AMERICAN TOWER®

ATC TOWER SERVICES, LLC

3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

10047 - PORTLAND ME, MAINE

275 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

ATC PROJECT NUMBER: OAA706994_C6_03

CUSTOMER: T-MOBILE

CUSTOMER SITE NAME: ME267/DORLER TOWER (ATS)

CUSTOMER SITE NUMBER: 4DN2267B

SITE ADDRESS: 225 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, ME 04103

DATE: 09/06/17

GEOGRAPHIC COORDINATES: 43.70602
-70.31074

PROJECT DESCRIPTION

THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER OAA706994_C3_01 DATED 07/26/17. 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.

SHEET	SHEET TITLE	REV.
IGN	IBC GENERAL NOTES	0
SIC	SPECIAL INSPECTION CHECKLIST	0
A-1	MODIFICATION PROFILE	0
A-2	SITE PLAN	0
A-3	FOUNDATION MODIFICATION INSTALLATION DETAILS	0
A-RL	REBAR LIST	0
A-4	GUY WIRE TENSION CHART	0
A-5	GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS	0

AMERICAN T

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/27/17

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BJK	09/06/17

ATC SITE NUMBER:
10047

ATC SITE NAME:
PORTLAND ME
MAINE

SITE ADDRESS:
225 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, ME 04103

STATE OF MAINE
JOSHUA WALTON
No. 13932
LICENSED
PROFESSIONAL ENGINEER

Sep 11 2017 4:20 PM cosign

DRAWN BY:	BJK
APPROVED BY:	BMS/AT
DATE DRAWN:	09/06/17
ATC JOB NO:	OAA706994_C6_03

COVER

SHEET NUMBER: COVER

REVISION: 0

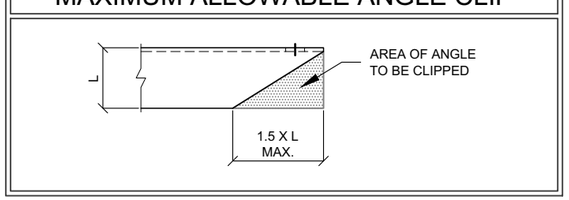
GENERAL

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 TIA-1019-A-2011, 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.

MAXIMUM ALLOWABLE ANGLE CLIP



PAINT

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

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-2004 (SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS.)
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. 2009 INTERNATIONAL BUILDING CODE.
3. MAINE MODEL BUILDING CODE.
4. ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 318-08.
5. CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
6. AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
7. 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 2009, 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 2009, SECTION 1704, UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.

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0	FIRST ISSUE	BJK	09/06/17

ATC SITE NUMBER:

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ATC SITE NAME:

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SITE ADDRESS:
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PORTLAND, ME 04103

STATE OF MAINE
JOSHUA WALTON
No. 13932
LICENSED
PROFESSIONAL ENGINEER

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IBC GENERAL NOTES

SHEET NUMBER:	REVISION:
IGN	0

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		✔			✔
DYWIDAG 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
GC - GENERAL CONTRACTOR
TA - 3RD PARTY TESTING AGENCY
CX - CONSTRUCTION
CM - CONSTRUCTION MANAGER
ATC - AMERICAN TOWER CORPORATION

AMERICAN T

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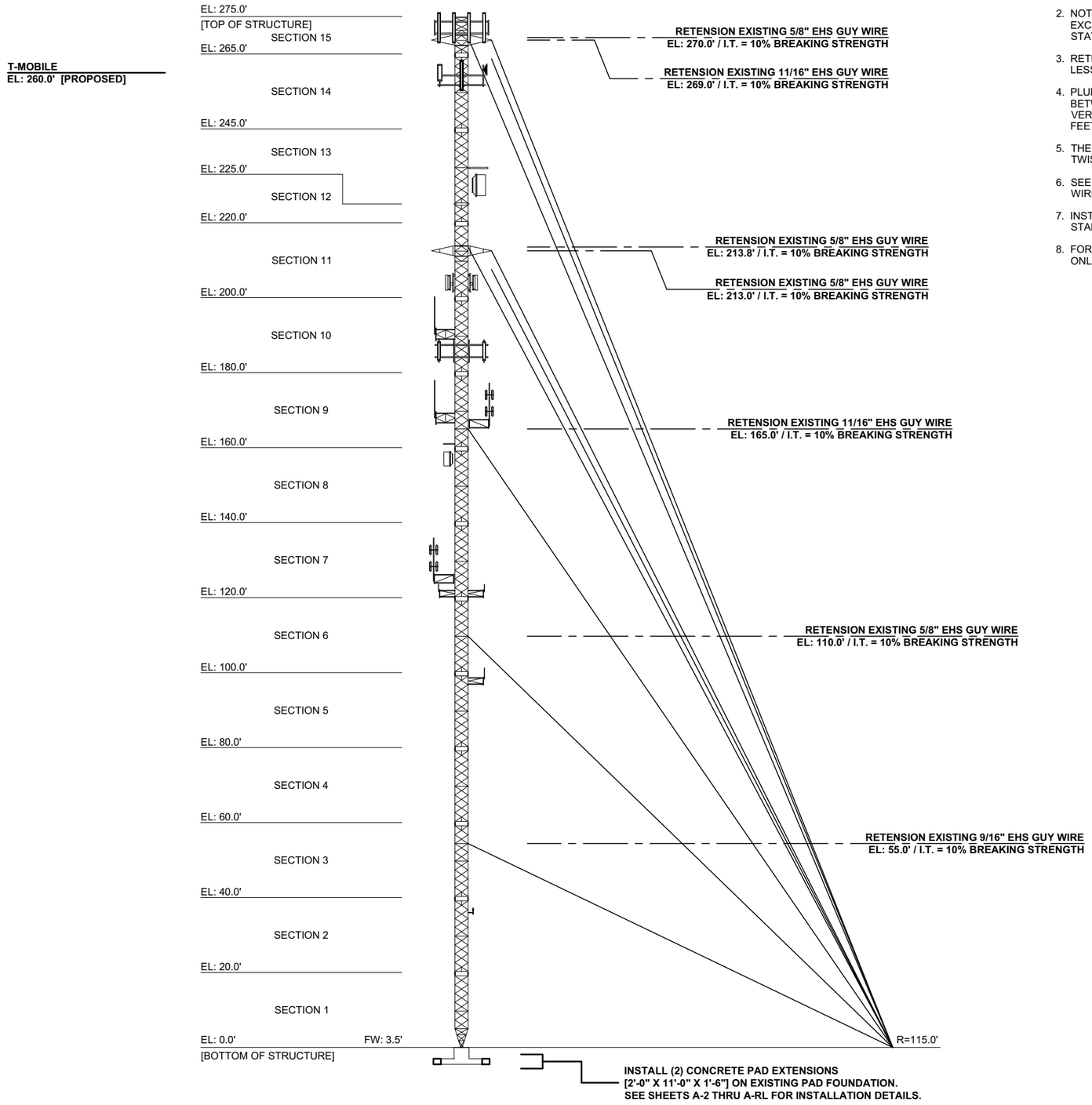
SPECIAL INSPECTION CHECKLIST

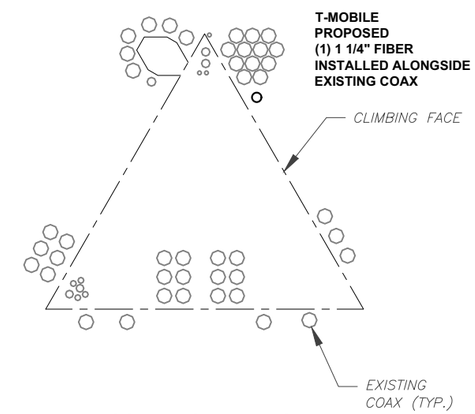
SHEET NUMBER:	REVISION:
SIC	0



TOWER ELEVATION VIEW

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.



COAX DISTRIBUTION

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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Inspections Division
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Date: 11/27/17

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ATC SITE NAME:
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MAINE

SITE ADDRESS:
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PORTLAND, ME 04103

STATE OF MAINE
JOSHUA WALTON
No. 13932
LICENSED
PROFESSIONAL ENGINEER

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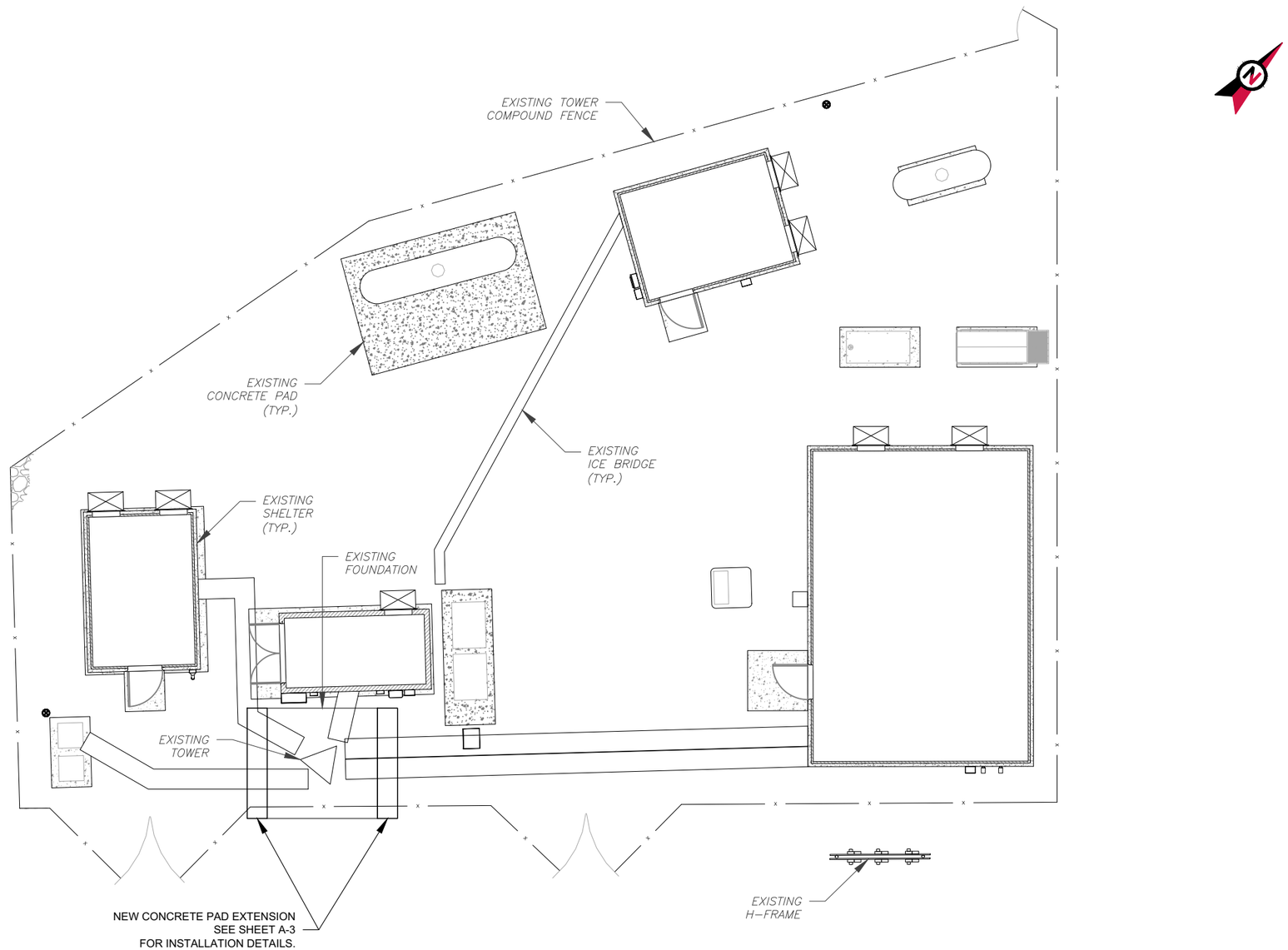
MODIFICATION PROFILE

SHEET NUMBER:	REVISION:
A-1	0



SITE PLAN
FOUNDATION MODIFICATION ORIENTATION

NOTES:

1. **EXISTING ICE BRIDGE SUPPORT POSTS MAY BE RELOCATED AS NEEDED TO INSTALL NEW CONCRETE PAD EXTENSION.**
2. **REROUTE ANY BURIED CONDUIT INTERFERING WITH INSTALLATION OF NEW CONCRETE PAD EXTENSION. ALL REROUTED CONDUITS TO BE INSTALLED 1'-0" MINIMUM OUTSIDE CONCRETE FORM AREA AND BURIED AT THEIR ORIGINAL DEPTHS BELOW GRADE.**
3. **EXISTING COMPOUND FENCING MAY BE TEMPORARILY REMOVED DURING NEW CONCRETE PAD EXTENSION INSTALLATION. COMPOUND FENCING MUST BE REINSTALLED IN SAME LOCATION ONCE INSTALLATION OF NEW CONCRETE PAD EXTENSION IN COMPLETE.**

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SITE PLAN

SHEET NUMBER:	REVISION:
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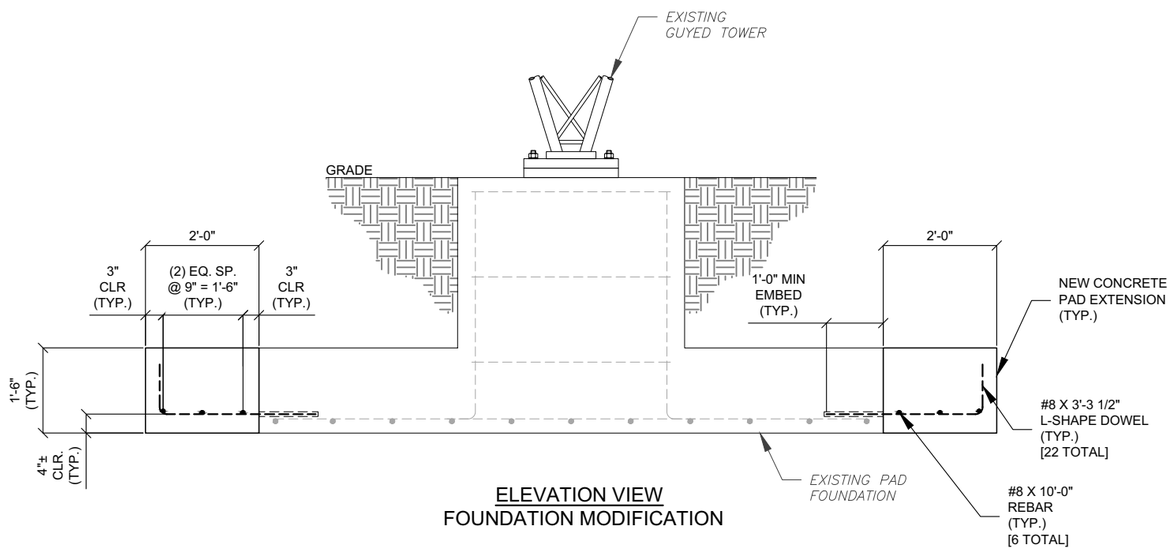
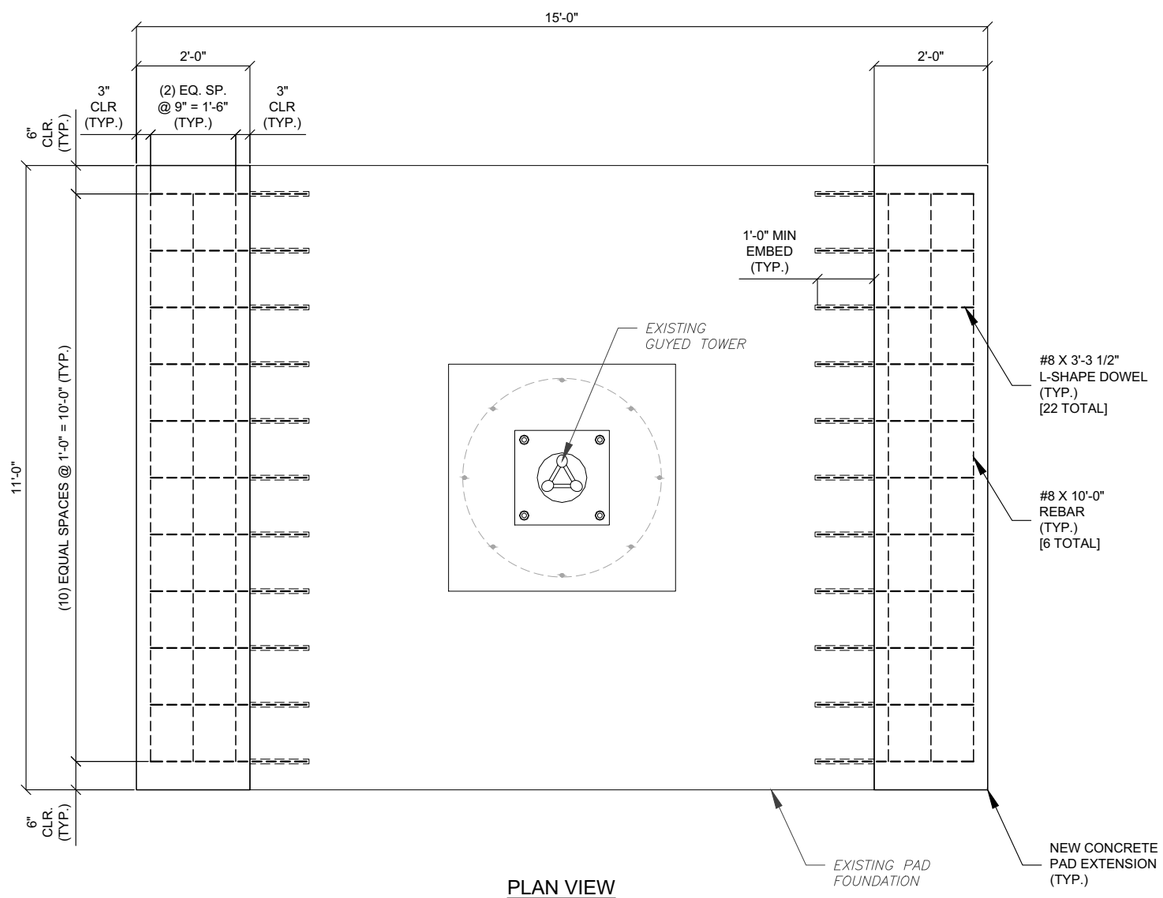


ELEVATION VIEW
FOUNDATION MODIFICATION



PLAN VIEW
FOUNDATION MODIFICATION

NOTES:

1. (2) CONCRETE FOUNDATION EXTENSIONS TO BE INSTALLED ON EXISTING PAD FOUNDATION. TOTAL CONCRETE REQUIRED: 2.5± CUBIC YARDS.
2. FOR REBAR LIST/FOUNDATION NOTES SEE SHEET A-RL.
3. CONCRETE COVER OVER REBAR 3" MIN. U.N.O. (TYP.)
4. CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS = 4500 PSI.
5. SEE SHEET A-RL FOR DRILLED HOLE SIZES. DO NOT CUT REBAR IN EXISTING FOUNDATION.
6. DRILLED HOLES SHALL BE FREE OF MOISTURE, DEBRIS AND LAITANCE.
7. GROUT HORIZONTAL DOWELS INTO EXISTING FOUNDATION WITH HILTI HIT-RE 500 V3 EPOXY.
8. REMOVE ALL LOOSE CONCRETE FROM EXISTING FOUNDATION PIER AND PAD PRIOR TO POURING NEW CONCRETE.
9. COAT INTERFACE OF NEW AND EXISTING CONCRETE WITH SIKADUR 32, HI-MOD LPL BONDING AGENT OR APPROVED EQUIVALENT, PRIOR TO POURING NEW CONCRETE.
10. FOUNDATION EXTENSION TO BE INSTALLED IN DIRECTIONS WITH FEWEST INTERFERENCES. CONTRACTOR TO FIELD DETERMINE. INTERFERENCES, IF EXISTING, MAY NEED RELOCATION.
11. FOUNDATION DESIGN BASED UPON SOILS REPORTED BY: GEOSERVICES, LLC, GEOSERVICES PROJECT NO. 21-07254. DATED APRIL 27, 2008.

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FOUNDATION MODIFICATION
INSTALLATION DETAILS

SHEET NUMBER:	REVISION:
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GENERAL FOUNDATION AND CONSTRUCTION NOTES

1. CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS.
2. MAXIMUM ALLOWED WATER/CEMENT RATIO = 0.45
3. REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
4. MINIMUM CONCRETE COVER OVER REBAR IS 3", OR AS NOTED.
5. BACKFILL SHALL BE SELECTED MATERIAL, WELL COMPACTED IN LAYERS NOT EXCEEDING 12".
6. BACKFILL SHALL BE PLACED SO AS TO PREVENT ACCUMULATION OF WATER AROUND THE FOUNDATION.
7. REINFORCING MATERIAL SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A615.
8. ALL REBAR TO BE GRADE 60 (UNLESS NOTED OTHERWISE).
9. ALL REBAR (HORIZONTAL & VERTICAL) SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
10. GROUT ALL REBAR DOWELS INTO EXISTING FOUNDATION WITH HILTI HIT-RE 500 V3 EPOXY.
11. EMBEDDED STRUCTURAL ANCHOR STEEL SUPPLIED BY AMERICAN TOWER.
12. COLD CONSTRUCTION JOINTS TO BE THOROUGHLY CLEANED AND WETTED PRIOR TO SECOND POUR.

FOUNDATION AND ANCHOR TOLERANCES

ALL TOWERS

1. CONCRETE DIMENSIONS: PLUS OR MINUS 1"
2. DEPTH OF FOUNDATION: PLUS 3" OR MINUS 0"
3. DRILLED FOUNDATIONS OUT OF PLUMB: 1.0 DEGREE
4. REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/2" INCLUDING CONCRETE COVER
5. PROJECTIONS OF EMBEDMENTS: PLUS OR MINUS 1/4"
6. VERTICAL EMBEDMENTS OUT OF PLUMB: 1.0 DEGREE
7. SEE CHART BELOW FOR THE MINIMUM OVERLAP LENGTHS OF REBARS IF REQUIRED.

SELF SUPPORT TOWERS

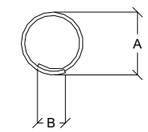
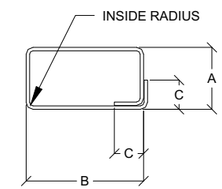
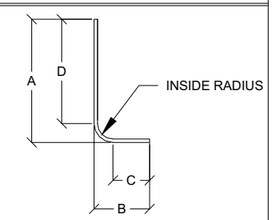
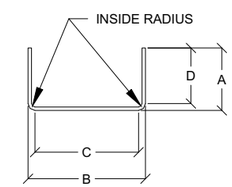
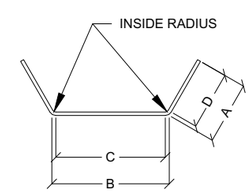
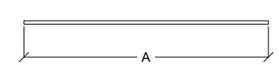
8. FACE SPREAD DIMENSION CENTER TO CENTER OF ANCHOR BOLT CIRCLES: PLUS OR MINUS 1/8" PER 5'-0" OF FACE SPREAD
9. MAXIMUM DISTANCE FROM CENTERLINE OF ANCHOR BOLT TO CENTERLINE OF FOUNDATION: 1/24TH OF PIER DIAMETER UP TO A MAXIMUM OF 2"
10. MAXIMUM DIFFERENCE BETWEEN ANY TWO FOUNDATION ELEVATIONS: 2"
11. ANCHOR BOLT SPACING: PLUS OR MINUS 1/8"
12. ANCHOR BOLT CIRCLE ORIENTATION : PLUS OR MINUS 0.5 DEGREES
13. ANCHOR BOLT CIRCLE DIAMETER: PLUS OR MINUS 1/8"

GUYED TOWERS

14. GUY RADIUS: PLUS OR MINUS 3% OF TOWER HEIGHT
15. ANCHOR ELEVATION: 3% OF TOWER HEIGHT ABOVE OR BELOW TOWER BASE. IF ELEVATIONS OF ANCHORS VARY BY MORE THAN 3%, ANCHOR RADIUS IS TO BE CHANGED TO KEEP THE ANCHOR LOCATED ON THE GUY FORCE RESULTANT. CALL AMERICAN TOWER FOR ASSISTANCE IF REQUIRED.
16. ANCHOR ALIGNMENT: (PERPENDICULAR TO GUY RADIUS): PLUS OR MINUS 1 DEGREE.
17. ANCHOR ROD SLOPE: PLUS OR MINUS 1 DEGREE
18. ANCHOR ROD ALIGNMENT: TOWARDS TOWER CENTER POINT, PLUS OR MINUS 0.25 DEGREE
19. GUY ANCHOR HEAD SIDES VERTICAL: PLUS OR MINUS 1 DEGREE.

STANDARD REBAR CHART

BAR SIZE	BAR DIAMETER (in.)	WEIGHT (lb/ft)	INSIDE BEND RADIUS	MINIMUM OVERLAP LENGTHS	DRILLED HOLE DIA.
3	0.375	0.376	1 1/8"	1'-0"	--
4	0.500	0.668	1 1/2"	1'-6"	5/8"
5	0.625	1.043	1 7/8"	2'-0"	3/4"
6	0.750	1.502	2 1/4"	2'-0"	7/8"
7	0.875	2.044	2 5/8"	2'-4"	1 1/8"
8	1.000	2.670	3"	2'-8"	1 1/4"
9	1.128	3.400	4 1/2"	3'-0"	1 3/8"
10	1.270	4.303	5"	3'-6"	1 1/2"
11	1.410	5.313	5 1/2"	4'-0"	1 5/8"

QTY REQ'D	REBAR SIZE	LENGTH	TOTAL WEIGHT (LBS)	TYPE	BENDING DIAGRAM					
				ROUND TIE	A	B				
				SQUARE OR RECTANGULAR TIE	A	B	C	INSIDE RADIUS		
				VERTICAL 90° BEND	A	B	C	D	INSIDE RADIUS	
22	#8	3 ' - 3 1/2"	193	L-SHAPE 90° BEND	2' - 9"	0' - 9"	0 ' - 5"	2 ' - 5"	3"	
				U-SHAPE 90° BEND	A	B	C	D	INSIDE RADIUS	
				U-SHAPE 60° BEND	A	B	C	D	INSIDE RADIUS	
6	#8	10 ' - 0"	160	STRAIGHT	A					
		TOTAL WEIGHT:	354							

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REBAR LIST

SHEET NUMBER: A-RL

REVISION: 0

GUY WIRE TENSION CHART

GUY WIRE DATA							MEASURED GUY WIRE TENSION IN POUNDS																				
GUY WIRE SIZE	GUY ELEV. (FT)	GUY ANCHOR RADIUS (FT)	GUY ANCHOR DROP (+/- FT)	GUY ANCHOR DROP LEG	INITIAL TENSION %	TENSION DELTA DUE TO TEMP. (LBS/DEG)	0° F LBS	5° F LBS	10° F LBS	15° F LBS	20° F LBS	25° F LBS	30° F LBS	35° F LBS	40° F LBS	45° F LBS	50° F LBS	55° F LBS	60° F LBS	65° F LBS	70° F LBS	75° F LBS	80° F LBS	85° F LBS	90° F LBS	95° F LBS	100° F LBS	105° F LBS
5/8" EHS	270.0	115.0	0.0	A,B,C	10 %	6.05	**4603**	4573	**4542**	4512	**4482**	4452	**4421**	4391	**4361**	4331	**4300**	4270	**4240**	4210	**4180**	4149	**4119**	4089	**4059**	4028	**3998**	3968
11/16" EHS	269.0	115.0	0.0	A,B,C	10 %	7.42	**5445**	5408	**5371**	5334	**5297**	5260	**5222**	5185	**5148**	5111	**5074**	5037	**5000**	4963	**4926**	4889	**4852**	4815	**4778**	4740	**4703**	4666
5/8" EHS	213.8	115.0	0.0	A,B,C	10 %	8.84	**4770**	4726	**4682**	4638	**4594**	4549	**4505**	4461	**4417**	4373	**4328**	4284	**4240**	4196	**4152**	4107	**4063**	4019	**3975**	3931	**3886**	3842
5/8" EHS	213.0	115.0	0.0	A,B,C	10 %	8.89	**4773**	4729	**4685**	4640	**4596**	4551	**4507**	4462	**4418**	4373	**4329**	4284	**4240**	4196	**4151**	4107	**4062**	4018	**3973**	3929	**3884**	3840
11/16" EHS	165.0	115.0	0.0	A,B,C	10 %	15.69	**5942**	5863	**5785**	5706	**5628**	5549	**5471**	5392	**5314**	5235	**5157**	5078	**5000**	4922	**4843**	4765	**4686**	4608	**4529**	4451	**4372**	4294
5/8" EHS	110.0	115.0	0.0	A,B,C	10 %	20.57	**5474**	5371	**5268**	5166	**5063**	4960	**4857**	4754	**4651**	4549	**4446**	4343	**4240**	4137	**4034**	3931	**3829**	3726	**3623**	3520	**3417**	3314
9/16" EHS	55.0	115.0	0.0	A,B,C	10 %	26.13	**5068**	4937	**4807**	4676	**4545**	4415	**4284**	4153	**4023**	3892	**3761**	3631	**3500**	3369	**3239**	3108	**2977**	2847	**2716**	2585	**2455**	2324

NOTES:
THE MAXIMUM DEVIATION FROM THE DESIGN INITIAL TENSIONS ARE:
1. ±10% FOR GUYS < 1" DIAMETER, OF THE INITIAL TENSIONS SPECIFIED ON THIS TEMPERATURE/TENSION CHART.
2. ±5% FOR GUYS > 1" DIAMETER, OF THE INITIAL TENSIONS SPECIFIED ON THIS TEMPERATURE/TENSION CHART.

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ATC JOB NO:	OAA706994_C6_03

GUY WIRE TENSION CHART

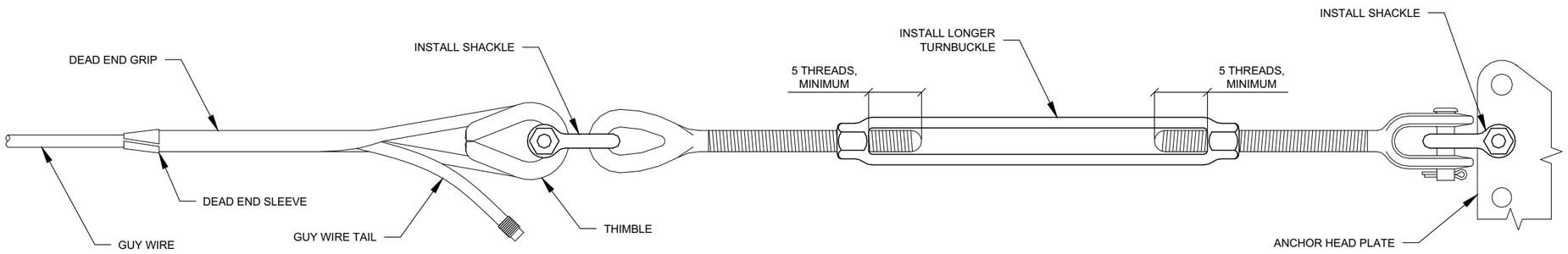
SHEET NUMBER:	REVISION:
A-4	0

STANDARD GUY WIRE HARDWARE

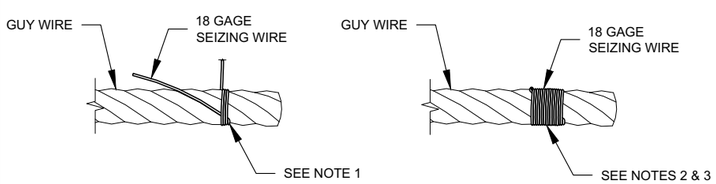
HARDWARE	GUY WIRE			JAW & EYE TURNBUCKLE Van Beest Green Pin® G-6315 OR Crosby® HG-227		DEAD END GRIP PREFORMED®	DEAD END SLEEVE PREFORMED®	THIMBLE Van Beest® E-6120 OR Crosby® G-414	SHACKLE Van Beest Green Pin® G-5263 OR Crosby® G-2130A	
	SIZE	U.T.S.	W.L.	SIZE	PIN Ø	SIZE	SIZE	SIZE	SIZE	PIN Ø
	9/16" EHS	35.0 K	17.5 K	7/8 X 18	3/4"	9/16"	9/16"	3/4" HVY	5/8"	3/4"
	5/8" EHS	42.4 K	21.2 K	1 X 24	7/8"	5/8"	5/8"	3/4" HVY	3/4"	7/8"
	11/16" EHS	50.0 K	25.0 K	1 X 24	7/8"	11/16"	11/16"	3/4" HVY	3/4"	7/8"

NOTE:

1. 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.
2. 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.
3. IF REMOVAL OF EXISTING DEAD END GRIP (PREFORM) IS REQUIRED, IT CANNOT BE REUSED.
4. 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.



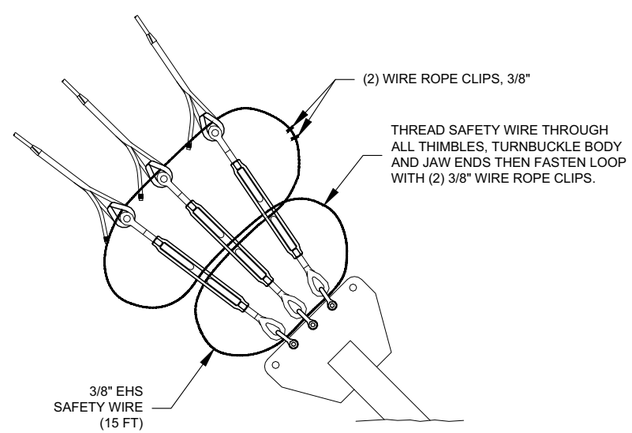
ALLOWED GUY WIRE TERMINATION MODIFICATION TO RETENSION GUY WIRES



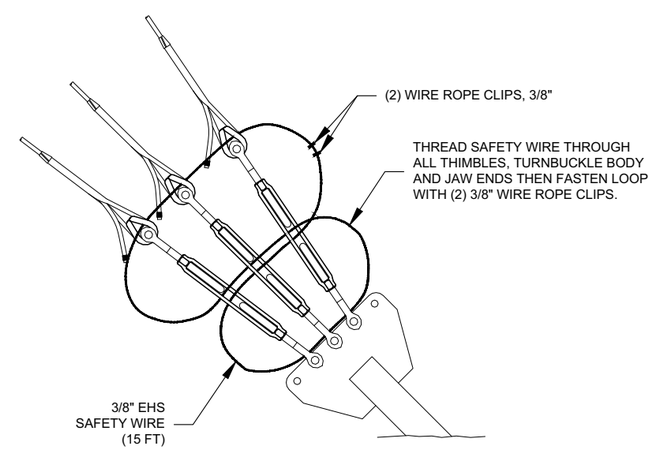
SEIZING WIRE INSTALLATION
TYPICAL DETAIL

SEIZING WIRE INSTALLATION:

1. 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.
2. 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.
3. 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

AMERICAN T

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 11/27/17

ATC TOWER SERVICES, LLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

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0	FIRST ISSUE	BJK	09/06/17

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10047

ATC SITE NAME:
PORTLAND ME
MAINE

SITE ADDRESS:
225 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, ME 04103

STATE OF MAINE
JOSHUA WALTON
No. 13932
LICENSED PROFESSIONAL ENGINEER

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cosign

DRAWN BY:	BJK
APPROVED BY:	BMS/AT
DATE DRAWN:	09/06/17
ATC JOB NO:	OAA706994_C6_03

GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS

SHEET NUMBER:	REVISION:
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