATION (ATC). IT IS EXPECTED THAT EACH PARTY WILL PROACTIVELY REACH OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR AMERICAN TOWER POINT OF CONTACT.

SPECIAL INSPECTOR

THE SPECIAL INSPECTOR IS REQUIRED TO CONTACT THE GENERAL CONTRACTOR AS SOON AS RECEIVING A PO FROM ATC. UPON RECEIVING A PO FROM ATC THE SPECIAL INSPECTOR AT A MINIMUM MUST:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE GENERAL CONTRACTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- ANY CONCERNS WITH THE SCOPE OF WORK OR PROJECT COMMITMENT MUST BE RELAYED TO THE ATC POINT OF CONTACT IMMEDIATELY.

THE SPECIAL INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR INSPECTION AND TEST REPORTS, REVIEWING THESE DOCUMENTS FOR ADHERENCE TO CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE SI REPORT TO AMERICAN TOWER CORPORATION.

GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO CONTACT THE SI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE SI TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SI CHECKLIST.

SPECIAL INSPECTION CHECKLIST								
INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY	SI REVIEW REQUIRED			INSPECTION FREQUENCY	
				PRE CX	DURING CX	POST CX	PERIODIC	CONTINUOUS
SPECIAL INSPECTION FIELD WORK & REPORT	DOCUMENTATION AND SITE VISIT CONDUCTED BY AN ATC APPROVED SPECIAL INSPECTOR AS REQUIRED BY ATC AND OTHER AUTHORITIES HAVING JURISDICTION. INSPECTION PARAMETERS TO FOLLOW ATC'S STANDARD SPECIFICATION FOR WIRELESS TOWER SITES.	✓	SI			✓		
ENGINEERING ASSEMBLY DRAWINGS	GC SHALL SUBMIT DRAWINGS TO SI FOR INCLUSION IN SI REPORT	✓	GC	✓				
FABRICATED MATERIAL VERIFICATION & INSPECTION	MTR AND OR MILL CERTIFICATIONS FOR SUPPLIED MATERIALS GC SHALL SUPPLY SI WITH REPORTS TO BE INCLUDED IN SI REPORT WHEN REQUIRED BY ATC	✓	SI	✓				
CERTIFIED WELD INSPECTION	INSPECTION AND REPORT OF STRUCTURAL WELDING PERFORMED DURING PROJECT COMPLETED BY A CWI AND INCLUDED WITHIN SI REPORT		GC / TA					
FOUNDATION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF FOUNDATION EXCAVATION, REBAR PLACEMENT, CASING/SHORING/FORMING PLACEMENT, AND ANCHOR TEMPLATE AND ANCHOR PLACEMENT - TO BE SI APPROVED PRIOR TO CONCRETE POUR AND DOCUMENTED IN THE SI REPORT		SI					
ANCHOR, ROCK ANCHOR OR HELICAL PULL-OUT TEST	PULL TESTING OF INSTALLED ANCHORS TO BE COMPLETED AND DOCUMENTED IN SI REPORT		GC / TA					
CONCRETE INSPECTION & VERIFICATION	CONCRETE MIX DESIGN, SLUMP TEST, COMPRESSIVE TESTING, AND SAMPLE GATHERING TECHNIQUES ARE TO BE PROVIDED FOR INCLUSION IN THE SI REPORT. SI SHALL VERIFY CONCRETE PLACEMENT AS REQUIRED BY THE DESIGN DOCUMENTS (INSPECTION FREQUENCY IS MARKED CONTINUOUS)		GC / TA					
DYWDIDAG PLACEMENT/ANCHOR BOLT EMBEDMENT - EPOXY/GROUT INSTALL	ANCHOR/BAR EMBEDMENT, HOLE SIZE, EPOXY/GROUT TYPE, INSTALLATION TEMPERATURE AND INSTALLATION SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
BASE PLATE GROUT INSPECTION & VERIFICATION	BASE PLATE GROUTING TYPE AND PLACEMENT SHALL BE CONFIRMED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
EARTHWORK INSPECTION & VERIFICATION	EXCAVATION, FILL, SLOPE, GRADE AND OTHER EARTHWORK REQUIREMENTS PER PLANS SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / TA					
COMPACTION VERIFICATION	CONTRACTOR SHALL PROVIDE AN INDEPENDENT THIRD PARTY CERTIFIED INSPECTION WHICH PROVIDES TEST RESULTS FOR COMPACTION TEST OF SOILS IN PLACE TO ASTM STANDARDS.		GC / TA					
GROUND TESTING & VERIFICATION	GC SHALL PROVIDE DOCUMENTATION SHOWING THAT THE GROUNDING SYSTEM SHALL HAVE A MEASURED RESISTANCE TO THE GROUND OF NOT MORE THAN THE RECOMMENDED 10 OHMS. PER THE ATC CONSTRUCTION SPECIFICATION UNDER SECTION 2.15 THIS DOCUMENTATION MUST BE AN INDEPENDENT CERTIFICATION.		GC					
STEEL CONSTRUCTION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF STEEL CONSTRUCTION TO BE PERFORMED BY THE SI. INSPECTION TO INCLUDE VERIFICATION OF NEW CONSTRUCTION OR MODIFICATION OF EXISTING CONSTRUCTION PER ENGINEERED PLANS. DETAILED VERIFICATION SHALL BE INCLUDED IN SI REPORT.	✓	SI			✓	✓	
ON-SITE COLD GALVANIZING VERIFICATION	SI SHALL VERIFY WITH GC ALL COLD GALVANIZATION TYPE AND APPLICATION AND INCLUDE SUMMARY IN SI REPORT	✓	GC			✓	✓	
GUY WIRE TENSIONING & TOWER ALIGNMENT REPORT	GC SHALL PROVIDE SI EVIDENCE OF PROPER GUY TENSIONING AND TOWER PLUMB PER PLANS. SI SHALL VERIFY AND INCLUDE PLUMB AND TENSION REPORTING IN SI REPORT.	✓	GC			✓	✓	
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	GC SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO SI FOR APPROVAL/REVIEW AND INCLUSION IN SI REPORT	✓	GC			✓		
SI AS-BUILT DRAWINGS WITH INSPECTION RED-LINES (AS REQUIRED)	SI SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS WITHIN SI REPORT	✓	SI			✓		
TIA INSPECTION	SI SHALL COMPLETE TIA INSPECTION AND PROVIDE SEPARATE TIA INSPECTION DOCUMENTATION TO ATC CM		SI					
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF SPECIAL INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE SI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN SI REPORT.	✓	GC / SI			✓		
NOTE: SPECIAL INSPECTIONS ARE INTENDED TO BE A COLLABORATIVE EFFORT BETWEEN GC AND SI. WHENEVER POSSIBLE GC IS TO PROVIDE SI WITH PHOTOGRAPHIC OR OTHER ACCEPTABLE EVIDENCE OF PROPER INSTALLATION IF PERIODIC INSPECTION FREQUENCY IS ACCEPTABLE. THE GC AND SI SHALL WORK TO COMPILE EVIDENCE OF PROPER CONSTRUCTION AND LIMIT THE NUMBER OF SI SITE VISITS REQUIRED.								
TABLE KEY: SI - ATC APPROVED SPECIAL INSPECTOR      CX - CONSTRUCTION GC - GENERAL CONTRACTOR                      CM - CONSTRUCTION MANAGER TA - 3RD PARTY TESTING AGENCY              ATC - AMERICAN TOWER CORPORATION								



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COA: 2006031326

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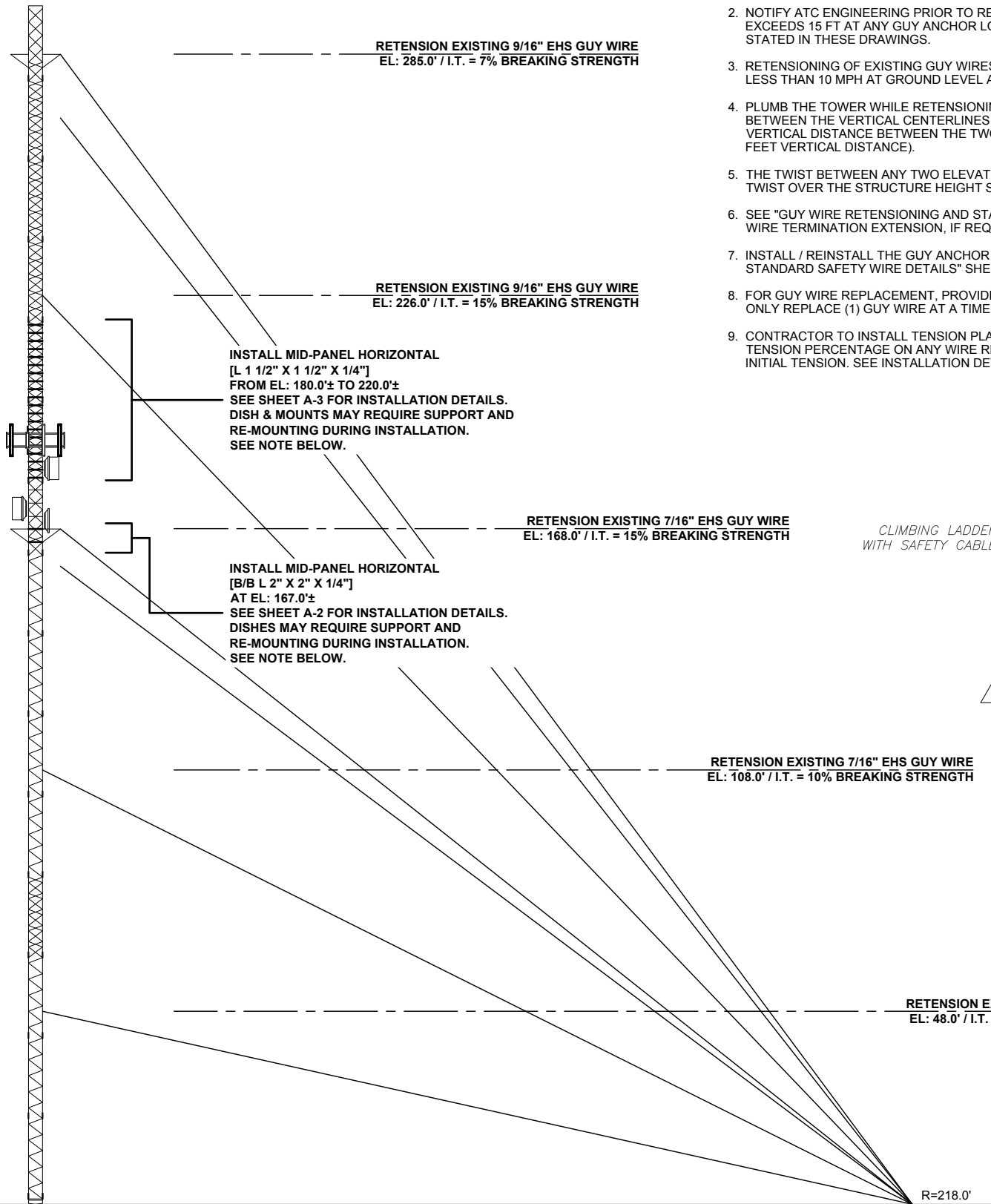
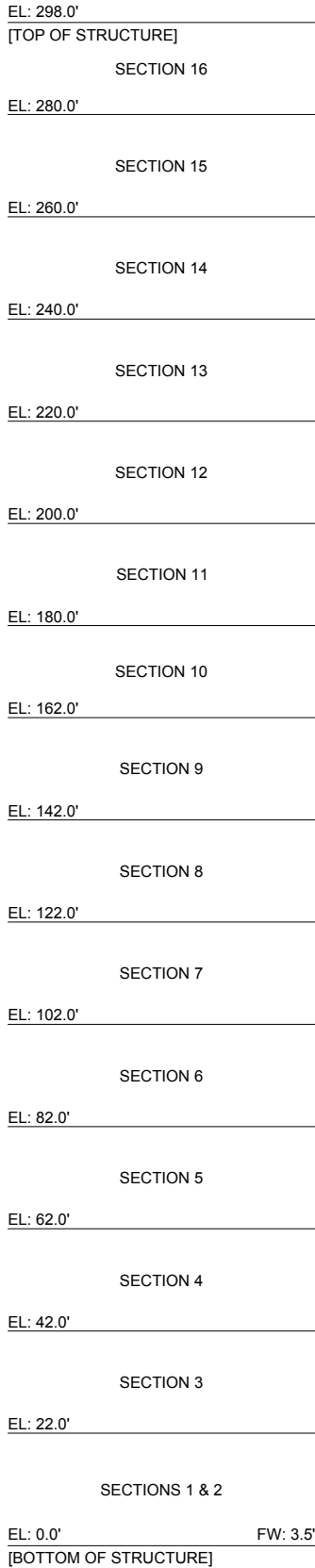
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SPECIAL INSPECTION CHECKLIST

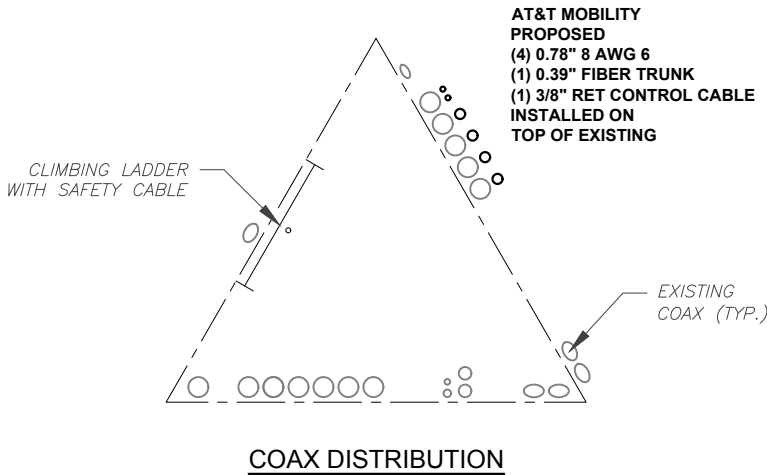
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PLUMB AND TENSION NOTES:

1. PLUMB AND TENSION TOWER UPON THE COMPLETION OF ANY OTHER REQUIRED STRUCTURAL MODIFICATIONS DETAILED IN THE MODIFICATION PACKAGE. REFER TO GUY WIRE TENSION CHART FOR REQUIRED GUY WIRE TENSION VALUES.
2. NOTIFY ATC ENGINEERING PRIOR TO RETENSIONING IF THE GUY ANCHOR DROP, RISE OR RADIUS EXCEEDS 15 FT AT ANY GUY ANCHOR LOCATION OR IF ANY GUY WIRE SIZE DIFFERS FROM THOSE STATED IN THESE DRAWINGS.
3. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND THE GUY WIRES.
4. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN THE TWO ELEVATIONS (EXAMPLE, NOT TO EXCEED 0.6 INCHES FOR 20 FEET VERTICAL DISTANCE).
5. THE TWIST BETWEEN ANY TWO ELEVATIONS SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.
6. SEE "GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS" SHEET FOR ACCEPTABLE GUY WIRE TERMINATION EXTENSION, IF REQUIRED.
7. INSTALL / REINSTALL THE GUY ANCHOR SAFETY WIRE AS SHOWN ON THE "GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS" SHEET.
8. FOR GUY WIRE REPLACEMENT, PROVIDE TEMPORARY GUYING TO SECURE TOWER. CONTRACTOR TO ONLY REPLACE (1) GUY WIRE AT A TIME.
9. CONTRACTOR TO INSTALL TENSION PLATES SHOWING A PERCENTAGE VALUE EQUAL TO THE INITIAL TENSION PERCENTAGE ON ANY WIRE RETENSIONED EITHER ABOVE OR BELOW THE STANDARD 10% INITIAL TENSION. SEE INSTALLATION DETAILS ON SHEET A-5.



NOTE:  
CONTACT AMERICAN TOWER FIELD OPERATIONS WHEN EXISTING EQUIPMENT INTERFERES WITH INSTALLATION OF MODIFICATIONS. ONCE APPROVED, EXISTING EQUIPMENT MAY BE TEMPORARILY MOVED DURING INSTALLATION & REINSTALLED TO THE ORIGINAL HEIGHT & LOCATION BY CONTRACTOR POST COMPLETION OF MODIFICATIONS.



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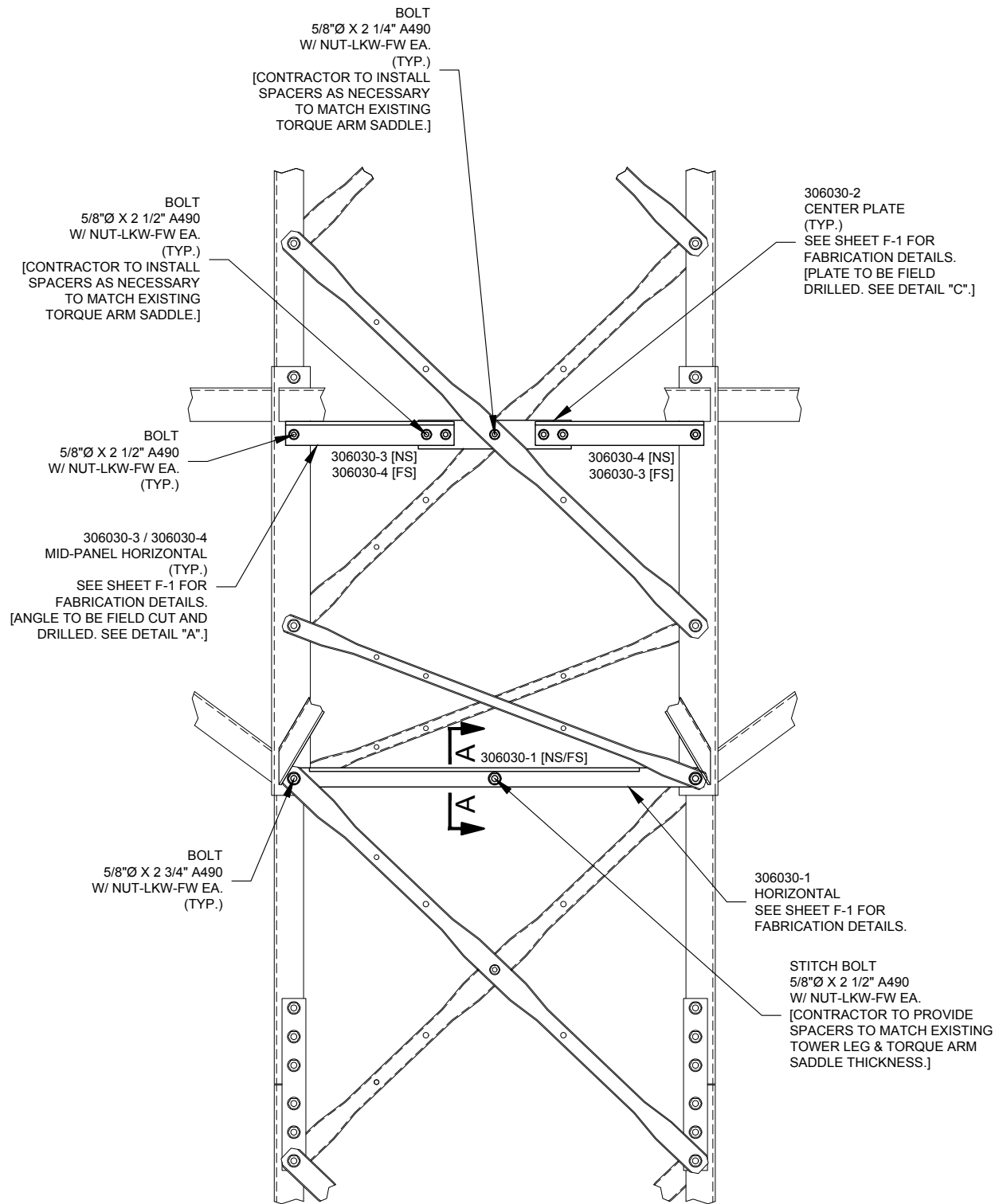
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MODIFICATION PROFILE

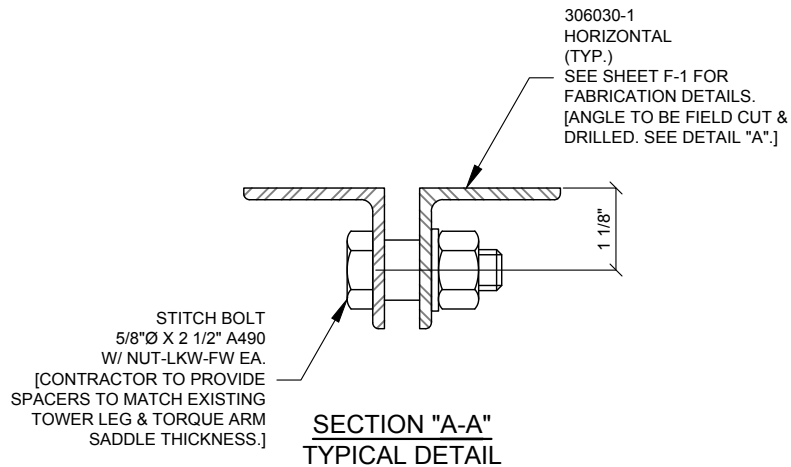
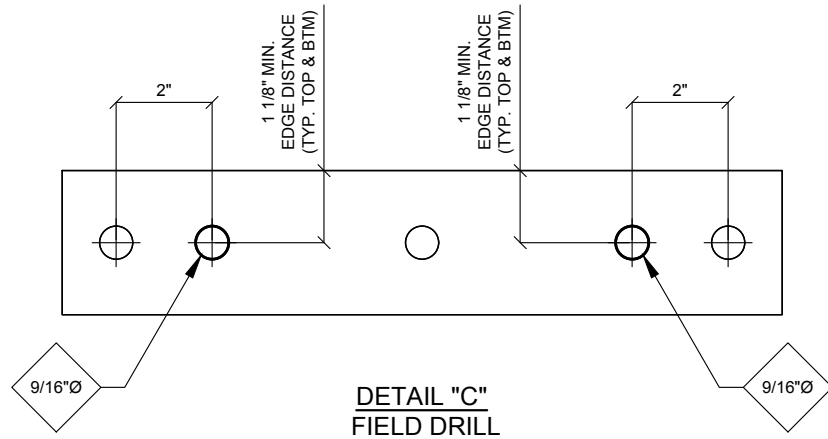
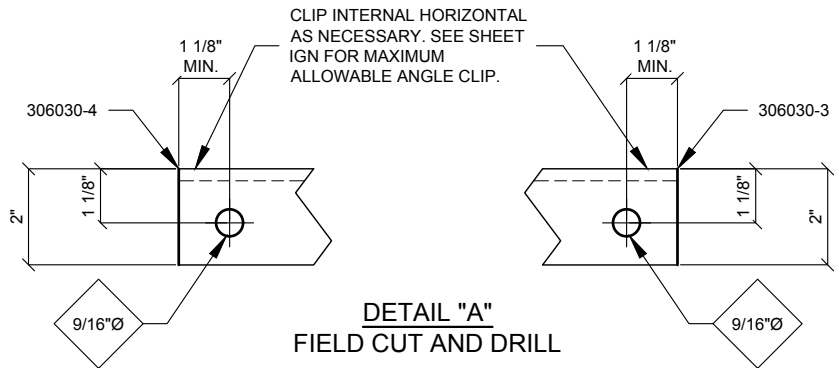
SHEET NUMBER:	REVISION:
A-1	0



PARTIAL ELEVATION VIEW  
SECTION 10 [EL: 162'-0" TO 180'-0"]

NOTES:

1. MID-PANEL HORIZONTAL INSTALLATION ON TOWER LEG CAN VARY NO MORE THAN 3" FROM MIDPOINT BETWEEN DIAGONAL END CONNECTION BOLTS TO AVOID TORQUE ARM INTERFERENCE.
2. REAM EXISTING CENTER BOLT HOLE IN DIAGONALS AS NECESSARY.
3. CONTRACTOR TO ADD SPACERS TO MATCH LEG AND/OR SADDLE THICKNESS AS NECESSARY.



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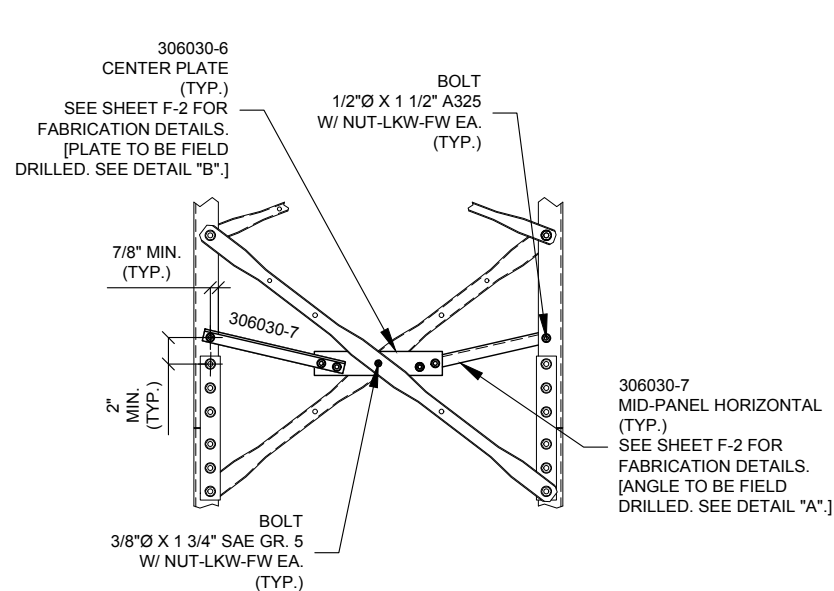
MID-PANEL HORIZONTAL  
INSTALLATION DETAILS

SHEET NUMBER:

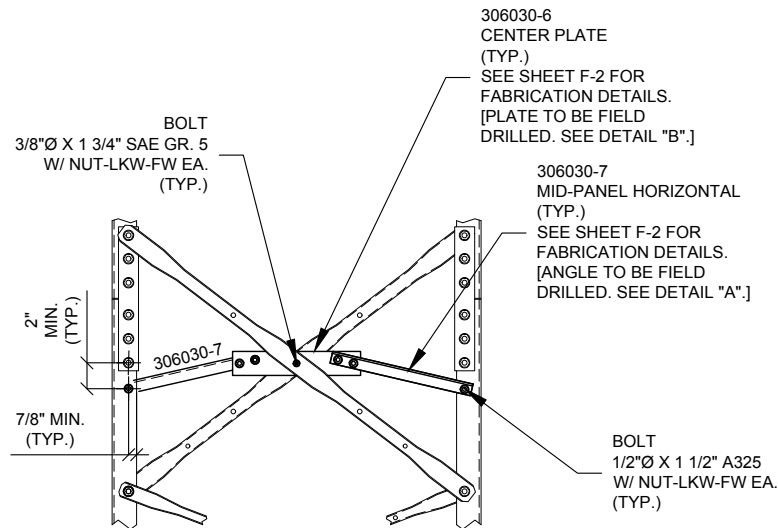
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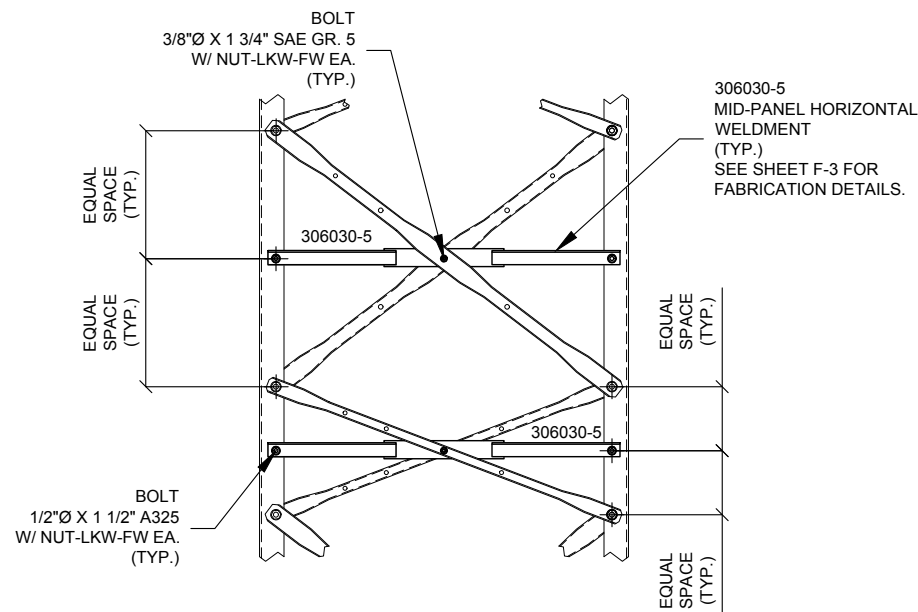
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**PARTIAL ELEVATION VIEW**  
TOWER SPLICE [EL: 180'-0" & 200'-0"]  
(TYPICAL (1) FACE ONLY)

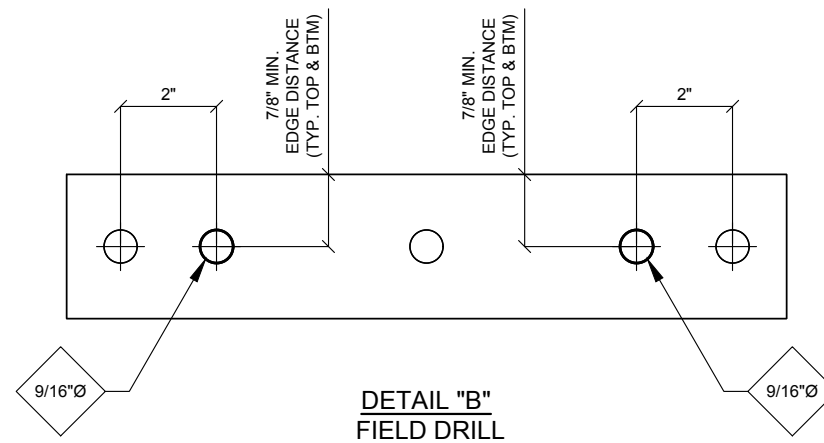
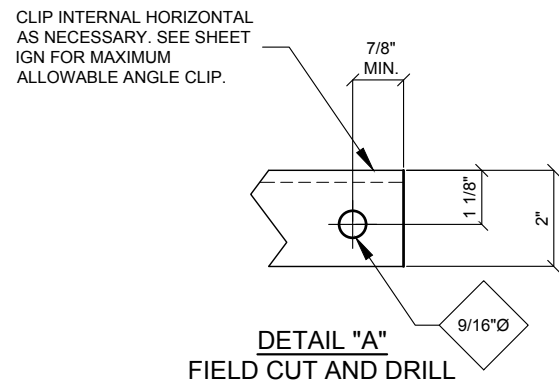


**PARTIAL ELEVATION VIEW**  
TOWER SPLICE [EL: 200'-0" & 220'-0"]  
(TYPICAL (1) FACE ONLY)



**TYPICAL PARTIAL ELEVATION VIEW**  
SECTIONS 11 & 12 [EL: 180'-0" TO 220'-0"]  
(BAY CONFIGURATION MAY VARY)

**NOTES:**  
END BOLT INSTALLATION ON TOWER LEG CAN VARY 3" MAX. FROM  
MIDPOINT BETWEEN DIAGONAL END CONNECTION BOLTS ONLY  
WHEN INTERFERENCES EXIST.



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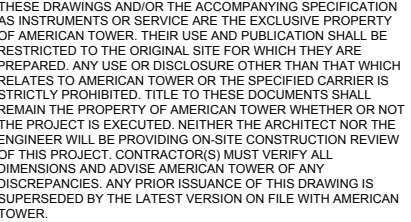
**MID-PANEL HORIZONTAL  
INSTALLATION DETAILS**

SHEET NUMBER:

A-3

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<h1 style="text-align: center;">GUY WIRE TENSION CHART</h1>	
<p>SHEET NUMBER:</p> <p style="font-size: 2em; text-align: center;">A-4</p>	<p>REVISION:</p> <p style="font-size: 2em; text-align: center;">0</p>

GUY WIRE DATA						MEASURED GUY WIRE TENSION IN POUNDS																											
GUY WIRE SIZE	GUY ELEV. (FT)	GUY ANCHOR RADIUS (FT)	GUY ANCHOR DROP		INITIAL TENSION %	TENSION DELTA DUE TO TEMP. (LBS/DEG)	0° F	5° F	10° F	15° F	20° F	25° F	30° F	35° F	40° F	45° F	50° F	55° F	60° F	65° F	70° F	75° F	80° F	85° F	90° F	95° F	100° F	105° F					
							LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	
			(+/- FT)	LEG																													
9/16" EHS	285.0	218.0	-11.0	A	7 %	11.85	3161	3102	3043	2983	2924	2865	2806	2746	2687	2628	2569	2509	2450	2391	2331	2272	2213	2154	2094	2035	1976	1917					
9/16" EHS	226.0	218.0	-11.0	A	15 %	15.48	6179	6101	6024	5946	5869	5792	5714	5637	5560	5482	5405	5327	5250	5173	5095	5018	4940	4863	4786	4708	4631	4554					
7/16" EHS	168.0	218.0	-11.0	A	15 %	12.32	3859	3797	3736	3674	3613	3551	3489	3428	3366	3305	3243	3182	3120	3058	2997	2935	2874	2812	2751	2689	2627	2566					
7/16" EHS	108.0	218.0	-11.0	A	10 %	15.76	3026	2947	2868	2789	2710	2632	2553	2474	2395	2316	2238	2159	2080	2001	1922	1844	1765	1686	1607	1528	1450	1371					
7/16" EHS	48.0	218.0	-11.0	A	10 %	18.72	3203	3110	3016	2923	2829	2735	2642	2548	2454	2361	2267	2174	2080	1986	1893	1799	1706	1612	1518	1425	1331	1237					

GUY WIRE DATA						MEASURED GUY WIRE TENSION IN POUNDS																											
GUY WIRE SIZE	GUY ELEV. (FT)	GUY ANCHOR RADIUS (FT)	GUY ANCHOR DROP		INITIAL TENSION %	TENSION DELTA DUE TO TEMP. (LBS/DEG)	0° F	5° F	10° F	15° F	20° F	25° F	30° F	35° F	40° F	45° F	50° F	55° F	60° F	65° F	70° F	75° F	80° F	85° F	90° F	95° F	100° F	105° F					
			(+/- FT)	LEG			LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS		
9/16" EHS	285.0	218.0	6.0	B	7 %	11.85	3161	3102	3043	2983	2924	2865	2806	2746	2687	2628	2569	2509	2450	2391	2331	2272	2213	2154	2094	2035	1976	1917					
9/16" EHS	226.0	218.0	6.0	B	15 %	15.48	6179	6101	6024	5946	5869	5792	5714	5637	5560	5482	5405	5327	5250	5173	5095	5018	4940	4863	4786	4708	4631	4554					
7/16" EHS	168.0	218.0	6.0	B	15 %	12.32	3859	3797	3736	3674	3613	3551	3489	3428	3366	3305	3243	3182	3120	3058	2997	2935	2874	2812	2751	2689	2627	2566					
7/16" EHS	108.0	218.0	6.0	B	10 %	15.76	3026	2947	2868	2789	2710	2632	2553	2474	2395	2316	2238	2159	2080	2001	1922	1844	1765	1686	1607	1528	1450	1371					
7/16" EHS	48.0	218.0	6.0	B	10 %	18.72	3203	3110	3016	2923	2829	2735	2642	2548	2454	2361	2267	2174	2080	1986	1893	1799	1706	1612	1518	1425	1331	1237					

GUY WIRE DATA						MEASURED GUY WIRE TENSION IN POUNDS																											
GUY WIRE SIZE	GUY ELEV. (FT)	GUY ANCHOR RADIUS (FT)	GUY ANCHOR DROP		INITIAL TENSION %	TENSION DELTA DUE TO TEMP. (LBS/DEG)	0° F	5° F	10° F	15° F	20° F	25° F	30° F	35° F	40° F	45° F	50° F	55° F	60° F	65° F	70° F	75° F	80° F	85° F	90° F	95° F	100° F	105° F					
			(+/- FT)	LEG			LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS			
9/16" EHS	285.0	218.0	-5.0	C	7 %	11.85	3161	3102	3043	2983	2924	2865	2806	2746	2687	2628	2569	2509	2450	2391	2331	2272	2213	2154	2094	2035	1976	1917					
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7/16" EHS	168.0	218.0	-5.0	C	15 %	12.32	3859	3797	3736	3674	3613	3551	3489	3428	3366	3305	3243	3182	3120	3058	2997	2935	2874	2812	2751	2689	2627	2566					
7/16" EHS	108.0	218.0	-5.0	C	10 %	15.76	3026	2947	2868	2789	2710	2632	2553	2474	2395	2316	2238	2159	2080	2001	1922	1844	1765	1686	1607	1528	1450	1371					
7/16" EHS	48.0	218.0	-5.0	C	10 %	18.72	3203	3110	3016	2923	2829	2735	2642	2548	2454	2361	2267	2174	2080	1986	1893	1799	1706	1612	1518	1425	1331	1237					

**THE MAXIMUM DEVIATION FROM THE DESIGN INITIAL TENSIONS ARE:**

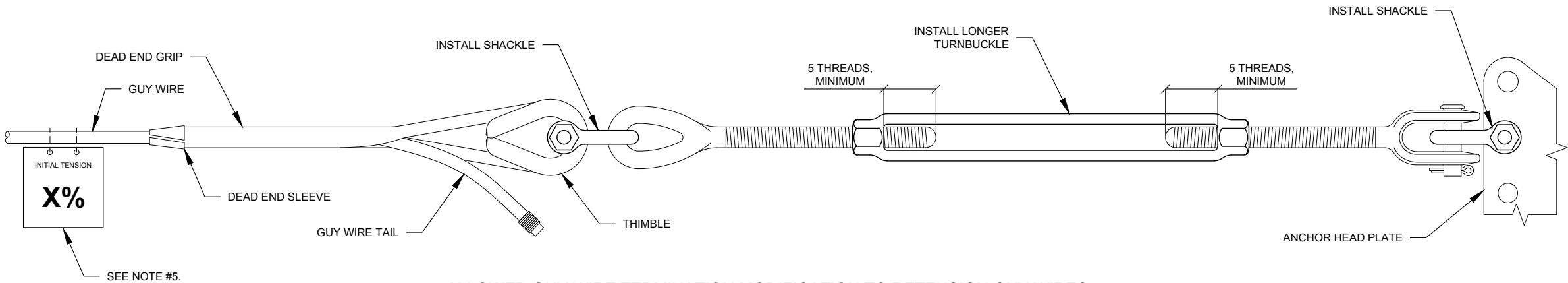
1.  $\pm 10\%$  FOR GUYS  $< 1"$  DIAMETER, OF THE INITIAL TENSIONS SPECIFIED ON THIS TEMPERATURE/TENSION CHART.
2.  $\pm 5\%$  FOR GUYS  $> 1"$  DIAMETER, OF THE INITIAL TENSIONS SPECIFIED ON THIS TEMPERATURE/TENSION CHART.



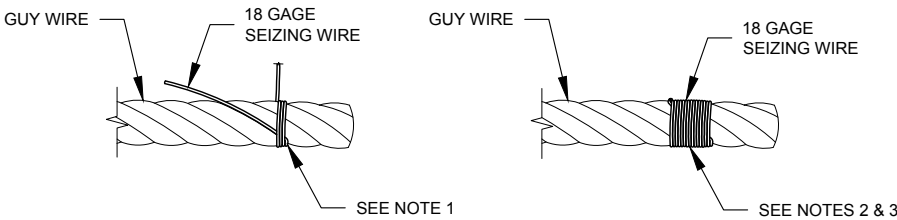
STANDARD GUY WIRE HARDWARE										
HARDWARE	GUY WIRE			JAW & EYE TURNBUCKLE Van Beest Green Pin® G-6315 OR Crosby® HG-227		DEAD END GRIP PREFORMED®	DEAD END SLEEVE PREFORMED®	THIMBLE Van Beest® E-6120 OR Crosby® G-414	SHACKLE Van Beest Green Pin® G-5263 OR Crosby® G-2130A	
	SIZE	U.T.S.	W.L.	SIZE	PIN Ø	SIZE	SIZE	SIZE	SIZE	PIN Ø
	7/16" EHS	20.8 K	10.4 K	3/4 X 18	5/8"	7/16"	7/16"	1/2" HVY	5/8"	3/4"
	9/16" EHS	35.0 K	17.5 K	7/8 X 18	3/4"	9/16"	9/16"	3/4" HVY	5/8"	3/4"

NOTES:

- TO OBTAIN CORRECT GUY WIRE TENSIONS, IT MAY BE NECESSARY TO REPLACE THE DEAD END GRIP (PREFORM) OF SOME GUY WIRES DUE TO EXISTING OVER-CONTRACTED TURNBUCKLES.
- IF EXISTING TURNBUCKLE IS ALREADY FULLY EXTENDED, THE COMBINATION OF SHACKLES AND A LONGER TURNBUCKLE AS SHOWN MAY BE USED TO PROVIDE REQUIRED ADJUSTMENT. ALTERNATIVELY, IF THE EXISTING GUY WIRE TAIL IS LONG ENOUGH, THE DEAD END GRIP (PREFORM) MAY BE REINSTALLED TO INCREASE THE OVERALL LENGTH OF THE GUY WIRE.
- IF REMOVAL OF EXISTING DEAD END GRIP (PREFORM) IS REQUIRED, IT CANNOT BE REUSED.
- IF EXISTING GUY WIRE GROUNDING IS REMOVED DURING MODIFICATION INSTALLATION, IT MUST BE RECONNECTED AFTER THE COMPLETION OF THE TOWER MODIFICATIONS. IF ORIGINAL GROUNDING IS BROKEN OR DAMAGED AND CANNOT BE RECONNECTED, GUY WIRE GROUNDING IS TO BE REPAIRED OR REPLACED.
- CONTRACTOR TO INSTALL TENSION PLATES SHOWING A PERCENTAGE VALUE EQUAL TO THE INITIAL TENSION PERCENTAGE ON ANY WIRE RETENSIONED EITHER ABOVE OR BELOW THE STANDARD 10% INITIAL TENSION.



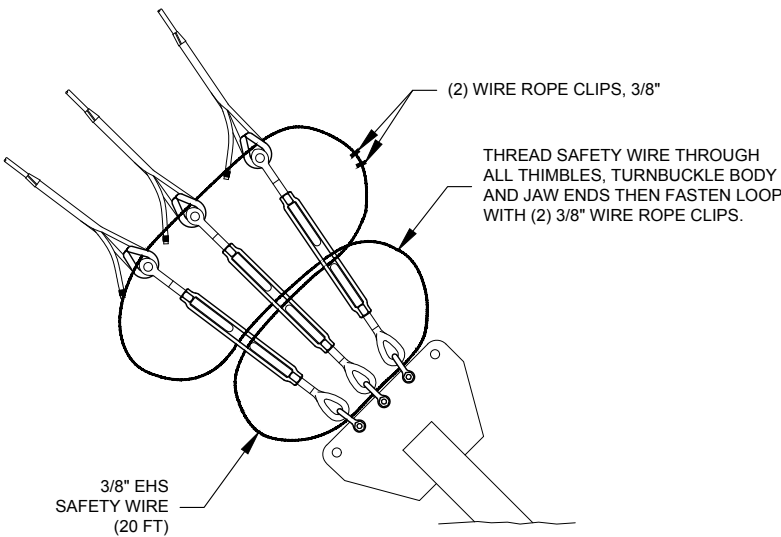
ALLOWED GUY WIRE TERMINATION MODIFICATION TO RETENSION GUY WIRES



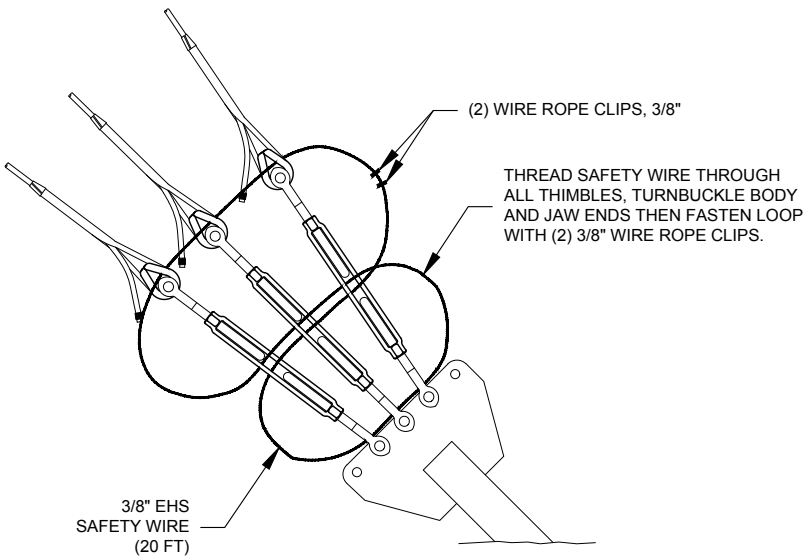
SEIZING WIRE INSTALLATION  
TYPICAL DETAIL

SEIZING WIRE INSTALLATION:

- LAY ONE END OF THE SEIZING WIRE IN THE GROOVE BETWEEN TWO STRANDS IN THE GUY WIRE AND WRAP THE OTHER END TIGHTLY OVER THE PORTION IN THE GROOVE.
- CONTINUE TWISTING WITH PLIERS TO TAKE UP SLACK AND TIGHTEN. WRAP SEIZING WIRE AROUND GUY WIRE FOR A WIDTH EQUAL TO THE GUY WIRE DIAMETER.
- WRAP SEIZING WIRE TIGHTLY AGAINST SERVING, WINDING TWISTED WIRE INTO KNOT BEFORE CUTTING OFF ENDS OF THE WIRE. POUND KNOT SNUGLY AGAINST THE GUY WIRE.



TYPICAL SAFETY WIRE INSTALLATION  
DETAIL W/ SHACKLES



TYPICAL SAFETY WIRE INSTALLATION  
DETAIL W/O SHACKLES



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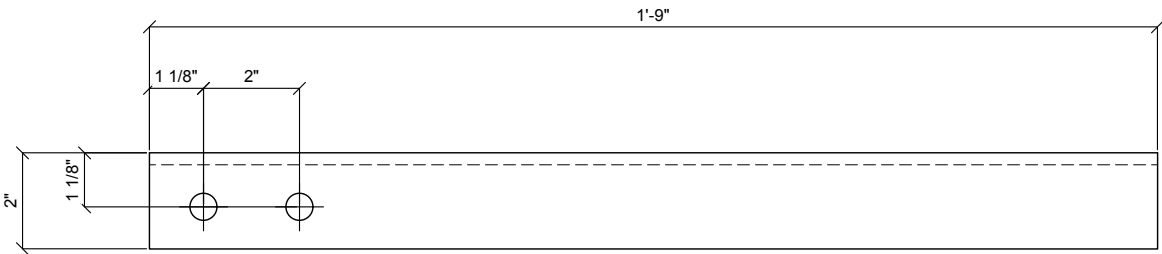
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111 SW HOOK ROAD  
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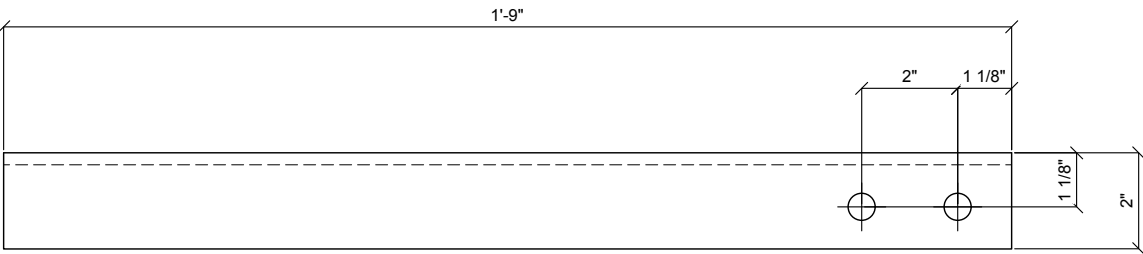
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DATE DRAWN:	05/01/18
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GUY WIRE RETENSIONING  
AND STANDARD SAFETY  
WIRE DETAILS

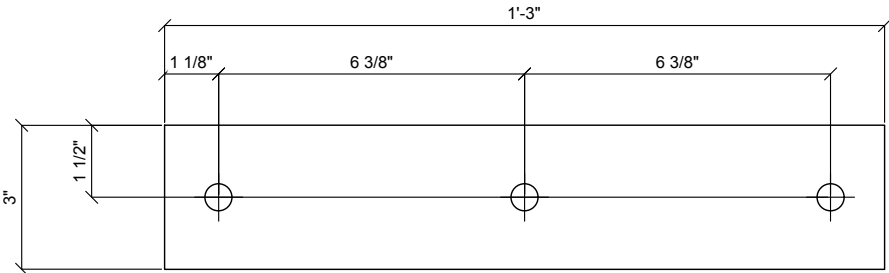
SHEET NUMBER:	REVISION:
A-5	0



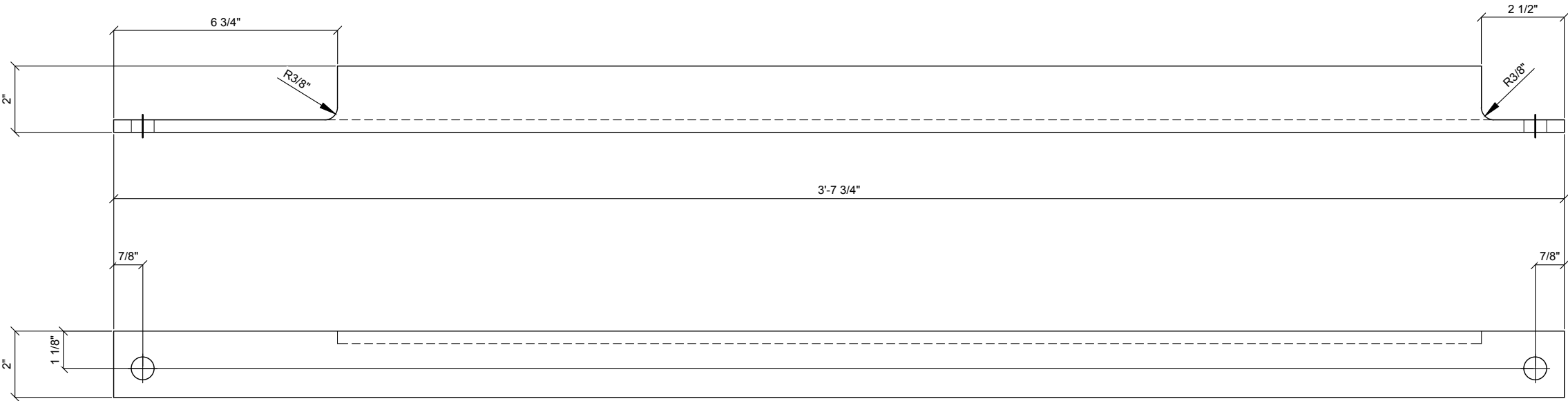
306030-3  
MID-PANEL HORIZONTAL



306030-4  
MID-PANEL HORIZONTAL



306030-2  
CENTER PLATE



306030-1  
HORIZONTAL

306030-4	L 2" X 2" X 1/4"	1'-9"		5.6#	5.9#
306030-3	L 2" X 2" X 1/4"	1'-9"		5.6#	5.9#
306030-2	PL 1/4" X 3"	1'-3"		3.2#	3.3#
306030-1	L 2" X 2" X 1/4"	3'-7 3/4"	SAW CUT ONLY	11.6#	12.2#
PART NO.	DESCRIPTION	LENGTH	NOTES	BLK WT	GALV WT
MATERIAL: A36		FINISH: GALVANIZED		HOLES: 11/16"Ø	



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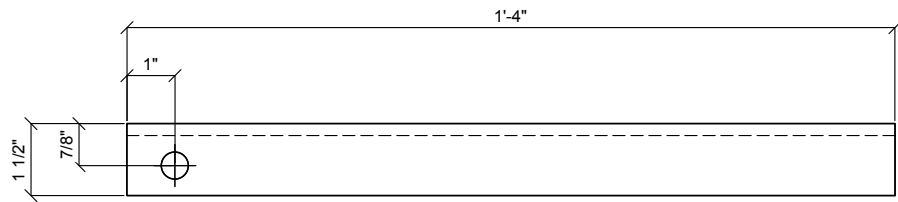
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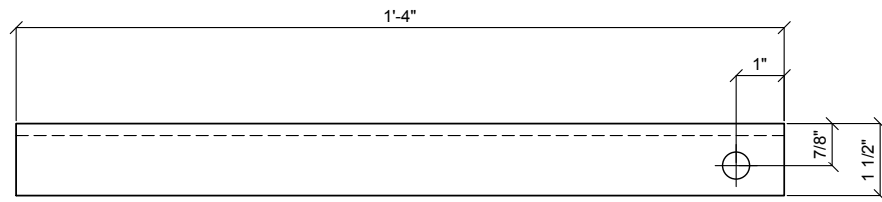
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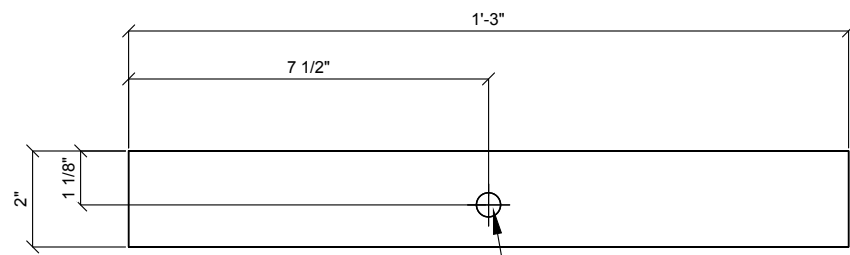
HORIZONTAL & MID-PANEL HORIZONTAL FABRICATION DETAILS	
SHEET NUMBER: <b>F-1</b>	REVISION: <b>0</b>



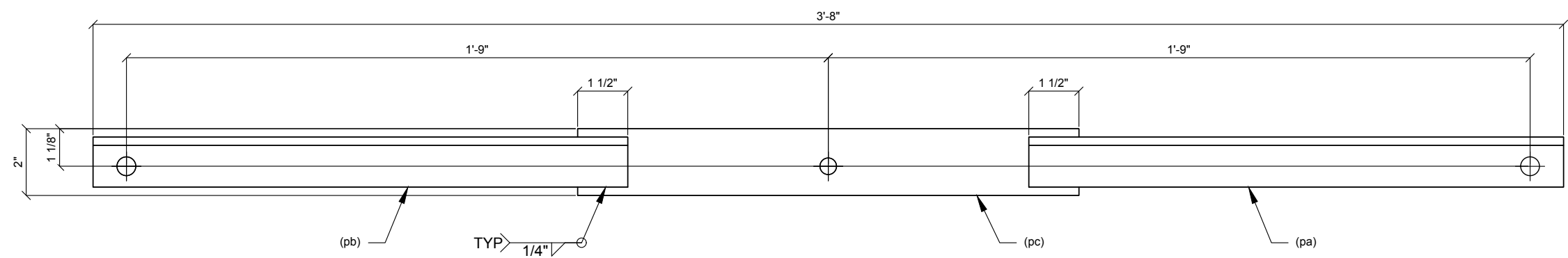
(pa)



(pb)



(pc)



306030-5  
MID-PANEL HORIZONTAL WELDMENT

(pc)	1	PL 1/4" X 2"	1'-3"		2.1#
(pb)	1	L 1 1/2" X 1 1/2" X 1/4"	1'-4"		3.1#
(pa)	1	L 1 1/2" X 1 1/2" X 1/4"	1'-4"		3.1#
306030-5	1	MID-PANEL HORIZONTAL WELDMENT	3'-8"		8.4#
PART NO.	QTY	DESCRIPTION	LENGTH	NOTES	BLK WT
MATERIAL: A36		FINISH: GALVANIZED	HOLES: 9/16"Ø U.N.O.	GALV WT:	8.8#



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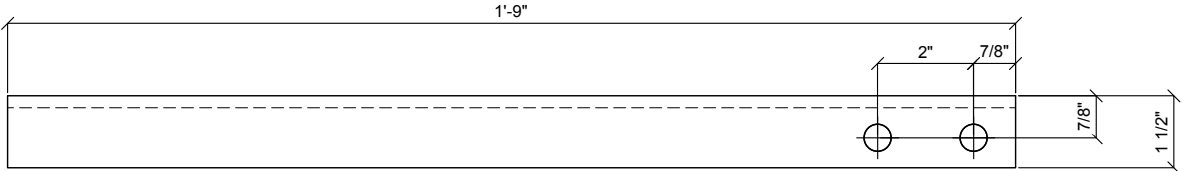
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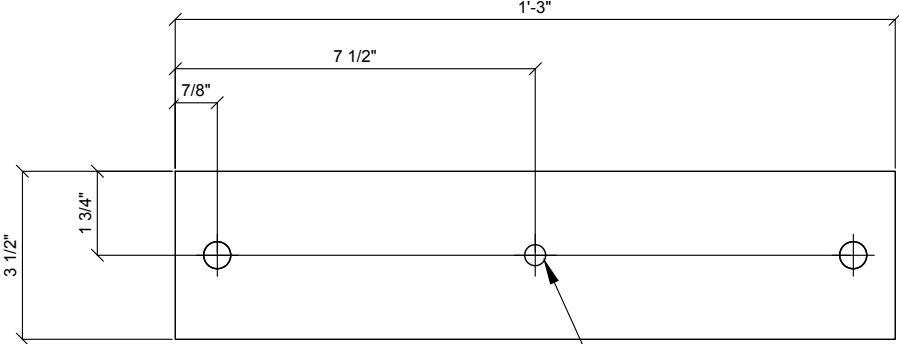
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ATC JOB NO:	OAA713535_C6_13

MID-PANEL HORIZONTAL  
WELDMENT  
FABRICATION DETAILS

SHEET NUMBER:	REVISION:
F-2	0



306030-7  
MID-PANEL HORIZONTAL



306030-6  
CENTER PLATE

306030-7	L 1 1/2" X 1 1/2" X 1/4"	1'-9"		5.6#	5.9#
306030-6	PL 1/4" X 3 1/2"	1'-3"		3.7#	3.9#
PART NO.	DESCRIPTION	LENGTH	NOTES	BLK WT	GALV WT
MATERIAL: A36		FINISH: GALVANIZED		HOLES: 9/16"Ø U.N.O.	



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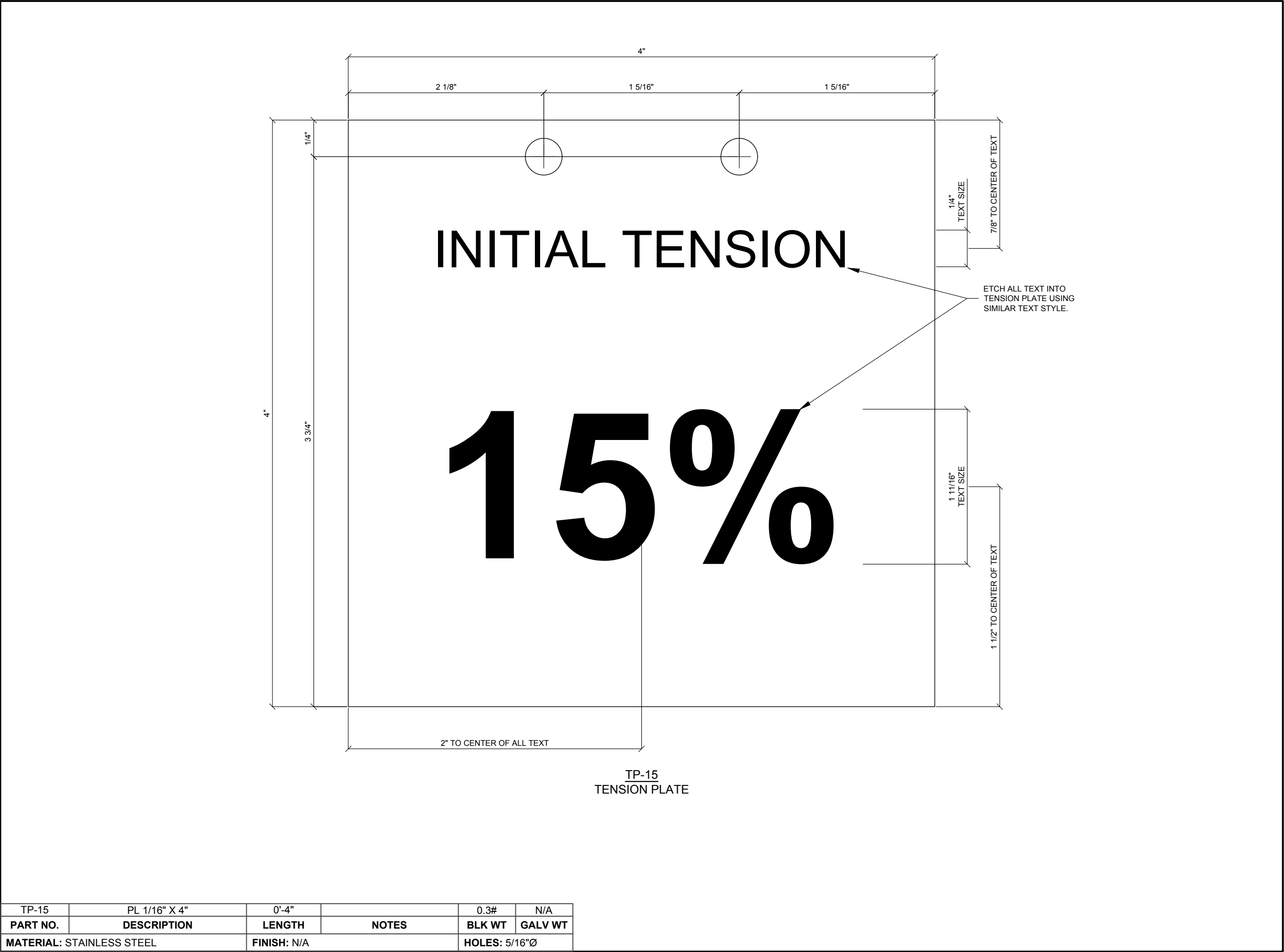
MID-PANEL HORIZONTAL  
FABRICATION DETAILS

SHEET NUMBER:  
**F-3**


REVISION:  
**0**







TP-15	PL 1/16" X 4"	0'-4"		0.3#	N/A
PART NO.	DESCRIPTION	LENGTH	NOTES	BLK WT	GALV WT
MATERIAL: STAINLESS STEEL		FINISH: N/A		HOLES: 5/16"Ø	



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15% TENSION PLATE  
FABRICATION DETAILS

SHEET NUMBER: TP-15	REVISION: 0
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