NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
199 Brickyard Rd Farmington, CT 06032
860-209-4690
denise@northeastsitesolutions.com

July 12, 2016

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
577 Bell Street, Glastonbury CT 06033
Latitude: 41.7338
Longitude: -72.5497
T-Mobile Site#: CTHA536A_L700

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 65-foot level of the existing 104-foot lattice tower at 577 Bell Street, Glastonbury CT 06033. The tower is owned by InSite Towers LLC. The property is owned by 577 Bell Street LLC. T-Mobile now intends to install three (3) new 700 MHz antenna. T-Mobile also intends to add three (3) Smart Bias T, two (2) new hybrid cables and three (3) new T-Frame mount (to replace existing Dual Standoff Arm). The proposed antenna installation will require tower modification including U-Bolt Panel reinforcement from 20-foot level through the 60-foot level of the tower. The new antennas would be installed at the 65-foot level of the tower.

Planned Modifications:

Remove: NONE

Remove and Replace:
(3)Dual Standoff Arm Mount (REMOVE) - (3) T-Frame Mounts (REPLACE)

Install New:
(3) LNX-6515-A1M Antenna
(3) Smart Bias T's
(2) 1-5/8" Hybrid Lines

Existing to Remain:
(3) AIR21 B2A/B4P Antenna
(3) AIR21 B4A/B2P Antenna
(6) 7/8" Coax
(1)1 5/8" Hybrid Cable

This facility was approved by the Town of Glastonbury PZC. The zoning file is no longer available from the town – See attached letter from the Town Planner.

NORTHEAST SITE SOLUTIONS

Turnkey Wireless Development

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Town Manager Jeff Bridges, Elected Official for the Town of Wethersfield, as well as the property owner and the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S;A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Denise Sabo
Mobile: 860-209-4690
Fax: 413-521-0558
Office: 199 Brickyard Rd, Farmington, CT 06032
Email: denise@northeastsitesolutions.com

Attachments
cc: Richard J Johnson, Town Manager - as elected official
InSite Towers LLC - as tower owner
577 Bell Street LLC - as property owner

Exhibit A

Deborah Chase

From: Krystina Kramer
Sent: Wednesday, June 01, 2016 3:10 PM
To: denise@northeastsitesolutions.com
Subject: 577 Bell Street Glastonbury

Hi Denise,
I wanted to let you know that I searched through our records for the original approval of the tower located at 577 Bell Street, Glastonbury.
I do not see anything besides their Zoning Board of Appeals approval, which took place in 1979.
Unfortunately, due to our record retention statues, we do not have to keep particular documents after a certain period of time.
Our records for Zoning board of appeals, begin at 1988.

You may want to reach out to the planning department (Community Development) and ask them if they have a site approval, or if the property in question may have gone before the Town Plan & Zoning commission.
Their number is 860-652-7510.

Thank you,

Krystina Kramer

Krystina Kramer

Administrative Assistant
Office of Building Inspection - Zoning Enforcement - Fire Marshal
2155 Main Street, P.O. Box 6523
Glastonbury, CT 06033
Phone - 860-652-7521/Fax - 860-652-7523
krystina.kramer@glastonbury-ct.gov

Exhibit B

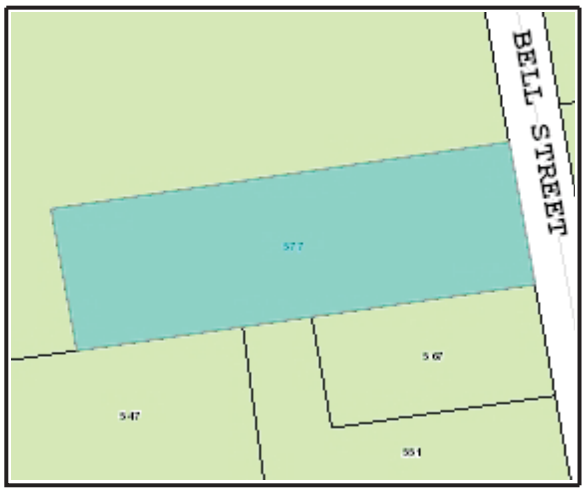
Town of Glastonbury GIS Parcel Report

Report Generated 6/10/2016 2:01:48 PM

Owner of Record

GIS ID: 03200577
Owner: 577 BELL STREET LLC
Co-Owner:
Address: 499 BELL ST
City, State ZIP: GLASTONBURY, CT 06033-1419

Account Number: 03200577
Property Address: 577 BELL ST



Property highlighted in blue

Parcel Information

Map/Street/Lot H3 / 0320 / W0011A **Property ID:** 12497
Developer Lot ID: 0001 **Water:** Well
Parcel Acreage: 1.20 **Sewer:** Septic
Zoning Code: RR **Census:** 5201

Valuation Summary

Item	Appraised Value	Assessed Value
Buildings	115700	81000
Land	151600	106100
Appurtenances	1800	1300
Total	**269100**	**188400**

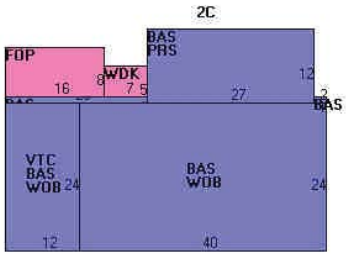
Owner of Record	Deed / Page	Sale Date	Sale Price
577 BELL STREET LLC	3312/0219	01/21/2016	0
SPENCER JOHN B IRREV TRUST	2938/0349	01/19/2012	0
SPENCER JOHN B REV TRUST	2400/0050	12/14/2006	0
SPENCER JOHN	0311/1146	12/19/1985	0

Building Information

Building ID 12497

Year Constructed : 1977
Building Type : Residential
Style : Ranch
Occupany : Single Family
Stories : 1
Building Zone : RR
Roof Type : Gable
Roof Material : Asphalt Shingl
Est. Gross S.F. : 3620
Est. Living S.F. : 1597

Number of Rooms : 4
Number of Bedrooms : 02
Number of Bathrooms : 1
Number of Half-Baths : 0
Exterior Wall : Vinyl
Interior Wall : Drywall
Interior Floor : Pine
Interior Floor #2 : No entry
Air Conditioning Type : None
Heat Type : Forced Air
Fuel Type : Oil



Subarea Type	Est. Gross S.F.	Est. Living S.F.
First Floor	1597	1597
Porch, Open	128	0
Piers	324	0
Vaulted Ceiling	288	0
Wood Deck	35	0
Walk out basement	1248	0

Outbuilding Type	Est. Gross S.F.	Comments
Shed-Wood/Comp	560.00	

Town of Glastonbury GIS

146 0 73 146 Feet

NAD_1983_StatePlane_Connecticut_FIPS_0600_Feet

Exhibit C

T-MOBILE NORTHEAST LLC

SITE #: CTHA536A

SITE NAME: INSITE GLASTONBURY LATTICE

SITE ADDRESS:
577 BELL STREET
GLASTONBURY, CT 06033

WIRELESS BROADBAND FACILITY
CONSTRUCTION DRAWINGS
(705A CONFIGURATION)

VICINITY MAP

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL BEFORE YOU DIG:
WWW.CBYD.COM
CALL 800 922 4455, OR 811
CALL THREE WORKING DAYS PRIOR TO DIGGING

SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC – RED		**SEWER**	**– GREEN**
GAS/OIL – YELLOW		**SURVEY**	**– PINK**
TEL/CATV – ORANGE		PROPOSED EXCAVATION	– WHITE
WATER – BLUE		**RECLAIMED WATER**	**– PURPLE**

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES. RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE metroPCS REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
14. THE CONTRACTOR SHALL NOTIFY THE metroPCS REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE metroPCS REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.
17. ATLANTIS GROUP, INC. HAS NOT CONDUCTED A STRUCTURAL ANALYSIS FOR THIS PROJECT AND DOES NOT ASSUME ANY LIABILITY FOR THE ADEQUACY OF THE STRUCTURE AND COMPONENTS .
18. REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "POST MODIFICAITON TOWER STRUCTURAL ANALYSIS– METROPCS ANTENNA INSTALLATION " PREPARED BY BENNETT AND PLESS, INC. "T–MOBILE SITE ID CTHA536A", DATED APRIL 29, 2016 AND TOWER MODIFICATION DRAWINGS (INSITE SITE NUMBER: CT901)

SITE INFORMATION

SITE NUMBER:	CTHA536A
SITE NAME:	INSITE GLASTONBURY LATTICE
SITE ADDRESS:	577 BELL STREET GLASTONBURY, CT 06033
LAT./LONG.:	N 41.7338 / W –72.5497
JURISDICTION:	TOWN OF GLASTONBURY, CT
PROPERTY OWNER:	MELODY WIRELESS INFRASTRUCTURE AUSTIN GEORGE 27201 PUERTA REAL, 3RD FLOOR MISSION VIEJO, CA 92691 +1 212 583 8791 TEL. +1 203 704 1298 MOB. AGEORGE@MELODYWIRELESS.COM WWW.MELODYWIRELESS.COM JUDY C. MA MANAGER, ASSET OPERATIONS 27201 PUERTA REAL, 3RD FLOOR MISSION VIEJO, CA 92691 +1 949 429 4923 TEL. +1 714 869 5549 MOB. JMA@MELODYWIRELESS.COM

CODE COMPLIANCE

CONNECTICUT STATE BUILDING CODE

2005 CONNECTICUT BUILDING CODE WITH 2013 AMENDMENT
2011 NATIONAL ELECTRICAL CODE

CONSTRUCTION TYPE: 2B USE GROUP: N/A

PROJECT SUB–CONTRACTORS

APPLICANT:	T–MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 (860) 692–7100
PROJECT MANAGER	LISA LIN ALLEN NORTHEAST SITE SOLUTIONS 54 MAIN STREET STURBRIDGE, MA 01566 (508) 434–5237
A&E:	ATLANTIS DESIGN GROUP INC. 54 JACQUELINE ROAD, SUITE #7 WALTHAM, MA 02452 (617)–852–3611

SHEET INDEX

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX:(860) 692-7159

NORTHEAST SITE SOLUTIONS
54 MAIN STREET, UNIT 3
STURBRIDGE, MA 01566
(508) 434-5237

ATLANTIS DESIGN GROUP, INC.
54 Jacqueline Road, Suite #7
Waltham, MA 02452
Phone number: 617–852–3611
Fax Number : 781–742–2247

SUBMITTALS

DATE	DESCRIPTION	REVISION
06/01/16	ISSUED FOR REVIEW	A
07/11/16	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

DRAWN BY: MB
CHECKED BY: KM

STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162
LICENSED ARCHITECT

PROFESSIONAL SEAL

SITE NAME
CTHA536A
SITE NAME
INSITE GLASTONBURY LATTICE
SITE ADDRESS
577 BELL STREET
GLASTONBURY, CT 06033

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

ELECTRICAL NOTES:

WORK INCLUDED

1. INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PLANT SERVICES AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   A. PREPARE AND SUBMIT SHOP DRAWINGS, DIAGRAMS AND ILLUSTRATIONS.
   B. PROCURE ALL NECESSARY PERMITS AND APPROVALS AND PAY ALL REQUIRED FEES AND CHARGES IN CONNECTION WITH THE WORK OF THIS CONTRACT.
   C. SUBMIT AS-BUILT DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUALS.
   D. EXECUTE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING OF EXISTING OR NEWLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK OF THIS CONTRACT. FOR SLAB PENETRATIONS THROUGH POST TENSION SLABS, X-RAY EXACT AREA OF PENETRATION PRIOR TO PERFORMING WORK. COORDINATE ALL X-RAY WORK WITH BUILDING ENGINEER.
   E. PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED UNDER THE WORK OF HIS CONTRACT. PROVIDE COUNTER FLASHING, SLEEVES AND SEALS FOR FLOOR AND WALL PENETRATIONS.
   F. MAINTAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATION DURING THE PROGRESS OF THE WORK INCLUDING PROVIDING ALL TEMPORARY JUMPERS, CONDUITS, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED. PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
2. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATIONS. IF AN ITEM OF WORK IS INDICATED IN THE DRAWINGS, IT IS CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION WHETHER OR NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS.

GENERAL REQUIREMENTS

1. PROVIDE ALL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL AND STATE ELECTRICAL CODES.
2. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING.
3. LOAD CALCULATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING. CONTRACTOR IS TO VERIFY ALL EXISTING RATINGS AND LOADS PRIOR TO PURCHASING OF SPECIFIED EQUIPMENT FOR COMPLIANCE TO NEC. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES AND REQUEST FURTHER DIRECTION BY ENGINEER.
4. EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH SOLID LINES. FUTURE EQUIPMENT (NOT IN THIS CONTRACT) IS DEPICTED WITH SHADED LINES. REQUEST CLARIFICATION OF DRAWINGS OR OF SPECIFICATIONS PRIOR TO PRICING OR INSTALLATION.
5. GENERAL
   A. AFTER CAREFULLY STUDYING THE DRAWINGS AND SPECIFICATIONS, AND BEFORE SUBMITTING THE PROPOSAL, MAKE A MANDATORY SITE VISIT TO ASCERTAIN CONDITIONS OF THE SITE, AND THE NATURE AND EXACT QUANTITY OF WORK TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO NOTIFY THE OWNER, IN WRITING, OF ANY DISCREPANCIES THAT MAY HAVE BEEN NOTED BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS AND SPECIFICATIONS.
   B. VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
6. QUALITY, WORKMANSHIP, MATERIALS AND SAFETY
   A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC MANUFACTURER BY THOSE REGULARLY ENGAGED IN THE PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS AND EQUIPMENT. WHERE UL, OR OTHER AGENCY, HAS ESTABLISHED STANDARDS FOR MATERIALS, PROVIDE MATERIALS WHICH ARE LISTED AND LABELED ACCORDINGLY. THE COMMERCIALLY STANDARD ITEMS OF EQUIPMENT AND THE SPECIFIC NAMES MENTIONED HEREIN ARE INTENDED FOR THE PROPER FUNCTIONING OF THE WORK.
   B. WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK. INSTALL MATERIALS AND EQUIPMENT TO PRESENT A NEAT APPEARANCE WHEN COMPLETED AND IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.
   C. PROVIDE LABOR, MATERIALS, APPARATUS AND APPLIANCES ESSENTIAL TO THE FUNCTIONING OF THE SYSTEMS DESCRIBED OR INDICATED HEREIN, OR WHICH MAY BE REASONABLY IMPLIED AS ESSENTIAL WHENEVER MENTIONED IN THE CONTRACT DOCUMENT OR NOT.
   D. MAKE WRITTEN REQUESTS FOR SUPPLEMENTARY INSTRUCTIONS TO ARCHITECT/ENGINEER IN CASE OF DOUBT AS TO WORK INTENDED OR IN EVENT OF NEED FOR EXPLANATION THEREOF.
   E. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR SPECIFIED ARE MINIMUM STANDARD ACCEPTABLE. THE RIGHT TO JUDGE THE QUALITY OF EQUIPMENT THAT DEVIATES FROM THE CONTRACT DOCUMENT REMAINS SOLELY WITH ARCHITECT/ENGINEER. CONTRACT DOCUMENT OR NOT.

GUARANTEE

1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT. DURING THAT PERIOD, MAKE GOOD FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIALS OR WORKMANSHIP WITH NO ADDITIONAL COMPENSATION AND AS DIRECTED BY ARCHITECT.

CLEANING

1. REMOVE ALL CONSTRUCTION DEBRIS RESULTING FROM THE WORK.
2. CLEAN EQUIPMENT AND SYSTEMS FOLLOWING THE COMPLETION OF THE PROJECT TO THE SATISFACTION OF THE ENGINEER.

COORDINATION AND SUPERVISION

1. CAREFULLY LAY OUT ALL WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES. WHERE SUCH WORK IS NECESSARY, HOWEVER, PATCH AND REPAIR THE WORK IN AN APPROVED MANNER BY SKILLED MECHANICS AT NO ADDITIONAL COST TO THE OWNER. RENDER FULL COOPERATION TO OTHER TRADES WHERE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO WORK OF OTHER TRADES. ASSIST IN WORKING OUT SPACE CONDITIONS. IF WORK IS INSTALLED BEFORE COORDINATION WITH OTHER TRADES, OR CAUSES INTERFERENCE, MAKE CHANGES NECESSARY TO CORRECT CONDITIONS WITHOUT EXTRA CHARGE.

SUBMITTALS

1. AS-BUILT DRAWINGS:
   A. UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
2. SERVICE MANUALS:
   A. UPON COMPLETION OF THE WORK, FULLY INSTRUCT metroPCS AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, EQUIPMENT AND SYSTEMS.
   B. PROVIDE 3 COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.

CUTTING AND PATCHING

1. PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED TO COMPLETE THE WORK.
2. OBTAIN OWNER APPROVAL PRIOR TO CUTTING THROUGH FLOORS OR WALLS FOR PIPING OR CONDUIT.

TESTS, INSPECTION AND APPROVAL

1. BEFORE ENERGIZING ANY ELECTRICAL INSTALLATION, INSPECT EACH UNIT IN DETAIL. TIGHTEN ALL BOLTS AND CONNECTIONS (TORQUE-TIGHTEN WHERE REQUIRED) AND DETERMINE THAT ALL COMPONENTS ARE ALIGNED, AND THE EQUIPMENT IS IN SAFE, OPERATIONAL CONDITION.
2. PROVIDE THE COMPLETE ELECTRICAL SYSTEM FREE OF GROUND FAULTS AND SHORT CIRCUITS SUCH THAT THE SYSTEM WILL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

SPECIAL REQUIREMENTS

1. DO NOT LEAVE ANY WORK INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. DO NOT INTERFERE WITH OR CUTOFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
2. WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING BUILDING UTILITIES AND SERVICE SYSTEMS, INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON. SHUTDOWN NOTE: SCHEDULE AND NOTIFY OWNER 48 HOURS PRIOR TO SHUTDOWN. ALL SHUTDOWN WORK TO BE SCHEDULED AT A TIME CONVENIENT TO OWNER.

GROUNDING

1. ROUTE ALL GROUNDING CONDUCTORS AS SHOWN ON CONDUIT/GROUNDING RISER.
2. ROUTE 500 KCMIL CU. THHN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL. VERIFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR (GEC).
3. MAKE ALL GROUND CONNECTIONS FROM MGB TO ELECTRICAL EQUIPMENT WITH 2 HOLE, CRIMP TYPE, BURNDY COMPRESSION TERMINATIONS, SIZED AS REQUIRED.
4. USE 1 HOLE, CRIMP TYPE, BURNDY COMPRESSIONS TERMINATIONS, SIZED AS REQUIRED, AT EQUIPMENT GROUND CONNECTIONS.
5. HIRE AN INDEPENDENT LAB TO PERFORM THE SPECIFIED OHMS TESTING. PROVIDE 4 SETS OF THE CERTIFIED DOCUMENTS TO THE OWNER FOR VERIFICATION PRIOR TO THE PROJECT COMPLETION.

RACEWAYS

1. ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
   A. EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC.
   B. EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED RIGID STEEL (RGS).
   C. ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE EMT.
   D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
   E. ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "metroPCS". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
   F. INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS.
   G. MINIMUM SIZE CONDUIT TO BE ¾" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
   H. FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
   I. CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED.
   J. THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.
   K. ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STEEL. COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

RACEWAYS CONT'D

   L. PENETRATIONS OF WALLS, FLOORS AND ROOFS, FOR THE PASSAGE OF ELECTRICAL RACEWAYS, TO BE PROPERLY SEALED AFTER INSTALLATION OF RACEWAYS SO AS TO MAINTAIN THE STRUCTURAL OR WATERPROOF INTEGRITY OF THE WALL, FLOOR OR ROOF SYSTEM TO BE PENETRATED. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS, CEILINGS OR SMOKE TIGHT CORRIDOR PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
   M. PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
   N. CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL DIRECTIONS.
   O. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES AND/OR OUTLET BOXES NOT USED IN EXPOSED AREAS. PROVIDE ALL OTHER UNUSED BOXES WITH STANDARD STEEL COVER PLATES.
   P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES

1. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VOLTAGE, WIRE SIZE AND PLUG CONFIGURATION, IF APPLICABLE, PRIOR TO BID.
2. ALL EQUIPMENT/DEVICES TO BE PROVIDED WITH INSULATED GROUND CONDUCTOR.
3. ALL WIRE AND CABLE TO BE 600VOLT, COPPER, WITH THWN/THHN INSULATION, EXCEPT AS NOTED.
4. WIRE FOR POWER AND LIGHTING WILL NOT BE LESS THAN NO. 12AWG. ALL WIRE NO. 8 AND LARGER TO BE STRANDED.
5. CONTROL WIRING IS NOT TO BE LESS THAN NO. 14AWG, FLEXIBLE IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING WILL CONSIST OF MULTI-CONDUCTOR CABLES WHEREVER POSSIBLE. CABLES TO BE PROVIDED WITH AN OVERALL FLAME-RETARDANT, EXTRUDED JACKET AND RATED FOR PLENUM USE. ALL CONTROL WIRE TO BE 600VOLT RATED.
6. WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND IS NOT TO BE RE-PULLED.
7. HOME RUNS AND BRANCH CIRCUIT WIRING FOR 20A, 120V CIRCUITS:

LENGTH (FT.)	HOME RUN WIRE SIZE
0 TO 50	NO. 12
51 TO 100	NO. 10
101 TO 150	NO. 8

8. VOLTAGE DROP IS NOT TO EXCEED 3%.
9. MAKE ALL CONNECTIONS WITH UL APPROVED, SOLDERLESS, PRESSURE TYPE INSULATED CONNECTORS: SCOTCHLOK OR AND APPROVED EQUAL.

WIRING DEVICES

1. ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION.

DISCONNECT SWITCHES AND FUSES

1. DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE SUPPLIED.
2. PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED.
3. PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
4. DISCONNECT SWITCHES TO BE MANUFACTURED BY:
   A. GENERAL ELECTRIC COMPANY
   B. SQUARE-D
5. PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.

INSTALLATION

1. INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWINGS.
2. INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES. FUSES MUST MATCH IN TYPE AND RATING.
3. FUSES TO BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.
4. FURNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:
   A. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60A, USED FOR INITIAL FUSING.
   B. TEN PERCENT SPARES FOR EACH TYPE AND SIZE, UP TO AND INCLUDING 60A, USED FOR INITIAL FUSING. IN NO CASE WILL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED.

GENERAL NOTES:

INTENT

1. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH
3. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
4. THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.
5. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.

CONFLICTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
2. THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
3. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.

CONTRACTS AND WARRANTIES

1. CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES AND BONDS.
2. SEE MASTER CONTRACTION SERVICES AGREEMENT FOR ADDITIONAL DETAILS.

STORAGE

1. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CLEANUP

1. THE CONTRACTORS SHALL, AT ALL TIMES, KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE COMPLETION OF THE WORK. THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING AREA, INCLUDING ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL LEAVE THEIR WORK CLEAN AND READY TO USE.
2. EXTERIOR
   A. VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. IF NECESSARY, TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.
3. INTERIOR
   A. VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS, FLOOR, AND CEILING.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. REMOVE PAINT DROPPINGS, SPOTS, STAINS, AND DIRT FROM FINISHED SURFACES.

CHANGE ORDER PROCEDURE:

1. REFER TO SECTION 17 OF SIGNED MCSA: SEE PROFESSIONAL SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION

1. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
2. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER.

PRODUCTS AND SUBSTITUTIONS

1. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST, IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.
2. SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE OWNER, SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT SHEETS.

QUALITY ASSURANCE

1. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THESE SHALL INCLUDE, BUT NOT BE LIMITED TO THE APPLICABLE CODES SET FORTH BY THE LOCAL GOVERNING BODY. SEE "CODE COMPLIANCE" T-1.

ADMINISTRATION

1. BEFORE THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR WILL ASSIGN A PROJECT MANAGER WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS PROJECT MANAGER WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT WHICH WILL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. SUBMIT A BAR TYPE PROGRESS CHART, NOT MORE THAN 3 DAYS AFTER THE DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK ON THE SCHEDULE, INDICATING A TIME BAR FOR EACH MAJOR CATEGORY OR UNIT OF WORK TO BE PERFORMED AT THE SITE, PROPERLY SEQUENCED AND COORDINATED WITH OTHER ELEMENTS OF WORK AND SHOWING COMPLETION OF THE WORK SUFFICIENTLY IN ADVANCE OF THE DATE ESTABLISHED FOR SUBSTANTIAL COMPLETION OF THE WORK.
3. PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS WOULD INCLUDE, BUT NOT LIMITED TO, THE OWNER, PROJECT MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL TELEPHONE COMPANY, TOWER ERECTION FOREMAN (IF SUBCONTRACTED).
4. CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WIRELESS SERVICE BE ARRANGED.
5. DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES. CONTRACTOR WILL COMPLY WITH ALL WPCS SAFETY REQUIREMENTS IN THEIR AGREEMENT.
6. PROVIDE WRITTEN DAILY UPDATES ON SITE PROGRESS TO THE OWNER.
7. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.
8. NOTIFY THE OWNER/PROJECT MANAGER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS.

INSURANCE AND BONDS

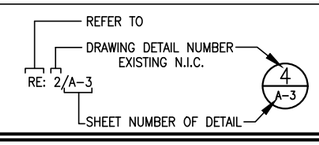
1. CONTRACTOR, AT THEIR OWN EXPENSE, SHALL CARRY AND MAINTAIN, FOR THE DURATION OF THE PROJECT, ALL INSURANCE, AS REQUIRED AND LISTED, AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AN ORIGINAL CERTIFICATE OF INSURANCE STATING ALL COVERAGES TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR REQUIRED INSURANCE LIMITS.
2. THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
3. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.

ARCHITECTURAL SYMBOLS

STORAGE
38

3

DETAIL REFERENCE KEY



ABBREVIATIONS

ADJ	ADJUSTABLE
AGL	ABOVE GROUND LINE
&	AND
APPROX	APPROXIMATE
@	AT
BTS	BASE TRANSMISSION STATION
CAB	CABINET
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUOUS
DIA OR ø	DIAMETER
DWG	DRAWING
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EGB	EQUIPMENT GROUND BAR
(E)	EXISTING
EXT	EXTERIOR
FF	FINISHED FLOOR
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRND	GROUND
LG	LONG
MAX	MAXIMUM
MECH	MECHANICAL
MW	MICROWAVE DISH
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTL	METAL
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
(P)	PROPOSED
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SS	STAINLESS STEEL
STL	STEEL
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TYP	TYPICAL
VIF	VERIFY IN FIELD
UON	UNLESS OTHERWISE NOTED
WWF	WELDED WIRE FABRIC
W/	WITH

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Waltham, MA 02452
Phone number: 617-852-3611
Fax Number : 781-742-2247

SUBMITTALS

DATE	DESCRIPTION	REVISION
06/01/16	ISSUED FOR REVIEW	A
07/11/16	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

DRAWN BY: MB
CHECKED BY: KM

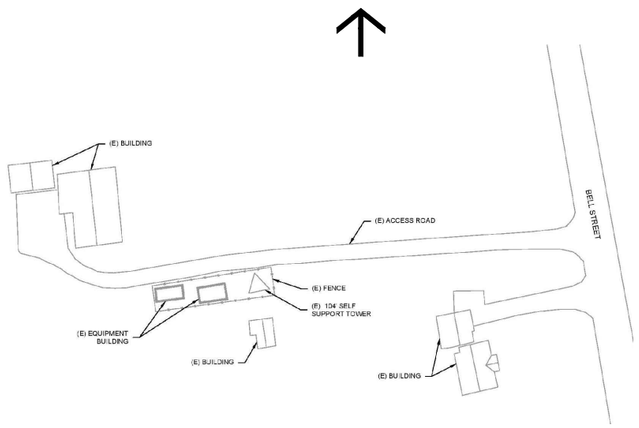
STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162
LICENSED ARCHITECT

PROFESSIONAL SEAL

SITE NAME
CTHA536A
SITE NAME
INSITE GLASTONBURY LATTICE
SITE ADDRESS
577 BELL STREET
GLASTONBURY, CT 06033

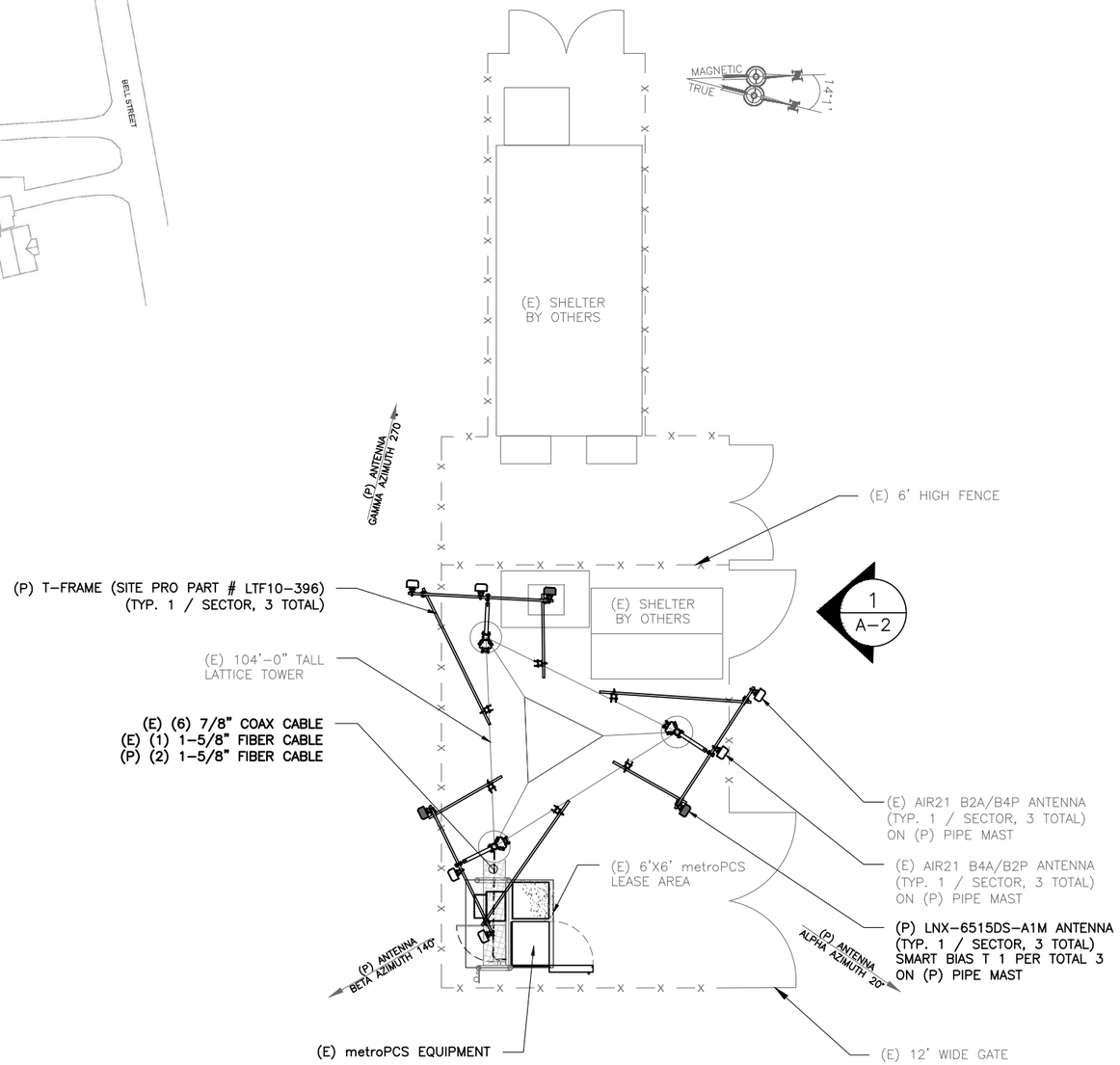
SHEET TITLE
GENERAL AND ELECTRICAL NOTES

SHEET NUMBER
N-1



KEY PLAN 1 / A–1

SCALE: N.T.S.



COMPOUND PLAN 2 / A–1

SCALE: 1" = 10'–0" (11x17)

0 30 60 90

SCALE 1"=30' (11x17)
1"=15' (24x36)

GENERAL SITE NOTES

1. SITE INFORMATION WAS OBTAINED FROM A FIELD INVESTIGATION PERFORMED BY ATLANTIS DESIGN GROUP, INC. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.

2. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.

3. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.

4. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.

5. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.

6. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT CALL BEFORE YOU DIG THREE WORKING DAYS PRIOR TO COMMENCING WORK.

7. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

——– – ——–	SITE PROPERTY LINE
————	STREET OR ROAD
–x–x–x–	CHAIN LINK FENCE
——o—o——	OPAQUE WOODEN FENCE
——o—o——	BOARD ON BOARD FENCE
	DECIDUOUS TREES/SHRUBS
	EVERGREEN TREES/SHRUBS
	TREE LINE
	UTILITY POLE
(E)	EXISTING
(N)	NEW
(P)	PROPOSED
(F)	FUTURE
	PROP. LTE ANTENNA
	PROP. UMTS/GSM ANTENNA
	EX. GSM ANTENNA
	EX. UMTS ANTENNA

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Waltham, MA 02452
Phone number: 617–852–3611
Fax Number : 781–742–2247

SUBMITTALS

DATE	DESCRIPTION	REVISION
06/01/16	ISSUED FOR REVIEW	A
07/11/16	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

DRAWN BY:	MB
CHECKED BY:	KM

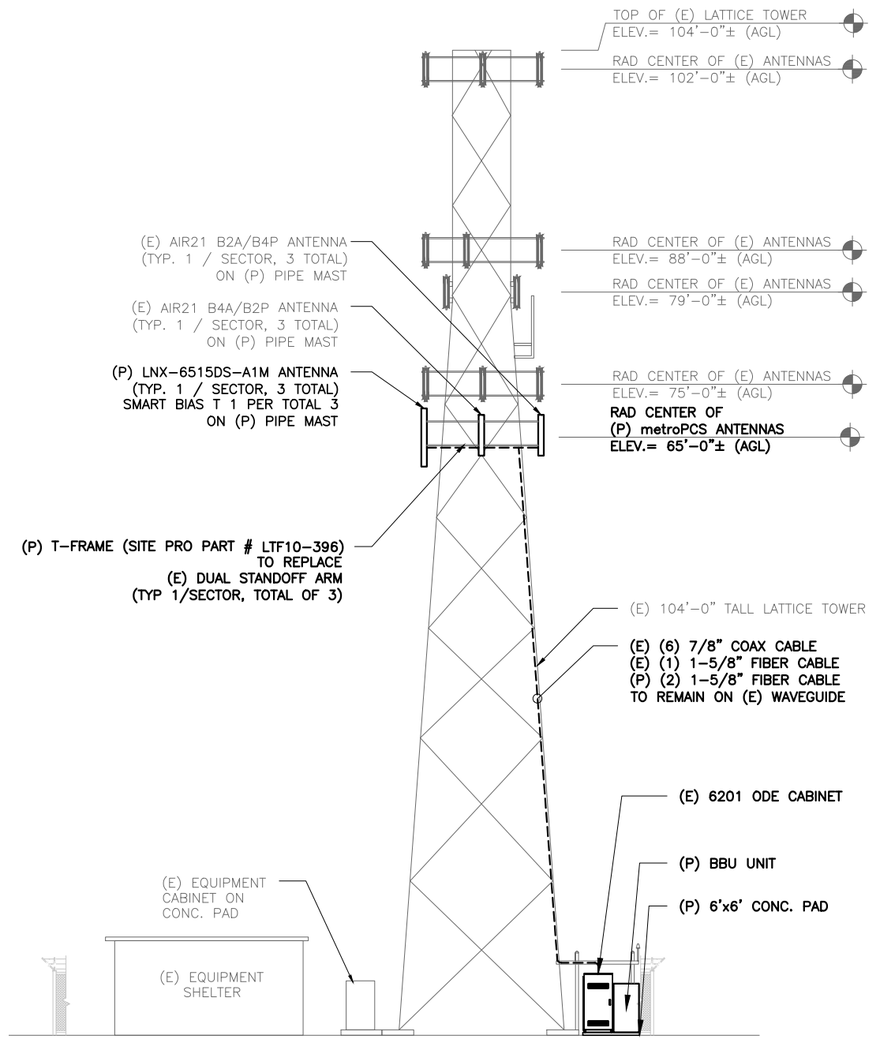
STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162
LICENSED ARCHITECT

PROFESSIONAL SEAL

SITE NAME
CTHA536A
SITE NAME
INSITE GLASTONBURY LATTICE
SITE ADDRESS
577 BELL STREET
GLASTONBURY, CT 06033

SHEET TITLE
SITE PLAN AND ELEVATION

SHEET NUMBER
A-1



ELEVATION

1
A-2

SCALE: 1" = 16'-0" (11x17)

0 16 32 48

SCALE 1"=16' (11x17)
1"=8' (24x36)

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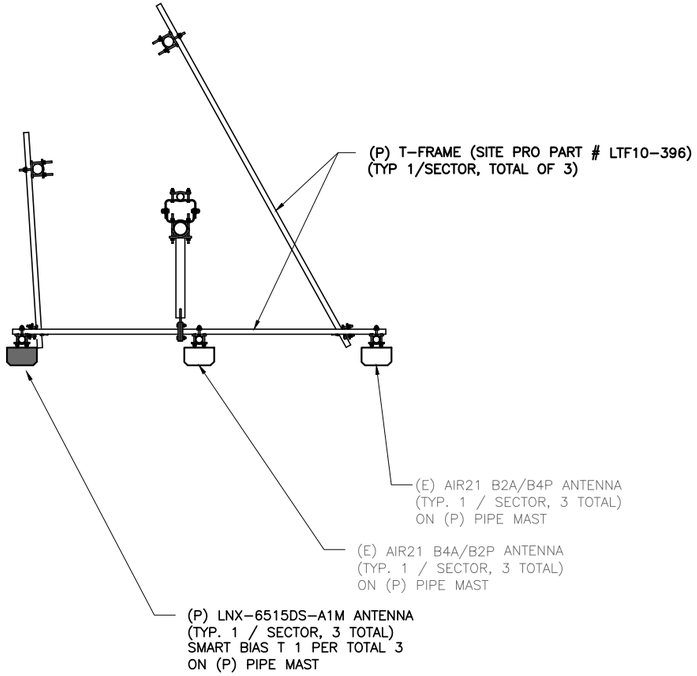
ELEVATION

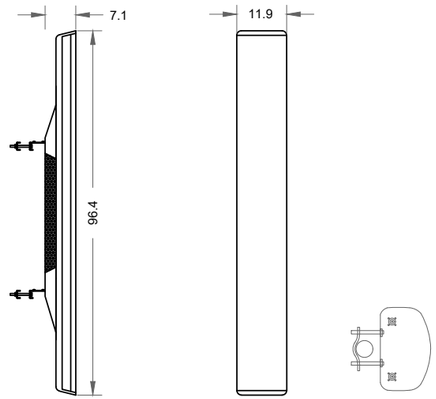
SHEET NUMBER
A-2



ANTENNA PLAN

1 / A-3

SCALE: N.T.S



MANUFACTURE: COMMSCOPE
MODEL NO. LNX-6515DS-A1M

DIMENSIONS – HxWxD, (IN) 96.4x11.9x7.1

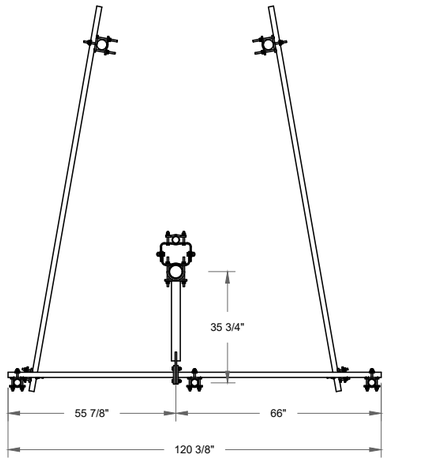
WEIGHT – 50.3 LB

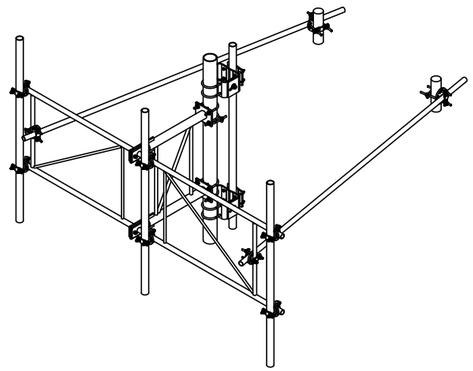
COMMSCOPE LNX-6515DS-A1M ANTENNA DETAILS

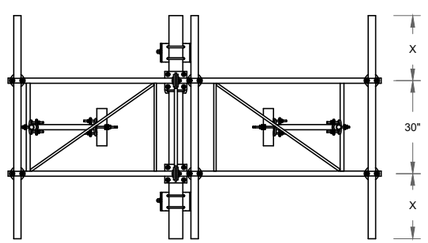
2 / A-3

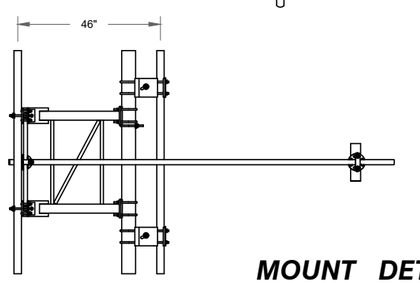
SCALE: N.T.S

REFER TO MOUNT ANALYSIS DOCUMENT ENTITLED, "METROPCS ANTENNA MOUNT STRUCTURAL EVALUATION" PREPARED BY BENNETT AND PLESS, INC. "T-MOBILE SITE ID CTHA536A", DATED JUNE 22, 2016
(INSITE SITE NUMBER: CT901 GLASTONBURY)









T-FRAME
(SITE PRO PART # LTF10-396)

MOUNT DETAIL

3 / A-3

SCALE: N.T.S

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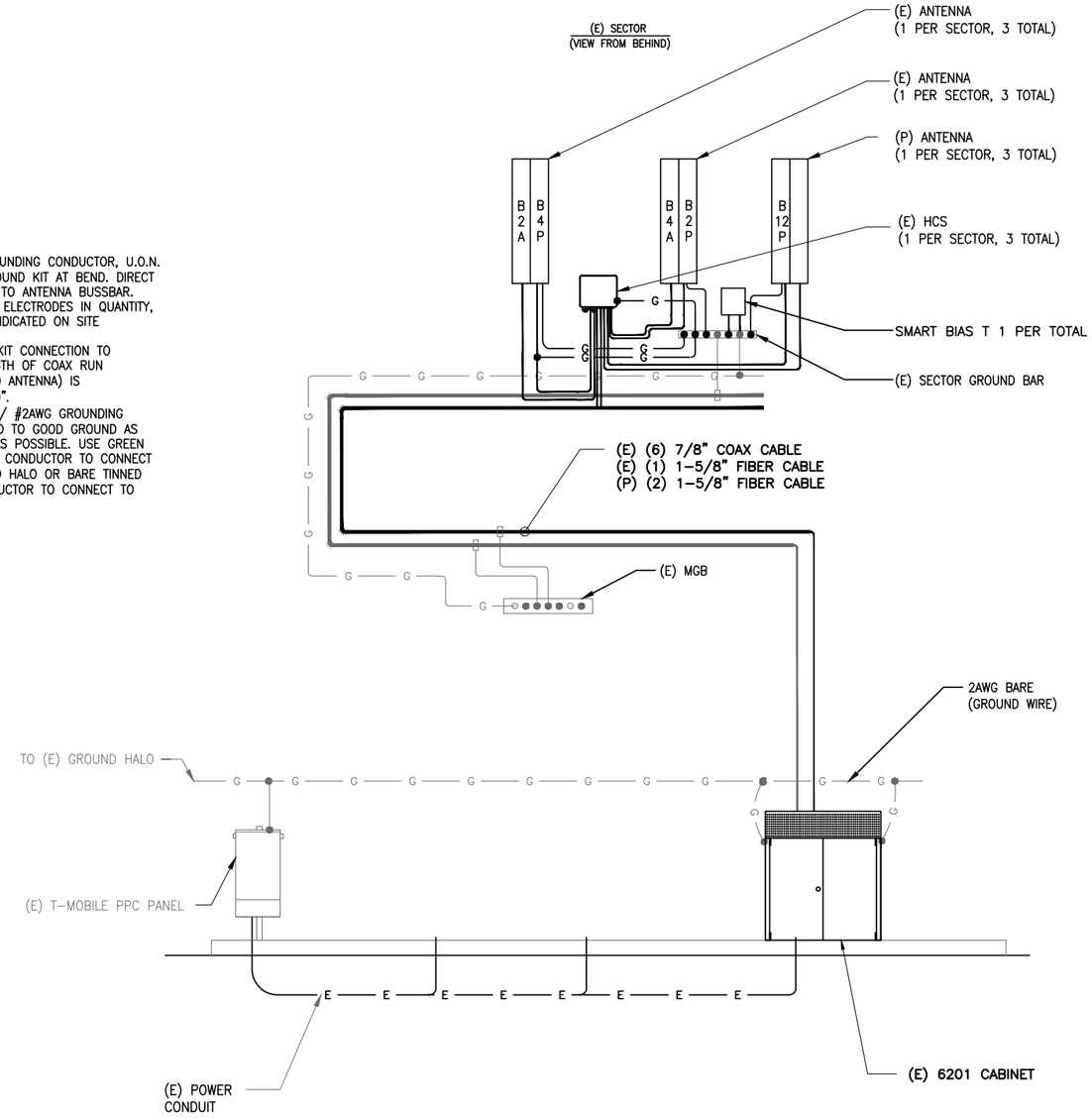
SHEET TITLE
ANTENNA PLAN AND DETAILS

SHEET NUMBER
A-3

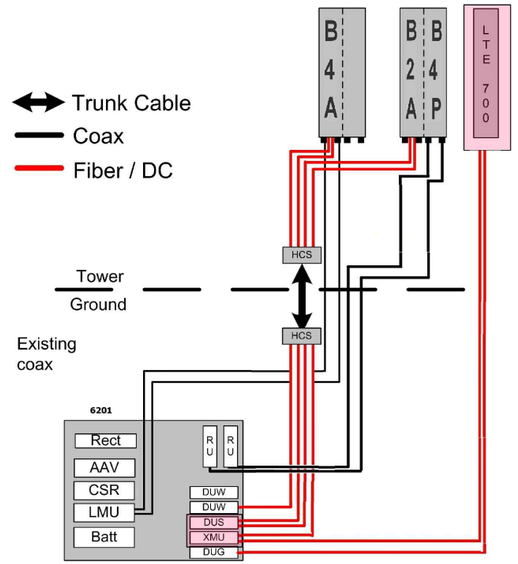
NOTES:
A. PROVIDE #2AWG GROUNDING CONDUCTOR, U.O.N.
B. DO NOT INSTALL GROUND KIT AT BEND. DIRECT GROUND WIRE DOWN TO ANTENNA BUSSBAR.
C. PROVIDE GROUNDING ELECTRODES IN QUANTITY, TYPE AND SIZE AS INDICATED ON SITE GROUNDING PLAN.
D. ADD COAX GROUND KIT CONNECTION TO BUSSBAR WHEN LENGTH OF COAX RUN (FROM EQUIPMENT TO ANTENNA) IS GREATER THAN 20'-0".
E. GROUND HCS BOX W/ #2AWG GROUNDING CONDUCTOR ATTACHED TO GOOD GROUND AS DIRECT AND SHORT AS POSSIBLE. USE GREEN STRANDED INSULATED CONDUCTOR TO CONNECT TO BUSSBAR/GROUND HALO OR BARE TINNED SOLID COPPER CONDUCTOR TO CONNECT TO GROUND RING.



GROUNDING DIAGRAM

SCALE: N.T.S

1 / E-1



TRUNK FIBER NOTES:
1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO 7/8" COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL CABLES ARE INDIVIDUALLY SERIALIZED, BE SURE TO WRITE DOWN THE CABLE SERIAL NUMBER FOR FUTURE REFERENCE.
2. THE TERMINATED FIBER ENDS (THE BROKEN OUT FIBERS PLUS CONNECTORS) HOWEVER ARE FRAGILE, AND THESE MUST BE PROTECTED DURING THE INSTALLATION PROCESS.
3. LEAVE THE PROTECTIVE TUBE AND SOCK AROUND THE FIBER TAILS AND CONNECTORS IN PLACE DURING HOISTING AND SECURING THE CABLE. REMOVE THIS ONLY JUST PRIOR TO MAKING THE FINAL CONNECTIONS TO THE OVP BOX.
4. DO NOT BEND THE FIBER ENDS (IN THE ORANGE FURCATION TUBES) TIGHTER THAN ¾" (19MM) BEND RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
5. BE SURE THAT THE LACE UP ENDS AND FIBER CONNECTORS ARE NOT DAMAGED BY ATTACHMENT OF A HOISTING GRIP OR DURING THE HOISTING PROCESS. ATTACH A HOISTING GRIP ON THE JACKETED CABLE NO LESS THAN 6 INCHES BELOW THE FIBER BREAKOUT POINT. IF A HOISTING GRIP IS NOT EASILY ATTACHED, USE A SIMPLE LINE ATTACHED BELOW THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TAILS (IN PROTECTIVE TUBE) AT THE CABLE END FROM UNDUE MOVEMENT DURING HOISTING BY SECURING THE PROTECTIVE TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.
6. DURING HOISTING ENSURE THAT THERE IS A FREE PATH AND THAT THE CABLE, AND ESPECIALLY THE FIBER ENDS, WILL NOT BE SNAGGED ON TOWER MEMBERS OR OTHER OBSTACLES.
7. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO +70C).
8. MINIMUM CABLE BEND RADII ARE 22.2" (565MM) LOADED (WITH TENSION ON THE CABLE) AND 11.1" (280MM) UNLOADED.
9. MAXIMUM CABLE TENSILE LOAD IS 3560 N (800 LB) SHORT TERM (DURING INSTALLATION) AND 1070 N (240 LB) LONG TERM.
10. COMMSCOPE NON LACE UP GRIP RECOMMENDED FOR MONOPOLE INSTALLATIONS.
11. MAXIMUM HANGER SPACING 3FT (0.9 M).

HYBRID FIBER/POWER JUMPER NOTES:
1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO A 3/8" COAXIAL CABLE.
2. THE TERMINATED FIBER ENDS HOWEVER ARE FRAGILE AND MUST BE PROTECTED DURING INSTALLATION. LEAVE THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND RRU OR BBU.
3. DO NOT BEND THE FIBER BREAKOUT CABLE (BETWEEN THE MAIN CABLE AND THE FIBER CONNECTOR) TIGHTER THAN ¾" (19MM) RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS.
4. ATTACH THE MAIN CABLE SECURELY TO THE STRUCTURE OR EQUIPMENT USING HANGERS AND/OR CABLE TIES TO PREVENT STRAIN ON CONNECTIONS FROM MOVEMENT IN WIND OR SNOW/ICE CONDITIONS.
5. ENSURE THE LC FIBER CONNECTORS ARE SEATED FIRMLY IN PANEL IN OVP OR IN EQUIPMENT.
6. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO 70C).
7. MINIMUM CABLE BEND RADII ARE 10.3 INCH (265MM) LOADED (WITH TENSION ON THE CABLE) AND 5.2 INCH (130MM) UNLOADED.
8. MAXIMUM CABLE TENSILE LOAD IS 350 LB (1560N) SHORT TERM (DURING INSTALLATION) AND 105 LB (470N) LONG TERM.
9. STANDARD LENGTHS AVAILABLE ARE 6 FEET, 15 FEET AND 20 FEET

705A CONFIGURATION
COAX/FIBER PLUMBING DIAGRAM

SCALE: N.T.S

2 / E-1

T-MOBILE NORTHEAST, LLC
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BLOOMFIELD, CT 06002
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STURBRIDGE, MA 01566
(508) 434-5237

ATLANTIS DESIGN GROUP, INC.
54 Jacqueline Road, Suite #7
Waltham, MA 02452
Phone number: 617-852-3611
Fax Number : 781-742-2247

SUBMITTALS

DATE	DESCRIPTION	REVISION
06/01/16	ISSUED FOR REVIEW	A
07/11/16	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

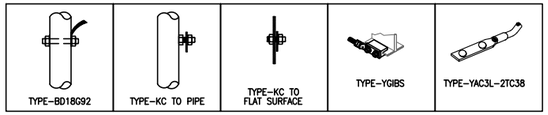
DRAWN BY: MB
CHECKED BY: KM

STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162
LICENSED ARCHITECT
PROFESSIONAL SEAL

SITE NAME
CTHA536A
SITE NAME
INSITE GLASTONBURY LATTICE
SITE ADDRESS
577 BELL STREET
GLASTONBURY, CT 06033

SHEET TITLE
GROUNDING AND ONE LINE DIAGRAM
COAX/FIBER DIAGRAM

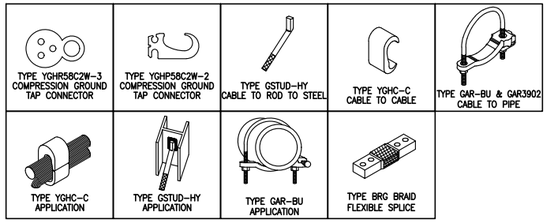
SHEET NUMBER
E-1



BURNDY GROUNDING DETAILS

1 E-2

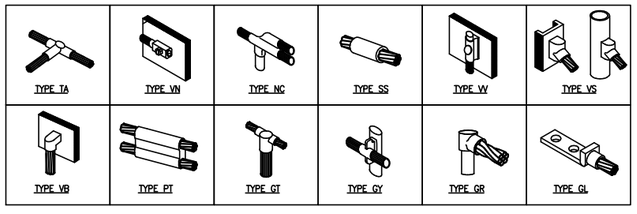
SCALE: N.T.S.



BURNDY GROUNDING PRODUCTS

2 E-2

SCALE: N.T.S.



CADWELD GROUNDING CONNECTION PRODUCTS

3 E-2

SCALE: N.T.S.

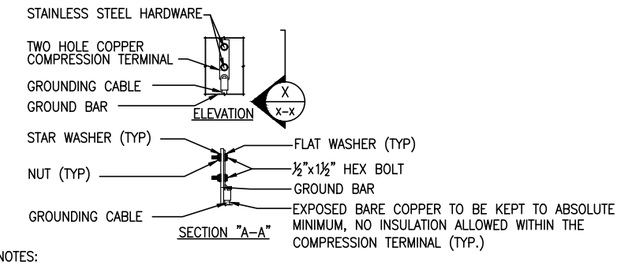
TERMINATION TYPES:
A. MECHANICAL COMPRESSION LUG
B. DOUBLE BARRELL COMPRESSION CONNECTOR
C. EXOTHERMIC TERMINATION
D. BEAM CLAMP

	SOLID #2 TINNED COPPER	#6 GROUND LEAD	#2/0 STRANDED MAIN DOWN CONDUCTOR	MASTER GRND BAR	STRUCTURAL OR TOWER STEEL	BLDG. SERVICE ENTR OR GRND RING	GROUND ROD
SOLID #2 TINNED COPPER	B OR C	B OR C		C	A, C, OR D		C
#6 GROUND LEAD	B OR C			A	A, C, OR D		
#2/0 STRANDED GRNDG ELECTRODE CONDUCTOR			A	A, C, OR D	A		
MASTER GROUND BAR	C	A	A				
STRUCTURAL OR TOWER STEEL	A, C, OR D	A, C, OR D	A, C, OR D				
GROUND RING	C		C				C

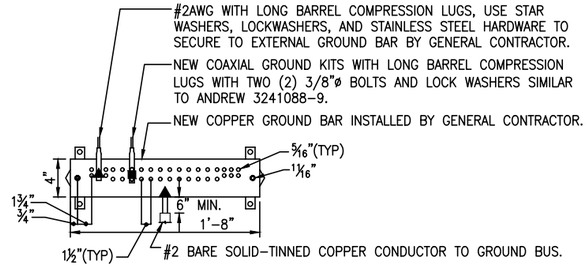
GROUNDING TERMINATION MARTIX

4 E-2

SCALE: N.T.S.



NOTES:
1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

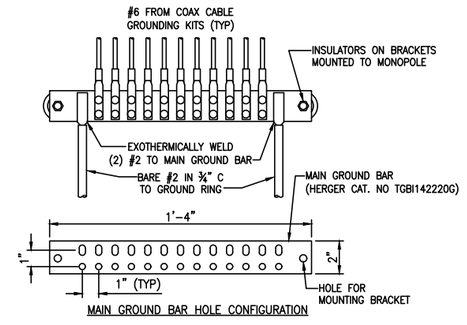


NOTES:
1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/16".

TYPICAL GROUND BAR CONNECTIONS DETAIL

5 E-2

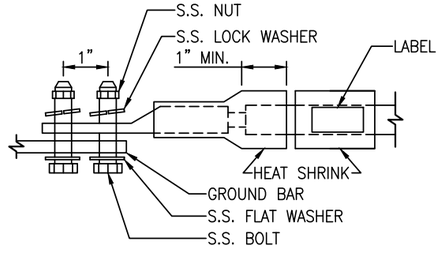
SCALE: N.T.S.



GROUND BAR DETAIL

6 E-2

SCALE: N.T.S.



LUG NOTES:
1. ALL HARDWARE IS 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS.
2. ALL HARDWARE SHALL BE S.S. ⅜"ø OR LARGER.
3. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH ANTI-OXIDIZATION COMPOUND PRIOR TO MATING.

GROUND BAR DETAIL

7 E-2

SCALE: N.T.S.

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SUBMITTALS

DATE	DESCRIPTION	REVISION
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DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
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OPS			
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SITE AC.			

DRAWN BY: MB
CHECKED BY: KM

PROFESSIONAL SEAL

SITE NAME
CTHA536A
SITE NAME
INSITE GLASTONBURY LATTICE
SITE ADDRESS
577 BELL STREET
GLASTONBURY, CT 06033

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
E-2

Exhibit D

bennett&pless
Experience Structural Expertise

April 29, 2016

Ms. Mikala Mann
Insite Towers, LLC
1199 N. Fairfax St., Ste. 700
Alexandria, VA 22314

Re: Post Modificaiton Tower Structural Analysis- MetroPCS Antenna Installation

Site Number:	CT901	**Site Address:**	577 Bell Street Glastonbury, CT
Site Name:	Glastonbury		
Tower Owner:	N/A	**Latitude:**	41.7338
Tower Type:	104-ft Self-Support Tower	**Longitude:**	-72.5497
Tower Status:	Acceptable (with Proposed Modifications) (97% Tower Capacity)	**B&P Job No:**	16703.001

We have completed our post modification structural analysis of the proposed equipment installation on the foregoing tower to determine its ability to support the new loads proposed by MetroPCS.

The following information was provided for our tower structural analysis:

- Tower: Member sizes and configuration were obtained from the previous structural analysis by the URS Corporation dated 9/7/2010. Previous modification drawings by Centek dated 2/22/12 were used as well as a post modification inspection report by ETS dated 3/31/16.
- Foundation: Previous modification drawings and analysis by Centek dated 2/22/12
- Geotechnical: Previous modification drawings and analysis by Centek dated 2/22/12
- Antennas: Proposed antenna loading was obtained from the tenant application provided by Insite Towers, LLC dated 12/15/2015. Existing antenna loading was obtained from the structural analysis listed above.
- Other: General photographs of the tower

Table 1 summarizes the antenna, attachment, and transmission line loading proposed and Table 2 summarizes the design criteria used for our structural analysis. Attached is a copy of the structural calculations, which in addition to detailed results of the analysis also includes a tower profile with member sizes and configuration, and the existing/proposed equipment list with types and location.

Table 1 – Proposed Equipment Loading

Status	Antennas/Attachments					Transmission Lines	
	Carrier	Rad Center	Qty	Manufacturer	Model	# of Feed lines	Feed line Size (in)
New Antenna	Metro PCS	65’	3	Commscope	LNX-6515DS-VTM	2	1 5/8” Hybrid
New Smart T			3	Ericsson	Smart Bias T’s		

Table 2 – Design Criteria Used for Structural Analysis

Criterion	Information Used
State Building Code	Connecticut (IBC 2003)
Tower Standard	EIA/TIA-222-F
County	Montgomery
Basic Wind Speed	80 mph, no ice(100 mph – 3 sec just equiv)
	69 mph, 1/2" ice
Steel Grade Assumed	50 ksi SR legs, 36 ksi all others, A325 bolts
Tower Analysis Software	tnxTower (version 7.0.3)

Based on the foregoing information, our post modification structural analysis determined that **the existing tower is <u>will be</u> structurally capable of supporting the proposed equipment loads once the proposed structural modifications are installed as detailed in the 4/29/16 Bennett and Pless Tower Modification Drawings.**

The foundations were previously reinforced and the reactions at the base are under what the modifications were designed for because of previously removed equipment. The Safety Factor for overturning is now 2.44 which is greater than 2.0.

The following assumptions were made in conducting our structural analysis:

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. All member connections are assumed to have been designed to meet the load carrying capacity of the connected member.
3. Antenna mount loads have been estimated based on typical industry standards.
4. The mounts for the proposed antennas have been analyzed and designed by others.
5. See additional assumptions contained in the report attached.

Bennett & Pless, Inc. makes no warranties, expressed or implied, in connection with this report, and disclaims any liability arising from material, fabrication and erection of this tower. Bennett & Pless, Inc. will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Bennett & Pless, Inc. pursuant to this report will be limited to the total fee received for preparation of this report.

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this please call us anytime.

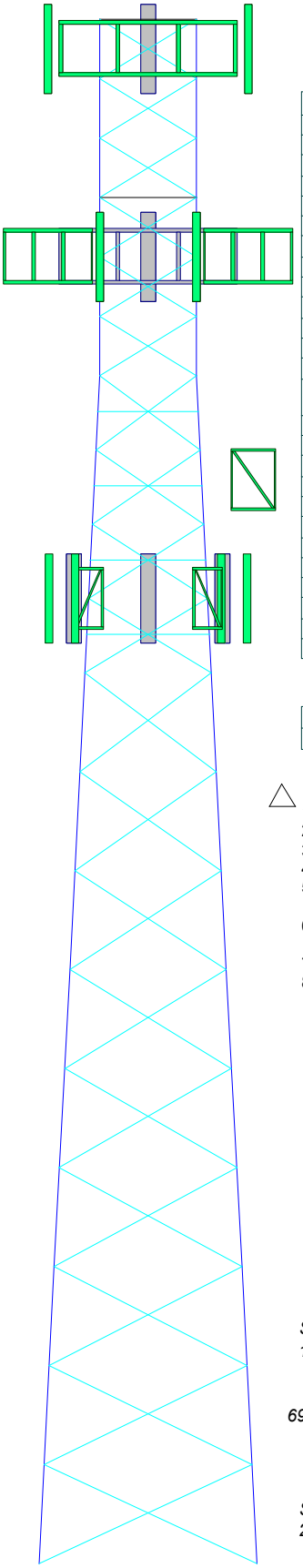
Yours very truly,
Bennett & Pless, Inc.

Mike De Boer, P.E.
Senior Technical Director, Telecom

4/29/2016

Section	T1	T2	T3	T4	T5	T6
Legs	P2x.154		P2.5x.203	P2.875x0.203w3/8HP+FF	P2.875x0.276w3/8HP+FF	Pipe 3 x 0.3 w/ 3/8 Plate
Leg Grade	A618-50					
Diagonals	L1 1/2x1 1/2x3/16		L2x2x3/16		L2 1/2x2 1/2x3/16	
Diagonal Grade	A36					
Top Girts	L2x2x3/16		N.A.			
Sec. Horizontals	N.A.		L2x2x3/16		N.A.	
Face Width (ft)	6.52		6.56	8.56	10.56	12.6
# Panels @ (ft)	6 @ 4		4 @ 5		9 @ 6.66667	
Weight (K)	0.3	0.3	0.8	0.5	0.7	0.8

104.0 ft
92.0 ft
80.0 ft
60.0 ft
40.0 ft
20.0 ft
0.0 ft
14.65
3.4



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
BXA-70063-6CF-EDIN-0 (Verizon)	102	(2) TMA (ATI)	88
BXA-70063-6CF-EDIN-0 (Verizon)	102	(2) TMA (ATI)	88
BXA-70063-6CF-EDIN-0 (Verizon)	102	(2) TMA (ATI)	88
LNX-8514DS (Verizon)	102	(2) RRU-11 (ATI)	88
LNX-8514DS (Verizon)	102	(2) RRU-11 (ATI)	88
LNX-8514DS (Verizon)	102	(2) RRU-11 (ATI)	88
RRH2X60-AW (Verizon)	102	Demarcation Box DC6-4860-188F (ATI)	88
RRH2X60-AW (Verizon)	102		
RRH2X60-AW (Verizon)	102	DB806-XT (Town of Glastonbury)	79
RC2DC-3315-PF-48 (Verizon)	102	PR-950 (Town of Glastonbury)	73
(2) HBXX-6517DS-A2M (Verizon)	102	PiROD 6' Side Mount Standoff (Town of Glastonbury)	73
(2) HBXX-6517DS-A2M (Verizon)	102	3' Stand-Off (Metro PCS)	65
(2) HBXX-6517DS-A2M (Verizon)	102	3' Stand-Off (Metro PCS)	65
Pirod T-Frame Sector Mount (3) (Verizon)	102	Kathrein 742-213 (Unknown)	65
T-Frame Sector (ATI)	88	Kathrein 742-213 (Unknown)	65
T-Frame Sector (ATI)	88	Kathrein 742-213 (Unknown)	65
T-Frame Sector (ATI)	88	(2) AIR 21 (Metro PCS)	65
Powerwave P65-17-XLH-RR (ATI)	88	(2) AIR 21 (Metro PCS)	65
Powerwave P65-17-XLH-RR (ATI)	88	(2) AIR 21 (Metro PCS)	65
Powerwave P65-17-XLH-RR (ATI)	88	LNX-6515DS-VTM (Metro PCS)	65
KMW AX-X-CD-1665-OOT (ATI)	88	LNX-6515DS-VTM (Metro PCS)	65
KMW AX-X-CD-1665-OOT (ATI)	88	LNX-6515DS-VTM (Metro PCS)	65
KMW AX-X-CD-1665-OOT (ATI)	88	Smart Bias T (Metro PCS)	65
Andrew SBNH-1D6565C (ATI)	88	Smart Bias T (Metro PCS)	65
Andrew SBNH-1D6565C (ATI)	88	Smart Bias T (Metro PCS)	65
Andrew SBNH-1D6565C (ATI)	88	3' Stand-Off (Metro PCS)	65

MATERIAL STRENGTH

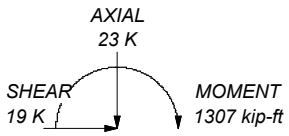
GRADE	Fy	Fu	GRADE	Fy	Fu
A618-50	50 ksi	70 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

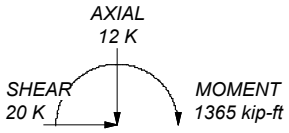
1. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
2. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
3. Deflections are based upon a 60 mph wind.
4. Weld together tower sections have flange connections.
5. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
6. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
7. Welds are fabricated with ER-70S-6 electrodes.
8. TOWER RATING: 96.6%

MAX. CORNER REACTIONS AT BASE:
DOWN: 112 K
SHEAR: 12 K

UPLIFT: -101 K
SHEAR: 11 K



TORQUE 2 kip-ft
69 mph WIND - 0.5000 in ICE



TORQUE 1 kip-ft
REACTIONS - 80 mph WIND

Bennett & Pless	Job: CT901 Glastonbury		
	Project: SST Analysis		
	Client: Insite Towers, LLC	Drawn by: JBozzetto	App'd:
Phone:	Code: TIA/EIA-222-F	Date: 05/02/16	Scale: NTS
FAX:	Path:		Dwg No. E-1

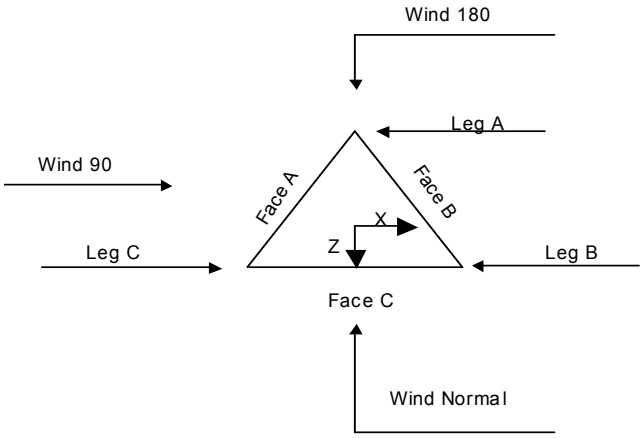
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 104.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 6.52 ft at the top and 14.65 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Basic wind speed of 80 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 69 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Weld together tower sections have flange connections..
Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..
Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..
Welds are fabricated with ER-70S-6 electrodes..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice		Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
√	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric				



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	104.00-92.00			6.52	1	12.00
T2	92.00-80.00			6.52	1	12.00
T3	80.00-60.00			6.56	1	20.00
T4	60.00-40.00			8.56	1	20.00
T5	40.00-20.00			10.56	1	20.00
T6	20.00-0.00			12.60	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	104.00-92.00	4.00	X Brace	No	No	0.0000	0.0000
T2	92.00-80.00	4.00	X Brace	No	No	0.0000	0.0000
T3	80.00-60.00	5.00	X Brace	No	Yes	0.0000	0.0000
T4	60.00-40.00	6.67	X Brace	No	No	0.0000	0.0000
T5	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T6	20.00-0.00	6.67	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 104.00-92.00	Pipe	P2x.154	A618-50 (50 ksi)	Single Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T2 92.00-80.00	Pipe	P2x.154	A618-50 (50 ksi)	Single Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T3 80.00-60.00	Pipe	P2.5x.203	A618-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T4 60.00-40.00	Arbitrary Shape	P2.875x0.203w3/8HP+FF	A618-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T5 40.00-20.00	Arbitrary Shape	P2.875x0.276w3/8HP+FF	A618-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T6 20.00-0.00	Arbitrary Shape	Pipe 3 x 0.3 w/ 3/8 Plate	A618-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 104.00-92.00	Single Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 92.00-80.00	Single Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T3 80.00-60.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 104.00-92.00	0.00	0.2500	A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T2 92.00-80.00	0.00	0.2500	A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T3 80.00-60.00	0.00	0.2500	A36	1.02	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T4 60.00-40.00	0.00	0.2500	(36 ksi) A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T5 40.00-20.00	0.00	0.2500	(36 ksi) A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T6 20.00-0.00	0.00	0.2500	(36 ksi) A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	Single Diags X	Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
104.00-92.00				1	1	1	1	1	1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
92.00-80.00				1	1	1	1	1	1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1	1	1	1	1	1
T4	Yes	Yes	1.2	1	1	1	1	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1	1	1	1	1	1
T5	Yes	Yes	1.18	1	1	1	1	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1	1	1	1	1	1
T6 20.00-0.00	Yes	Yes	1.28	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
104.00-92.00														
T2 92.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 104.00-92.00	Flange	0.6250 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 92.00-80.00	Flange	0.6250 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 80.00-60.00	Flange	0.6250 A325N	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 60.00-40.00	Flange	0.6250 A325N	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 40.00-20.00	Flange	0.7500 A325N	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 20.00-0.00	Flange	0.8750 A354-BC	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Feedline Ladder (Tower)	B	Yes	Ar (CfAe)	65.00 - 6.00	0.0000	0.4	1	1	0.5000	1.5000		8.00
LDF7-50A (1 5/8 FOAM) (Verizon)	A	Yes	Ar (CfAe)	100.00 - 6.00	-2.0000	-0.2	18	9	0.5000	1.9800		0.82
Feedline Ladder (Tower)	A	Yes	Ar (CfAe)	100.00 - 6.00	0.0000	-0.2	1	1	0.5000	1.5000		8.00
LDF7-50A (1 5/8 FOAM) (AT&T)	A	Yes	Ar (CfAe)	88.00 - 6.00	-8.0000	0.2	3	3	1.9800	1.9800		0.82
LDF7-50A (1 5/8 FOAM) (AT&T)	A	Yes	Ar (CfAe)	88.00 - 6.00	-4.0000	0.43	3	1	1.9800	1.9800		0.82
LDF7-50A (1 5/8 FOAM) (AT&T)	B	Yes	Ar (CfAe)	88.00 - 6.00	-4.0000	0.43	3	3	1.9800	1.9800		0.82
LDF7-50A (1 5/8 FOAM) (AT&T)	C	Yes	Ar (CfAe)	88.00 - 6.00	-4.0000	0.43	3	3	1.9800	1.9800		0.82
Hybrid Flex (1 5/8 Fiber) (Metro PCS)	B	Yes	Ar (CfAe)	65.00 - 6.00	0.0000	0.43	3	3	1.9800	1.9800		0.82
AVA5-50(7/8") (Metro PCS)	B	Yes	Ar (CfAe)	65.00 - 6.00	0.0000	0.4	6	6	1.1020	1.1020		0.30

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	104.00-92.00	A	12.880	0.000	0.000	0.000	0.18
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	92.00-80.00	A	24.600	0.000	0.000	0.000	0.31
		B	3.960	0.000	0.000	0.000	0.02
		C	3.960	0.000	0.000	0.000	0.02
T3	80.00-60.00	A	45.400	0.000	0.000	0.000	0.55
		B	15.755	0.000	0.000	0.000	0.11
		C	9.900	0.000	0.000	0.000	0.05
T4	60.00-40.00	A	45.400	0.000	0.000	0.000	0.55
		B	33.320	0.000	0.000	0.000	0.29
		C	9.900	0.000	0.000	0.000	0.05
T5	40.00-20.00	A	45.400	0.000	0.000	0.000	0.55
		B	33.320	0.000	0.000	0.000	0.29
		C	9.900	0.000	0.000	0.000	0.05
T6	20.00-0.00	A	31.780	0.000	0.000	0.000	0.39
		B	23.324	0.000	0.000	0.000	0.21
		C	6.930	0.000	0.000	0.000	0.03

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	104.00-92.00	A	0.500	3.653	13.227	0.000	0.000	0.40
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T2	92.00-80.00	A	0.500	13.427	19.840	0.000	0.000	0.71
		B		5.960	0.000	0.000	0.000	0.06
		C		5.960	0.000	0.000	0.000	0.06
T3	80.00-60.00	A	0.500	29.000	33.067	0.000	0.000	1.28
		B		24.922	0.000	0.000	0.000	0.26
		C		14.900	0.000	0.000	0.000	0.14
T4	60.00-40.00	A	0.500	29.000	33.067	0.000	0.000	1.28
		B		54.987	0.000	0.000	0.000	0.62
		C		14.900	0.000	0.000	0.000	0.14
T5	40.00-20.00	A	0.500	29.000	33.067	0.000	0.000	1.28
		B		54.987	0.000	0.000	0.000	0.62
		C		14.900	0.000	0.000	0.000	0.14
T6	20.00-0.00	A	0.500	20.300	23.147	0.000	0.000	0.90
		B		38.491	0.000	0.000	0.000	0.43
		C		10.430	0.000	0.000	0.000	0.10

Feed Line Shielding

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
T1	104.00-92.00	A	0.000	0.942	1.123	1.472
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000
T2	92.00-80.00	A	0.000	1.856	2.144	2.899
		B	0.000	0.332	0.345	0.519
		C	0.000	0.332	0.345	0.519

Section	Elevation ft	Face	A_R ft^2	A_R Ice ft^2	A_F ft^2	A_F Ice ft^2
T3	80.00-60.00	A	0.000	3.520	5.150	7.041
		B	0.000	1.414	1.787	2.827
		C	0.000	0.845	1.123	1.690
T4	60.00-40.00	A	0.000	1.894	2.771	3.789
		B	0.000	1.678	2.034	3.356
		C	0.000	0.455	0.604	0.909
T5	40.00-20.00	A	0.000	1.792	3.277	4.479
		B	0.000	1.587	2.405	3.968
		C	0.000	0.430	0.715	1.075
T6	20.00-0.00	A	0.000	1.210	2.212	3.024
		B	0.000	1.072	1.624	2.679
		C	0.000	0.290	0.482	0.726

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	104.00-92.00	-6.6180	0.7718	-4.8162	0.5515
T2	92.00-80.00	-7.5215	1.0772	-5.6753	0.8481
T3	80.00-60.00	-4.8832	1.7241	-3.1585	1.6595
T4	60.00-40.00	-0.6671	4.3468	2.1477	4.7889
T5	40.00-20.00	-0.8414	4.7420	2.3084	5.3135
T6	20.00-0.00	-1.1249	5.8454	2.6973	6.3661

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
BXA-70063-6CF-EDIN-0 (Verizon)	A	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice	7.73 8.27	4.16 4.60	0.02 0.06
BXA-70063-6CF-EDIN-0 (Verizon)	B	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice	7.73 8.27	4.16 4.60	0.02 0.06
BXA-70063-6CF-EDIN-0 (Verizon)	C	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice	7.73 8.27	4.16 4.60	0.02 0.06
LNX-8514DS (Verizon)	A	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice	11.45 12.06	7.70 8.29	0.05 0.12
LNX-8514DS (Verizon)	B	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice	11.45 12.06	7.70 8.29	0.05 0.12
LNX-8514DS (Verizon)	C	From Leg	4.00 0.00 0.00	0.0000	102.00	No Ice 1/2" Ice	11.45 12.06	7.70 8.29	0.05 0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRH2X60-AW	A	From Leg	4.00	0.0000	102.00	No Ice	2.52	1.59	0.04
(Verizon)			0.00			1/2" Ice	2.75	1.80	0.06
			0.00						
RRH2X60-AW	B	From Leg	4.00	0.0000	102.00	No Ice	2.52	1.59	0.04
(Verizon)			0.00			1/2" Ice	2.75	1.80	0.06
			0.00						
RRH2X60-AW	C	From Leg	4.00	0.0000	102.00	No Ice	2.52	1.59	0.04
(Verizon)			0.00			1/2" Ice	2.75	1.80	0.06
			0.00						
RC2DC-3315-PF-48	C	None		0.0000	102.00	No Ice	4.42	2.90	0.03
(Verizon)						1/2" Ice	4.72	3.16	0.06
(2) HBXX-6517DS-A2M	A	From Leg	4.00	0.0000	102.00	No Ice	8.75	5.25	0.04
(Verizon)			0.00			1/2" Ice	9.32	5.72	0.09
			0.00						
(2) HBXX-6517DS-A2M	B	From Leg	4.00	0.0000	102.00	No Ice	8.75	5.25	0.04
(Verizon)			0.00			1/2" Ice	9.32	5.72	0.09
			0.00						
(2) HBXX-6517DS-A2M	C	From Leg	4.00	0.0000	102.00	No Ice	8.75	5.25	0.04
(Verizon)			0.00			1/2" Ice	9.32	5.72	0.09
			0.00						
Pirod T-Frame Sector Mount	C	None		0.0000	102.00	No Ice	38.60	38.60	1.06
(3)						1/2" Ice	57.40	57.40	1.65
(Verizon)									
T-Frame Sector	A	From Leg	4.00	0.0000	88.00	No Ice	9.00	9.00	0.47
(AT&T)			0.00			1/2" Ice	9.30	9.30	0.61
			0.00						
T-Frame Sector	B	From Leg	4.00	0.0000	88.00	No Ice	9.00	9.00	0.47
(AT&T)			0.00			1/2" Ice	9.30	9.30	0.61
			0.00						
T-Frame Sector	C	From Leg	4.00	0.0000	88.00	No Ice	9.00	9.00	0.47
(AT&T)			0.00			1/2" Ice	9.30	9.30	0.61
			0.00						
DB806-XT	B	From Leg	4.00	0.0000	79.00	No Ice	1.14	1.14	0.02
(Town of Glastonbury)			0.00			1/2" Ice	1.68	1.68	0.03
			0.00						
PR-950	B	From Leg	4.00	0.0000	73.00	No Ice	6.35	6.35	0.04
(Town of Glastonbury)			0.00			1/2" Ice	11.43	11.43	0.05
			0.00						
PiROD 6' Side Mount	B	From Leg	4.00	0.0000	73.00	No Ice	4.97	4.97	0.07
Standoff			0.00			1/2" Ice	6.12	6.12	0.13
(Town of Glastonbury)			0.00						
Kathrein 742-213	A	From Leg	1.00	0.0000	65.00	No Ice	3.12	2.94	0.05
(Unknown)			0.00			1/2" Ice	3.45	3.52	0.08
			0.00						
Kathrein 742-213	B	From Leg	1.00	0.0000	65.00	No Ice	3.12	2.94	0.05
(Unknown)			0.00			1/2" Ice	3.45	3.52	0.08
			0.00						
Kathrein 742-213	C	From Leg	1.00	0.0000	65.00	No Ice	3.12	2.94	0.05
(Unknown)			0.00			1/2" Ice	3.45	3.52	0.08
			0.00						
(2) AIR 21	A	From Leg	3.00	0.0000	65.00	No Ice	6.53	4.36	0.09
(Metro PCS)			0.00			1/2" Ice	6.98	4.77	0.13
			0.00						
(2) AIR 21	A	From Leg	3.00	0.0000	65.00	No Ice	6.53	4.36	0.09
(Metro PCS)			0.00			1/2" Ice	6.98	4.77	0.13
			0.00						
(2) AIR 21	A	From Leg	3.00	0.0000	65.00	No Ice	6.53	4.36	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(Metro PCS)			0.00			1/2" Ice	6.98	4.77	0.13
			0.00						
LNX-6515DS-VTM	A	From Leg	3.00	0.0000	65.00	No Ice	11.45	7.70	0.05
(Metro PCS)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00						
LNX-6515DS-VTM	B	From Leg	3.00	0.0000	65.00	No Ice	11.45	7.70	0.05
(Metro PCS)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00						
LNX-6515DS-VTM	C	From Leg	3.00	0.0000	65.00	No Ice	11.45	7.70	0.05
(Metro PCS)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00						
Smart Bias T	A	From Leg	3.00	0.0000	65.00	No Ice	0.20	0.11	0.00
(Metro PCS)			0.00			1/2" Ice	0.27	0.16	0.00
			0.00						
Smart Bias T	B	From Leg	3.00	0.0000	65.00	No Ice	0.20	0.11	0.00
(Metro PCS)			0.00			1/2" Ice	0.27	0.16	0.00
			0.00						
Smart Bias T	C	From Leg	3.00	0.0000	65.00	No Ice	0.20	0.11	0.00
(Metro PCS)			0.00			1/2" Ice	0.27	0.16	0.00
			0.00						
3' Stand-Off	A	From Leg	0.00	0.0000	65.00	No Ice	0.50	0.50	0.01
(Metro PCS)			0.00			1/2" Ice	0.70	0.70	0.01
			0.00						
3' Stand-Off	B	From Leg	0.00	0.0000	65.00	No Ice	0.50	0.50	0.01
(Metro PCS)			0.00			1/2" Ice	0.70	0.70	0.01
			0.00						
3' Stand-Off	C	From Leg	0.00	0.0000	65.00	No Ice	0.50	0.50	0.01
(Metro PCS)			0.00			1/2" Ice	0.70	0.70	0.01
			0.00						
Powerwave P65-17-XLH-RR	A	From Leg	0.00	0.0000	88.00	No Ice	11.47	6.80	0.06
(AT&T)			0.00			1/2" Ice	12.08	7.38	0.12
			0.00						
Powerwave P65-17-XLH-RR	B	From Leg	0.00	0.0000	88.00	No Ice	11.47	6.80	0.06
(AT&T)			0.00			1/2" Ice	12.08	7.38	0.12
			0.00						
Powerwave P65-17-XLH-RR	C	From Leg	0.00	0.0000	88.00	No Ice	11.47	6.80	0.06
(AT&T)			0.00			1/2" Ice	12.08	7.38	0.12
			0.00						
KMW AX-X-CD-1665-OOT	A	From Leg	0.00	0.0000	88.00	No Ice	8.50	6.30	0.07
(AT&T)			0.00			1/2" Ice	9.15	7.48	0.09
			0.00						
KMW AX-X-CD-1665-OOT	B	From Leg	0.00	0.0000	88.00	No Ice	8.50	6.30	0.07
(AT&T)			0.00			1/2" Ice	9.15	7.48	0.09
			0.00						
KMW AX-X-CD-1665-OOT	C	From Leg	0.00	0.0000	88.00	No Ice	8.50	6.30	0.07
(AT&T)			0.00			1/2" Ice	9.15	7.48	0.09
			0.00						
Andrew SBNH-1D6565C	A	From Leg	0.00	0.0000	88.00	No Ice	11.64	9.84	0.09
(AT&T)			0.00			1/2" Ice	12.37	11.37	0.18
			0.00						
Andrew SBNH-1D6565C	B	From Leg	0.00	0.0000	88.00	No Ice	11.64	9.84	0.09
(AT&T)			0.00			1/2" Ice	12.37	11.37	0.18
			0.00						
Andrew SBNH-1D6565C	C	From Leg	0.00	0.0000	88.00	No Ice	11.64	9.84	0.09
(AT&T)			0.00			1/2" Ice	12.37	11.37	0.18
			0.00						
(2) TMA	A	From Leg	0.00	0.0000	88.00	No Ice	1.95	0.52	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(AT&T)			0.00			1/2" Ice	2.13	0.64	0.04
			0.00						
(2) TMA	B	From Leg	0.00	0.0000	88.00	No Ice	1.95	0.52	0.03
(AT&T)			0.00			1/2" Ice	2.13	0.64	0.04
			0.00						
(2) TMA	C	From Leg	0.00	0.0000	88.00	No Ice	1.95	0.52	0.03
(AT&T)			0.00			1/2" Ice	2.13	0.64	0.04
			0.00						
(2) RRU-11	A	From Leg	0.00	0.0000	88.00	No Ice	4.42	1.19	0.06
(AT&T)			0.00			1/2" Ice	4.71	1.35	0.08
			0.00						
(2) RRU-11	B	From Leg	0.00	0.0000	88.00	No Ice	4.42	1.19	0.06
(AT&T)			0.00			1/2" Ice	4.71	1.35	0.08
			0.00						
(2) RRU-11	C	From Leg	0.00	0.0000	88.00	No Ice	4.42	1.19	0.06
(AT&T)			0.00			1/2" Ice	4.71	1.35	0.08
			0.00						
Demarcation Box	C	From Leg	0.00	0.0000	88.00	No Ice	4.45	0.89	0.02
DC6-4860-188F			0.00			1/2" Ice	4.76	1.04	0.05
(AT&T)			0.00						

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	104	Leg	A325N	0.6250	4	1.34	13.50	0.099 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	1.82	4.08	0.446 ✔	1.333	Member Bearing
		Top Girt	A325N	0.5000	1	0.10	4.08	0.023 ✔	1.333	Member Bearing
T2	92	Leg	A325N	0.6250	4	4.57	13.50	0.338 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	3.66	4.12	0.887 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.5000	1	0.41	4.08	0.101 ✔	1.333	Member Bearing
T3	80	Leg	A325N	0.6250	4	10.32	13.50	0.764 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	3.85	4.12	0.934 ✔	1.333	Bolt Shear
T4	60	Leg	A325N	0.6250	4	15.75	13.50	1.167 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	4.03	4.08	0.988 ✔	1.333	Member Bearing
T5	40	Leg	A325N	0.7500	4	20.52	19.44	1.055 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	4.01	4.12	0.972 ✔	1.333	Bolt Shear
T6	20	Leg	A354-BC	0.8750	4	24.61	24.80	0.992 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	4.35	4.08	1.068 ✔	1.333	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	104 - 92	P2x.154	12.00	4.00	61.0 K=1.00	22.549	1.0745	-6.94	24.23	0.286 ✔
T2	92 - 80	P2x.154	12.00	4.00	61.0 K=1.00	22.549	1.0745	-22.00	24.23	0.908 ✔
T3	80 - 60	P2.5x.203	20.03	2.58	32.7 K=1.00	26.816	1.7040	-47.11	45.70	1.031 ✔
T4	60 - 40	P2.875x0.203w3/8HP+FF	20.03	6.68	100.7 K=1.20	14.546	6.5580	-70.54	95.39	0.739 ✔
T5	40 - 20	P2.875x0.276w3/8HP+FF	20.03	6.68	97.4 K=1.18	15.305	7.0780	-91.08	108.33	0.841 ✔
T6	20 - 0	Pipe 3 x 0.3 w/ 3/8 Plate	20.03	6.68	91.4 K=1.28	16.628	5.0840	-108.86	84.54	1.288 ✔

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	104 - 92	L1 1/2x1 1/2x3/16	7.65	3.60	147.4 K=1.00	6.869	0.5273	-1.80	3.62	0.496 ✔
T2	92 - 80	L1 1/2x1 1/2x3/16	7.68	3.62	148.2 K=1.00	6.800	0.5273	-3.66	3.59	1.019 ✔
T3	80 - 60	L2x2x3/16	9.70	4.75	144.7 K=1.00	7.130	0.7150	-3.85	5.10	0.756 ✔
T4	60 - 40	L2x2x3/16	12.21	5.98	182.2 K=1.00	4.499	0.7150	-3.90	3.22	1.213 ✔
T5	40 - 20	L2 1/2x2 1/2x3/16	13.96	6.86	166.3 K=1.00	5.399	0.9020	-4.01	4.87	0.823 ✔
T6	20 - 0	L2 1/2x2 1/2x3/16	15.17	7.49	181.6 K=1.00	4.526	0.9020	-4.32	4.08	1.058 ✔

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T3	80 - 60	L2x2x3/16	8.30	8.06	142.6 K=0.91	7.339	0.7150	-0.82	5.25	0.156 ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	104 - 92	L2x2x3/16	6.52	6.11	186.2 K=1.00	4.307	0.7150	-0.09	3.08	0.029 ✔
T2	92 - 80	L2x2x3/16	6.52	6.11	186.2 K=1.00	4.307	0.7150	-0.34	3.08	0.110 ✔

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	104 - 92	P2x.154	12.00	4.00	61.0	30.000	1.0745	5.36	32.24	0.166 ✔
T2	92 - 80	P2x.154	12.00	4.00	61.0	30.000	1.0745	18.28	32.24	0.567 ✔
T3	80 - 60	P2.5x.203	20.03	2.43	30.8	30.000	1.7040	41.30	51.12	0.808 ✔
T4	60 - 40	P2.875x0.203w3/8HP+FF	20.03	6.68	83.9	30.000	6.5580	63.00	196.74	0.320 ✔
T5	40 - 20	P2.875x0.276w3/8HP+FF	20.03	6.68	82.5	30.000	7.0780	82.06	212.34	0.386 ✔
T6	20 - 0	Pipe 3 x 0.3 w/ 3/8 Plate	20.03	6.68	71.4	30.000	5.0840	98.45	152.52	0.645 ✔

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	104 - 92	L1 1/2x1 1/2x3/16	7.65	3.60	97.4	29.000	0.3076	1.82	8.92	0.204 ✔
T2	92 - 80	L1 1/2x1 1/2x3/16	7.68	3.62	97.9	29.000	0.3076	3.57	8.92	0.401 ✔
T3	80 - 60	L2x2x3/16	9.70	4.75	94.4	29.000	0.4484	3.79	13.00	0.291 ✔
T4	60 - 40	L2x2x3/16	11.12	5.44	107.9	29.000	0.4484	4.03	13.00	0.310

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T5	40 - 20	L2 1/2x2 1/2x3/16	13.36	6.57	102.9	29.000	0.5886	3.84	17.07	0.225 ✔
T6	20 - 0	L2 1/2x2 1/2x3/16	15.79	7.80	121.9	29.000	0.5886	4.35	17.07	0.255 ✔

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T3	80 - 60	L2x2x3/16	8.30	8.06	156.8	21.600	0.7150	0.82	15.44	0.053 ✔

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
T1	104 - 92	L2x2x3/16	6.52	6.11	123.0	29.000	0.4484	0.10	13.00	0.007 ✔
T2	92 - 80	L2x2x3/16	6.52	6.11	123.0	29.000	0.4484	0.41	13.00	0.032 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T1	104 - 92	Leg	P2x.154	1	-6.94	32.30	21.5	Pass
T2	92 - 80	Leg	P2x.154	25	-22.00	32.30	68.1	Pass
T3	80 - 60	Leg	P2.5x.203	51	-47.11	60.91	77.3	Pass
T4	60 - 40	Leg	P2.875x0.203w3/8HP+FF	90	-70.54	127.16	55.5	Pass
							87.5 (b)	
T5	40 - 20	Leg	P2.875x0.276w3/8HP+FF	111	-91.08	144.40	63.1	Pass
							79.2 (b)	
T6	20 - 0	Leg	Pipe 3 x 0.3 w/ 3/8 Plate	132	-108.86	112.69	96.6	Pass
T1	104 - 92	Diagonal	L1 1/2x1 1/2x3/16	18	-1.80	4.83	37.2	Pass
T2	92 - 80	Diagonal	L1 1/2x1 1/2x3/16	36	-3.66	4.78	76.5	Pass
T3	80 - 60	Diagonal	L2x2x3/16	56	-3.85	6.80	56.7	Pass
							70.1 (b)	
T4	60 - 40	Diagonal	L2x2x3/16	96	-3.90	4.29	91.0	Pass
T5	40 - 20	Diagonal	L2 1/2x2 1/2x3/16	114	-4.01	6.49	61.7	Pass
							72.9 (b)	
T6	20 - 0	Diagonal	L2 1/2x2 1/2x3/16	141	-4.32	5.44	79.4	Pass
							80.1 (b)	
T3	80 - 60	Secondary Horizontal	L2x2x3/16	59	-0.82	7.00	11.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T1	104 - 92	Top Girt	L2x2x3/16	4	-0.09	4.10	2.2	Pass
T2	92 - 80	Top Girt	L2x2x3/16	29	-0.34	4.10	8.2	Pass
						Summary	ELC:	Existing+Proposed+Reserved
						Leg (T6)	96.6	Pass
						Diagonal (T4)	91.0	Pass
						Secondary Horizontal (T3)	11.7	Pass
						Top Girt (T2)	8.2	Pass
						Bolt Checks	87.5	Pass
						Rating =	96.6	Pass

CUSTOMER APPLICATION

DATE SUBMITTED: 12/15/15

A Site Application Fee to be paid upon submission of this Customer Application.

CUSTOMER INFORMATION

COMPANY NAME:	MetroPCS Massachusetts, LLC	PHONE:	
ENTITY Type: i.e. Inc., LLP	LLC	FAX:	
STATE of Inc.	Delaware	SERVICE (PCS, SMR):	

CUSTOMER ADDRESSES

COMPANY Address:		CITY/STATE:		ZIP :	
BILLING Address:	4 Sylvan Way	CITY/STATE:	Parsippany, NJ, 07054	ZIP :	
NOTICE Address 1:	12920 SE 38th Street	CITY/STATE:	Bellevue, WA 98006	ZIP :	
NOTICE Address 2:	Attn: Lease Compliance	CITY/STATE:	Site Number: CTHA536A	ZIP :	

CUSTOMER CONTACTS

PRIMARY CONTACT:	Sheldon Freincle	PHONE:	201-776-8521
TITLE:	Project Manager	E-MAIL Address:	sheldon@northeastsitesolutions.com
SIGNATORY NAME:	TBD	PHONE:	TBD
TITLE:	TBD	E-MAIL Address:	TBD
EMERGENCY CONTACT:	Varies	PHONE:	(888) 662-4662
TITLE:	Varies	E-MAIL Address:	Varies
TECHNICAL/OPS:	Scott Chase	PHONE:	508-989-1502
TITLE:	Sr. Contruction Manager	E-MAIL Address:	Scott.Chase@T-Mobile.com
RF ENGINEER:	Scott Clemons	PHONE:	(978) 332 6970 (Cell)
TITLE:	Sr. RF Engineer	E-MAIL Address:	Scott.Clemons@T-Mobile.com
BILLING CONTACT:	Karen Bartholomew	PHONE:	860-692-7156
TITLE:	Billing Contact	E-MAIL Address:	
LEGAL CONTACT:		PHONE:	
TITLE:		E-MAIL Address:	

SITE INFORMATION

CUSTOMER Site # / Name:	CTHA506A			INSITE Site # and Name:	CT901 Glastonbury
SITE LATITUDE:	41.7336			SITE LONGITUDE:	-72.5496
SITE ADDRESS:	577 Bell St.			CITY:	Glastonbury
STATE:	CT	ZIP:		STRUCTURE TYPE:	Lattice

USE THIS SECTION TO PROVIDE A DESCRIPTION OF COLOCATION OR MODIFICATION REQUEST

Add (3) antennas, add (2) hybrid lines and add (3) Smart Bias Tees as part of the T-Mobile L700 Project.

USE THIS SECTION TO LIST EQUIPMENT TO BE REMOVED

APPLICATION PREPARED BY

NAME:	Sheldon Freincle	PHONE:	201-776-8521
COMPANY:	Northeast Site Solutions	ADDRESS:	40 Holiday Dr., #155, Kingston, PA 18704
TITLE:	Project Manager	E-MAIL Address:	sheldon@northeastsitesolutions.com

EXHIBIT
Equipment

Site Name and #: **CT901 Glastonbury** **Licensee Name:** **MetroPCS Massachusetts, LLC**

The mounting method and exact location of the space and equipment listed herein shall be subject to InSite's approval.

SYSTEM REQUIREMENTS										
POWER provided by:	Utility Company direct					TELCO provided by:	Fiber			
Power Requirements:	Amps:	100	Volts:	120/240		No. of Outlets:				
Generator Provided by:	N/A	Make:	N/A	Model:	N/A		Fuel Type:	N/A	Capacity:	N/A
Batteries:	Quantity:	1	Make:	ALU		Model:	EZBFo Battery			
Note: audible alarms related to generator and other equipment shall be permanently disabled at unmanned sites										
SPACE REQUIREMENTS & RADIO INVENTORY										
Type of Space Required:	Ground:	Yes	Floor:	N/A		Total Square Feet:	36 sq ft			
Dimensions of Equipment Floor/Ground Space:	6' x 6'					Equipment Height:	N/A			
No. of Transmitters (Tx):	1	Transmitter Make/Model:	6201				Transmitter Power Output	500 watts		
No. of Receivers (Rx):	None	Receiver Make/Model:	N/A				Transmitter ERP:	N/A		

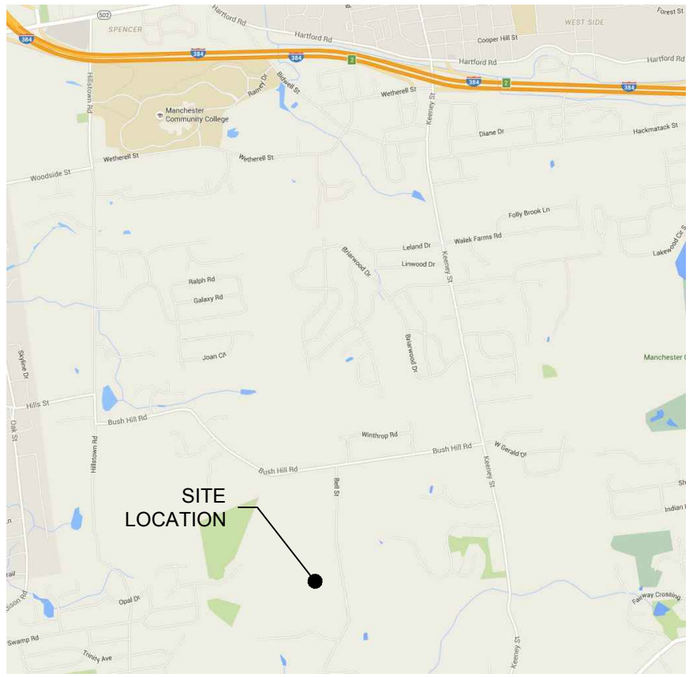
EQUIPMENT LOADING DESCRIPTION (FINAL CONFIGURATION)					
	Sector 1	**Sector 2**	**Sector 3**	**DISH(ES)**	**OTHER**
Antenna Type (1):	Panel	Panel	Panel	N/A	N/A
# of Antennas (1)/ Sector:	Two (2)	Two (2)	Two (2)	None	None
Tx, Rx or Both:	Both	Both	Both	N/A	N/A
Antenna Manufacturer (1):	Ericsson	Ericsson	Ericsson	N/A	N/A
Antenna Model (1):	AIR21	AIR21	AIR21	N/A	N/A
Antenna Dimensions (1):	56” x 12” x 8”	56” x 12” x 8”	56” x 12” x 8”	N/A	N/A
Antenna Weight (1):	83 lbs	83 lbs	83 lbs	N/A	N/A
Antenna RAD Ctr (1):	65'	65'	65'	N/A	N/A
Antenna Type (2):	Panel	Panel	Panel	N/A	N/A
# of Antennas (2)/ Sector:	One (1)	One (1)	One (1)	None	None
Tx, Rx or Both:	Both	Both	Both	N/A	N/A
Antenna Manufacturer (2):	Commscope	Commscope	Commscope	N/A	N/A
Antenna Model (2):	LNX-6515DS-VTM	LNX-6515DS-VTM	LNX-6515DS-VTM	N/A	N/A
Antenna Dimensions (2):	96.6"x11.9"x7.1"	96.6"x11.9"x7.1"	96.6"x11.9"x7.1"	N/A	N/A
Antenna Weight (2):	44 lbs	44 lbs	44 lbs	N/A	N/A
Antenna RAD Ctr (2):	65'	65'	65'	N/A	N/A
# of RRU/RRHs/ Sector:	None	None	None	**Please include microwave dish frequencies below:**	**Please include microwave dish frequencies below:**
# of TMAs/ Sector:	None	None	None		
# of Diplexers/ Sector:	None	None	None		
# of Bias-T/ Sector:	One (1)	One (1)	One (1)		
Bias-T Manufacturer:	Ericsson	Ericsson	Ericsson		
Bias-T Model:	Smart Bias T	Smart Bias T	Smart Bias T		
Bias-T Dimensions:	5.63"x3.7"x2.0"	5.63"x3.7"x2.0"	5.63"x3.7"x2.0"		
Bias-T Weight:	1.8 lbs	1.8 lbs	1.8 lbs		
Bias-T RAD Ctr:	65'	65'	65'		
# of Surge Suppressors/Sctr:	None	None	None		
Transmit Frequencies:	1935-1945, 2140-2155, 698-746 MHz			N/A	N/A
Receive Frequencies:	1855-1865, 1740-1755, 2140-2155 , 698-746 MHz			N/A	N/A
# of Lines:	One (1)	One (1)	One (1)	None	None
Line Size:	1-5/8" Fiber	1-5/8" Hybrid	1-5/8" Hybrid	N/A	N/A
# of Lines:	Two (2)	Two (2)	Two (2)	None	None
Line Size:	7/8"	7/8"	7/8"	N/A	N/A
Mount Type:	T-Arm	T-Arm	T-Arm	N/A	N/A
Mount Size:	Three Feet (3')	Three Feet (3')	Three Feet (3')	N/A	N/A

Exhibit E

TOWER MODIFICATION DRAWINGS

INSITE SITE NUMBER: CT901
SITE NAME: GLASTONBURY
ADDRESS: 577 Bell Street
Glastonbury, CT

SITE MAP



CONTACTS

TOWER OWNER	InSite Wireless Group, LLC
Mikala Mann Collocation Coordinator	mmann@insitewireless.com
InSite Wireless Site Number: InSite Site Name:	CT901 Glastonbury
PROPOSED CARRIER	Metro PCS
Carrier Site Number	CTHA506A
ENGINEER	Bennett & Pless
Josh Turner Project Manager	jturner@bennett-pless.com
Michael De Boer, P.E.	mdeboer@bennett-pless.com
Bennett & Pless Project Number:	16703.001 CT901 Glastonbury

DRAWING LIST

T-1	COVER SHEET
SK-1	GENERAL NOTES
SK-2	TOWER SITE PLAN
SK-3	TOWER ELEVATION AND MODIFICATION SCHEDULE
SK-4	REINFORCEMENT DETAILS

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STATE OF CONNECTICUT
MICHAEL T. DE BOER
No. 18002
LICENSED PROFESSIONAL ENGINEER
4/29/2016

Revisions:

NO:	DESCRIPTION:	DATE:
0	CONSTRUCTION	4-29-16

DATE: 4/29/2016
SITE # (NAME): CT901 Glastonbury
JOB NAME: Tower Modification For Proposed Antenna Installation
DRAWING TITLE: Cover Sheet
SCALE: Not To Scale
REVIEWED BY: MTD
DRAWN BY: JC

SHEET NUMBER:
T-1

DESIGN CRITERIA:

1. CONNECTICUT (INTERNATIONAL BUILDING CODE 2003).
2. TIA/EIA-222-F (MONTGOMERY COUNTY, CT)
   - FASTEST MILE WIND SPEED OF 80 MPH WITH NO ICE (100 MPH 3 SEC GUST EQUIVALENT)
   - FASTEST MILE WIND SPEED OF 69 MPH WITH ½" OF RADIAL ICE

GENERAL NOTES:

1. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER OF RECORD.
2. DO NOT MODIFY STRUCTURAL DETAILS WITHOUT APPROVAL OF THE ENGINEER OF RECORD.
3. CONTRACTOR RESPONSIBLE FOR ALL MEANS AND METHODS INCLUDING, BUT NOT LIMITED TO:
   A. PROVIDE ALL NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
   B. BRACE STRUCTURES UNTIL ALL STRUCTURAL ERECTION AND CONNECTIONS ARE COMPLETE.
   C. DETERMINE LOCATION OF UTILITIES AND APPURTENANCES BEFORE COMMENCING WORK.
   D. REPORT INCORRECTLY FABRICATED, DAMAGED, POORLY MAINTAINED, OR NONCONFORMING MATERIALS OR CONDITIONS TO THE ENGINEER OF RECORD PRIOR TO COMMENCING REMEDIAL OR CORRECTIVE ACTION. OBTAIN WRITTEN APPROVAL FOR REMEDIAL ACTIVITIES.
   E. COORDINATE CONSTRUCTION ACTIVITIES OF ALL PARTICIPANTS AND SUBCONTRACTORS.
   F. DO NOT INSTALL PROPOSED ANTENNAS UNTIL ALL REINFORCEMENT WORK IS COMPLETE.

EXISTING CONDITIONS:

1. MODIFICATION OF EXISTING STRUCTURES REQUIRES THOROUGH COORDINATION OF THE CONTRACT DOCUMENTS WITH EXISTING CONDITIONS. THE CONTRACTOR MUST VERIFY ALL RELEVANT EXISTING CONDITIONS, DIMENSIONS, AND DETAILS PRIOR TO BEGINNING CONSTRUCTION. REPORT ANY DEVIATIONS FROM CONDITIONS OR DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW OF THE DESIGN AND POSSIBLE REVISION OF THE CONTRACT DOCUMENTS.
2. THE NATURE OF STRUCTURAL REINFORCEMENT IS INHERENTLY UNCERTAIN. THE EXACT CONDITION AND CAPACITY OF EACH STRUCTURAL ELEMENT CANNOT BE VERIFIED PRIOR TO THE COMMENCEMENT OF WORK. AS A RESULT, IT IS IMPERATIVE TO REPORT ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS, AS WELL AS ANY ELEMENT OF QUESTIONABLE STRUCTURAL INTEGRITY IMMEDIATELY TO STRUCTURAL ENGINEER OF RECORD FOR REVIEW.

STRUCTURAL STEEL NOTES:

1. FABRICATE AND ERECT STRUCTURAL STEEL IN CONFORMANCE WITH THE LATEST ISSUE OF AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION OF STRUCTURAL STEEL, (AISC 360)".
2. HOT DIP GALVANIZE STEEL IN ACCORDANCE WITH ASTM A123 AFTER SHOP FABRICATION.
3. REPAIR ALL DINGS, SCRAPES, AND MARS IN THE GALVANIZED AREAS BY FIELD TOUCH-UP PRIOR TO COMPLETION OF THE WORK.
4. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
5. CONNECTIONS:
   A. BOLTED CONNECTIONS:
      a. PROVIDE BOLTED CONNECTIONS CONFORMING TO "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS, APPROVED BY THE RESEARCH COUNCIL FOR STRUCTURAL CONNECTIONS, JUNE 30, 2004 AND ENDORSED BY THE AISC".
      b. PROVIDE GALVANIZED ASTM A325 AND A490 BOLTS.
      c. MINIMUM BOLT DIAMETER IS 3/4" Φ UNLESS NOTED OTHERWISE.
      d. TIGHTEN BOLTS TO "SNUG TIGHT" CONDITION.
   B. WELDED CONNECTIONS:
6. ALL WELDING TO BE DONE USING E70XX ELECTRODES.
7. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION.
8. USE ONLY CERTIFIED WELDERS.
   A. AT THE COMPLETION OF CONNECTION INSTALLATION, REPAIR ALL DAMAGE TO GALVANIZED SURFACES.
   B. SUBMIT ALL CONNECTIONS DESIGNED BY THE FABRICATOR TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
9. TOUCH-UP PAINTING
   A. IMMEDIATELY AFTER ERECTION CLEAN BOLTED CONNECTIONS AND ABRADED AREAS.
   B. COAT CUTS AND DRILLED HOLES WITH (2) COATS OF ZINC RICH PAINT.
10. ALL SUBSTITUTES TO BE APPROVED, IN WRITING, BY THE ENGINEER OF RECORD.
11. UNLESS NOTED OTHERWISE PROVIDE STRUCTURAL MATERIALS CONFORMING TO:

A. FORM FIT STEEL:	GRADE A572-50 (50 KSI)
B. DIAGONAL ANGLES:	A36, (36 KSI)
C. STRUCTURAL BOLTS:	GRADE A325, OR A490 AS NOTED

CONTRACTOR NOTES:

1. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE TOWER OWNER AND ENGINEER.
2. CONSTRUCTION WORK PRESENTS UNIQUE THREATS TO HEALTH AND SAFETY. THE CONTRACTOR IS RESPONSIBLE TO EDUCATE THEIR WORKFORCE OF THESE DANGERS AND LIMIT THEIR EXPOSURE TO HAZARDS. THIS EDUCATION SHALL INCLUDE BUT NOT BE LIMITED TO APPLICABLE TRAINING COURSES AND CERTIFICATIONS, PROPER PERSONAL PROTECTIVE EQUIPMENT USAGE, DAILY TAILGATE MEETINGS AND ANY OTHER PREVENTATIVE MEASURES WHICH MAY BE REASONABLY EXPECTED. THE CONTRACTOR AND ALL SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT WORK AREAS AND ANY PROPERTY OCCUPANTS WHO MAY BE AFFECTED BY THE WORK UNDER CONTRACT. THE CONTRACTOR SHALL REVIEW ALL LANDOWNER, PRIME CONTRACTOR, CARRIER, OSHA, AND LOCAL SAFETY GUIDELINES AND AT ALL TIMES SHALL CONFORM TO THE MOST RESTRICTIVE OF THESE STANDARDS TO ENSURE A SAFE WORKPLACE.
3. TOWER WORK PRESENTS ADDITIONAL THREATS TO HEALTH AND SAFETY. ALL TOWER WORKERS WORKING ON A TOWER MUST BE ADEQUATELY TRAINED AND MONITORED TO ENSURE THAT SAFE WORK PRACTICES ARE LEARNED AND FOLLOWED. AS REQUIRED BY OSHA, WHEN WORKING ON EXISTING COMMUNICATIONS TOWERS, EMPLOYEES MUST BE PROVIDED WITH APPROPRIATE FALL PROTECTION, TRAINED TO USE THIS FALL PROTECTION PROPERLY, AND THE USE OF FALL PROTECTION MUST BE CONSISTENTLY SUPERVISED AND ENFORCED BY THE CONTRACTOR.
4. ALL SAFETY EQUIPMENT SHALL BE INSPECTED ACCORDING TO ALL OSHA AND INDUSTRY SCHEDULED INTERVALS AND ALL INSPECTIONS SHALL BE DOCUMENTED PER APPLICABLE CODES AND STANDARDS.
5. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING: ANY PROBLEMS WITH ACCESS, INTERFERENCE, ETC. SHALL BE RESOLVED PRIOR TO MOBILIZATION, THE CONTRACTOR MUST VISIT THE SITE PRIOR TO ORDERING ANY MATERIAL AND MUST RESOLVE ALL ISSUES WITH THE OWNER PREVENTING A CONTINUOUS INSTALLATION. CONTRACTOR SHALL NOTE ALL ANTENNAS, MOUNTS, COAX, LIGHTING, CLIMBING SUPPORTS, STEP BOLTS, PORT HOLES, AND ANY OTHER TOWER APPURTENANCES IN THE REGION OF THE MODIFICATIONS.
6. CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING ALL COAX, T-BRACKETS, ANTENNA MOUNTS, AND ANY OTHER TOWER APPURTENANCES THAT MAY INTERFERE WITH THE TOWER MODIFICATIONS. ALL TOWER APPURTENANCES MUST BE REPLACED AND / OR RESTORED TO ITS ORIGINAL LOCATION. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE TOWER OWNER IN WRITING.
7. SOME ATTACHMENTS MAY REQUIRE CUSTOM MODIFICATIONS TO PROPERLY FIT THE MODIFIED REGION OF THE STRUCTURE. THESE CUSTOMIZATIONS ARE DESIGNED BY OTHERS AND MUST BE APPROVED BY THE ENGINEER PRIOR TO REMOVING SUCH ATTACHMENTS. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE TOWER OWNER IN WRITING.
8. CONTRACTOR SHALL ONLY WORK WITHIN THE LIMITS OF THE TOWER OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.
9. TOWERS ARE DESIGNED TO CARRY GRAVITY, WIND AND ICE LOADS. ALL MEMBERS, LEGS, DIAGONALS, STRUTS AND REDUNDANT MEMBERS PROVIDE STRUCTURAL STABILITY TO THE TOWER WITH LITTLE REDUNDANCY. ABSENCE OR REMOVAL OF A MEMBER CAN TRIGGER CATASTROPHIC FAILURE UNLESS A SUBSTITUTE IS PROVIDED BEFORE REMOVAL,. LEGS CARRY AXIAL LOADS AND DERIVE THEIR STRENGTH FROM SHORTER UN-BRACED LENGTHS BY THE PRESENCE OF REDUNDANT MEMBERS AND THEIR CONNECTION TO THE DIAGONALS WITH BOLTS OR WELDS. IF THE BOLTS OR WELDS ARE REMOVED WITHOUT PROVIDING ANY SUBSTITUTE TO THE FRAME, THE LEG IS SUBJECTED TO A HIGHER UN-BRACED LENGTH THAT IMMEDIATELY REDUCES ITS LOAD CARRYING CAPACITY. IF A DIAGONAL IS ALSO REMOVED IN ADDITION TO THE CONNECTION, THE UN-BRACED LENGTH OF THE LEG IS GREATLY INCREASED, JEOPARDIZING ITS LOAD CARRYING CAPACITY. FAILURE OF ONE LEG CAN RESULT IN A TOWER COLLAPSE BECAUSE THERE IS NO REDUNDANCY. REDUNDANT MEMBERS AND DIAGONALS ARE CRITICAL TO THE STABILITY OF THE TOWER.
10. WORK SHALL BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 10 MPH). CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY LOCAL TOWER SHORING, TEMPORARY GLOBAL TOWER SHORING, AND ALL SHORING OF SURROUNDING BUILDINGS, PADS, AND OTHER OUTDOOR SITE OBSTRUCTIONS. ALL SHORING, TEMPORARY BRACING, AND TEMPORARY SUPPORTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
11. MODIFICATIONS SHOWN SHALL BE INSTALLED ON ALL THREE (3) TOWER LEGS / FACES.
12. ALL MODIFICATIONS PERFORMED ON THIS TOWER SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF TIA-1019-A CONSTRUCTION STANDARDS.
13. ALL MANUFACTURERS HARDWARE AND ASSEMBLY INSTRUCTIONS SHALL BE FOLLOWED EXACTLY. DEVIATION FROM THE INSTRUCTIONS IS UNACCEPTABLE AND REQUIRES WRITTEN APPROVAL FROM ENGINEER.

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STATE OF CONNECTICUT
MICHAEL T. DE BOER
No. 18022
LICENSED PROFESSIONAL ENGINEER

4/29/2016

Revisions:

NO:	DESCRIPTION:	DATE:
0	CONSTRUCTION	4-29-16

DATE: 4/29/2016

SITE # (NAME): CT901 Glastonbury

JOB NAME: Tower Modification For Proposed Antenna Installation

DRAWING TITLE: General Notes

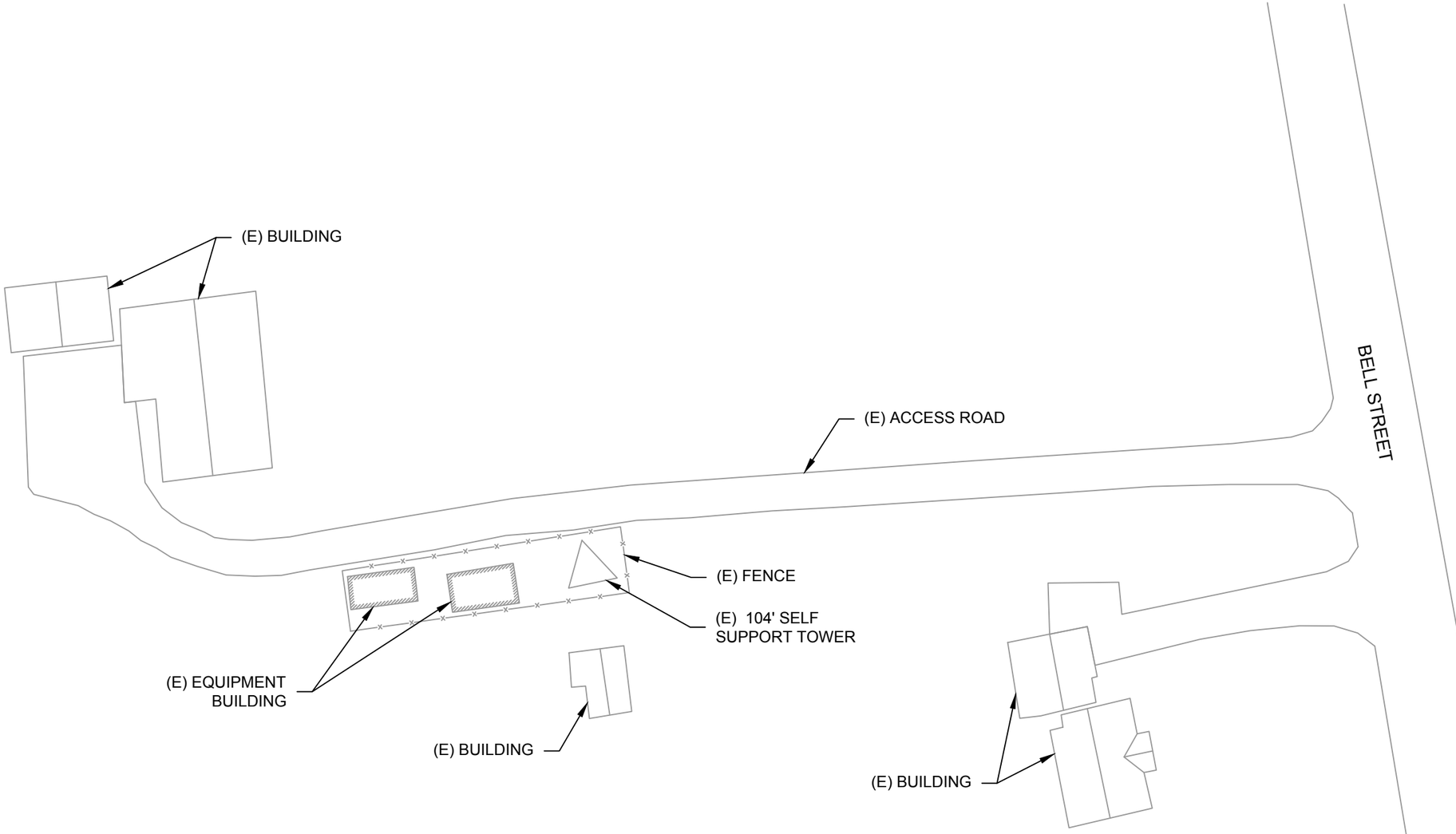
SCALE: Not To Scale

REVIEWED BY: MTD

DRAWN BY: JC

SHEET NUMBER:

SK-1



TOWER SITE PLAN

NORTH

GLASTONBURY, CT901	
SITE LOCATION:	577 Bell Street Glastonbury, CT
LATITUDE:	41.7338
LONGITUDE:	-72.5497

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DATE: 4/29/2016
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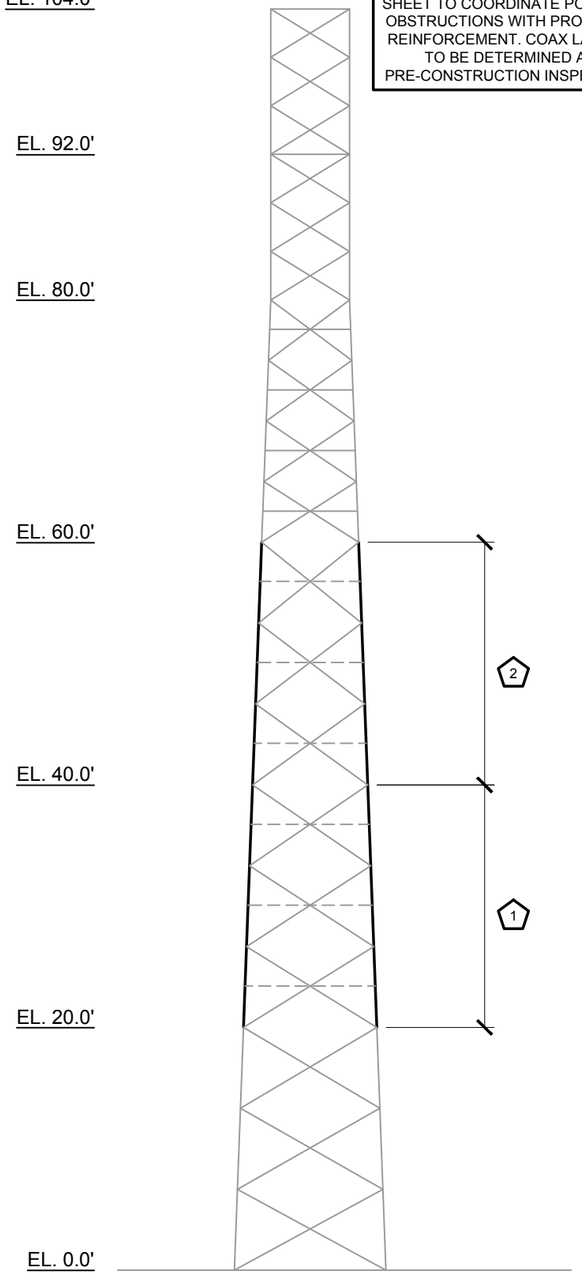
JOB NAME: Tower Modification For Proposed Antenna Installation
DRAWING TITLE: Tower Site Plan
SCALE: Not To Scale
REVIEWED BY: MTD
DRAWN BY: JC

SHEET NUMBER:
SK-2

SEE APPURTENANCE TABLE THIS SHEET TO COORDINATE POSSIBLE OBSTRUCTIONS WITH PROPOSED REINFORCEMENT. COAX LAYOUT TO BE DETERMINED AT PRE-CONSTRUCTION INSPECTION



TOWER ELEVATION

MODIFICATION SCHEDULE

MARK	ELEVATION	MODIFICATION DESCRIPTION
1	± 20' - 40'	INSTALL NEW CUSTOM FORM FIT ASSEMBLY WITH ½"Ø GALVANIZED U-BOLTS AT 12" O.C. SEE SHEET SK-4 FOR DETAILS. NEW ⅝" Ø A325 BOLTS WILL BE REQUIRED TO ACCOMMODATE THE EXTRA LENGTH FOR THE FORM FIT END PLATES. REMOVE AND DISCARD EXISTING SUB-HORIZONTALS.
2	± 40' - 60'	INSTALL NEW CUSTOM FORM FIT ASSEMBLY WITH ½"Ø GALVANIZED U-BOLTS AT 12" O.C. SEE SHEET SK-4 FOR DETAILS. NEW ⅝" Ø A325 BOLTS WILL BE REQUIRED TO ACCOMMODATE THE EXTRA LENGTH FOR THE FORM FIT END PLATES. REMOVE AND DISCARD EXISTING SUB-HORIZONTALS.

NOTES:
1. ALL SIZES AND LENGTHS OF REINFORCEMENT AND REINFORCEMENT OBSTRUCTIONS SHALL BE CONFIRMED DURING A PRE-CONSTRUCTION INSPECTION.
2. FOR PRICING INFORMATION FOR THE SCI FORM FIT PLEASE CONTACT: steel@structuralcomponents.net

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
BXA-70063-6CF-EDIN-0 (Verizon)	102	(2) TMA (AT&T)	88
BXA-70063-6CF-EDIN-0 (Verizon)	102	(2) TMA (AT&T)	88
BXA-70063-6CF-EDIN-0 (Verizon)	102	(2) TMA (AT&T)	88
LNX-8514DS (Verizon)	102	(2) RRU-11 (AT&T)	88
LNX-8514DS (Verizon)	102	(2) RRU-11 (AT&T)	88
LNX-8514DS (Verizon)	102	(2) RRU-11 (AT&T)	88
RRH2X60-AW (Verizon)	102	Demarcation Box DC6-4860-188F (AT&T)	88
RRH2X60-AW (Verizon)	102		
RRH2X60-AW (Verizon)	102	DB806-XT (Town of Glastonbury)	79
RC2DC-3315-PF-48 (Verizon)	102	PR-950 (Town of Glastonbury)	73
(2) HBXX-6517DS-A2M (Verizon)	102	PiROD 6' Side Mount Standoff (Town of Glastonbury)	73
(2) HBXX-6517DS-A2M (Verizon)	102		
(2) HBXX-6517DS-A2M (Verizon)	102	3' Stand-Off (Metro PCS)	65
Pirod T-Frame Sector Mount (3) (Verizon)	102	3' Stand-Off (Metro PCS)	65
		Kathrein 742-213 (Unknown)	65
T-Frame Sector (AT&T)	88	Kathrein 742-213 (Unknown)	65
T-Frame Sector (AT&T)	88	Kathrein 742-213 (Unknown)	65
T-Frame Sector (AT&T)	88	(2) AIR 21 (Metro PCS)	65
Powerwave P65-17-XLH-RR (AT&T)	88	(2) AIR 21 (Metro PCS)	65
Powerwave P65-17-XLH-RR (AT&T)	88	(2) AIR 21 (Metro PCS)	65
Powerwave P65-17-XLH-RR (AT&T)	88	LNX-6515DS-VTM (Metro PCS)	65
KMW AX-X-CD-1665-OOT (AT&T)	88	LNX-6515DS-VTM (Metro PCS)	65
KMW AX-X-CD-1665-OOT (AT&T)	88	LNX-6515DS-VTM (Metro PCS)	65
KMW AX-X-CD-1665-OOT (AT&T)	88	Smart Bias T (Metro PCS)	65
Andrew SBNH-1D6565C (AT&T)	88	Smart Bias T (Metro PCS)	65
Andrew SBNH-1D6565C (AT&T)	88	Smart Bias T (Metro PCS)	65
Andrew SBNH-1D6565C (AT&T)	88	3' Stand-Off (Metro PCS)	65

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4/29/2016

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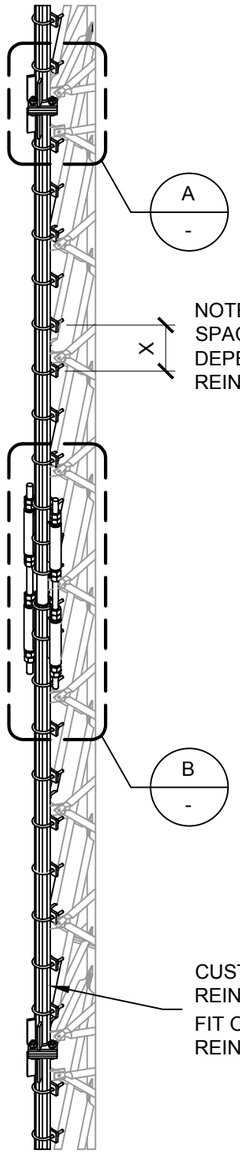
0	CONSTRUCTION	4-29-16

DATE: 4/29/2016
SITE # (NAME): CT901 Glastonbury
JOB NAME: Tower Modification For Proposed Antenna Installation
DRAWING TITLE: Tower Elevation and Modification Schedule
SCALE: Not To Scale
REVIEWED BY: MTD
DRAWN BY: JC

SHEET NUMBER:
SK-3

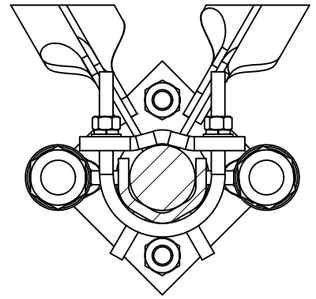


NOTE: THE U-BOLT C-C SPACING WILL VARY DEPENDING ON THE REINFORCEMENT

CUSTOM FORM FIT REINFORCING NEEDED TO FIT OVER EXISTING $\frac{3}{8}$" PLATE REINFORCING

TYPICAL PANEL REINFORCEMENT DETAIL TYPE 1 - 2

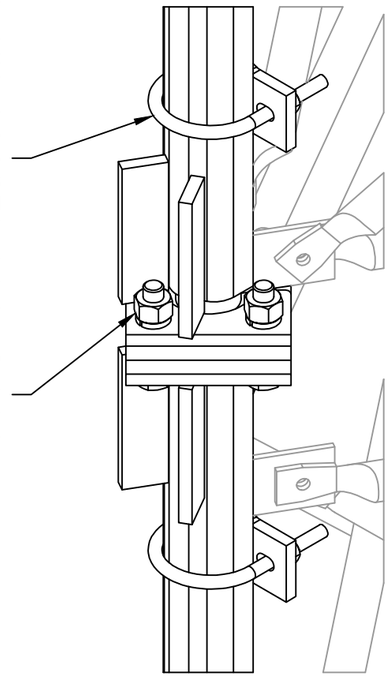
FORM FIT CROSS SECTION



FOOT PLACE SPLICE

ATTACH THE FORM FIT REINFORCEMENT TO THE TOWER LEG USING:
(1) ½"Ø U-BOLT
(1) U-BOLT BACKING PLATE
(2) ½" FLAT WASHERS
(2) ½" LOCK WASHERS
(2) ½" NUTS
TYP. PER LOCATION
NOTE: FORM FIT ATTACHMENT U-BOLT DIAMETERS VARY PER THE LEG DIAMETER.
½" Ø, ⅝" Ø, & ¾" Ø.

NOTE: BOLT QUANTITY AND SIZE WILL VARY PER REINFORCEMENT AND TOWER SPLICE PLATE DESIGN.

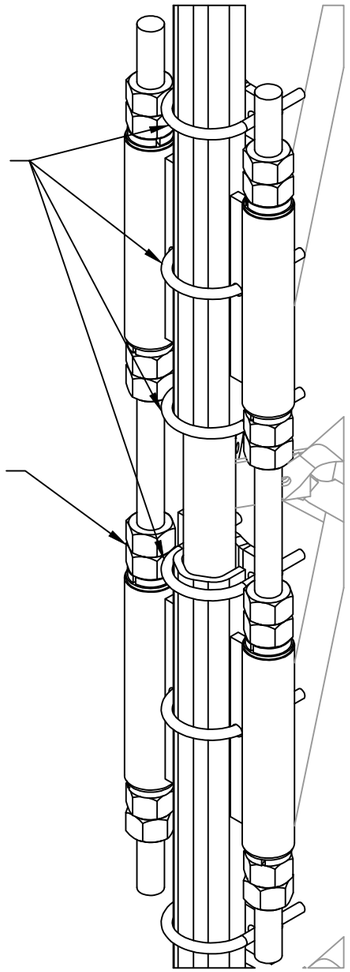


DETAIL 'A'

CENTRAL ADJUSTMENT SPLICE (ALL THREAD)

NOTE: FORM FIT ATTACHMENT U-BOLTS AND HARDWARE ARE TO BE INSTALLED AT THESE FORM FIT LOCATIONS. TYP. PER LOCATION.

SPLICE TOGETHER THE TWO FORM FIT REINFORCEMENTS USING:
(2) 1 ¼"Ø x 4" ALL THREADS
(8) ¾" THICK SQUARE WASHERS
(8) 1 ¼" LOCK WASHERS
(16) 1 ¼" NUTS
TYP. PER LOCATION
NOTE: LIGHT AND HEAVY SPLICES USE DIFFERENT HARDWARE:
LIGHT = 1 ¼" Ø
HEAVY = 1 ½" Ø



DETAIL 'B'

NOTES:
1. DRAWING NOT TO SCALE, SEE TOWER ELEVATION AND SCHEDULE FOR EXISTING MEMBER SIZES AND CONFIGURATION.
2. ONLY ONE PANEL FACE SHOWN FOR CLARITY OF ILLUSTRATION (SIMILAR ALL THREE FACES).
3. ALL DIMENSIONS TO BE FIELD CONFIRMED.
4. ALL MATERIAL TO BE HOT DIP GALVANIZED PER ASTM A123 (G60 COATING).
5. ALL NEW MATERIAL TO BE SAME GRADE AS MEMBER BEING REINFORCED.

LEGEND:
(N) - NEW
(E) - EXISTING

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4/29/2016

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DRAWING TITLE: Reinforcement Details
SCALE: Not To Scale
REVIEWED BY: MTD
DRAWN BY: JC

SHEET NUMBER:
SK-4

Exhibit F

bennett&pless
Experience Structural Expertise

June 23, 2016

Ms. Mikala Mann
Insite Wireless Group
1199 North Fairfax Street, Suite 700
Alexandria, VA 22314

Re: MetroPCS Antenna Mount Structural Evaluation

Site Number: CT901 Glastonbury
Site Address: 577 Bell Street
Glastonbury, CT 06033

We have completed our structural evaluation of the existing MetroPCS antenna mount on the foregoing tower to determine its ability to support the new loads proposed by MetroPCS.

Information on the existing antenna mount and the existing antennas were available and provided by Insite Wireless Group. The antenna mount information was provided in mount drawings (Drawing no. LTF10-396 dated 10-22-2010). The existing antennas were provided in the Insite colo app (dated 12-15-2015).

Table 1 summarizes the MetroPCS loading proposed and Table 2 summarizes the design criteria used for our structural evaluation of the existing antenna mount.

Table 1 – Proposed Antenna Mount Loading Per Sector

		Antenna					Other		
Pos[n]	Status	Qty	Manufacturer	Model	HxWxD (in)	Wt (lb)	Qty	Item	Description
1	New	2	Ericsson	Air21	56x12x8	83	1	Smart Bias T	Ericsson Bias T
2	New	1	Commscope	LNX-6515DS-VTM	96.6x11.9x7.1	44			

Table 2 – Design Criteria Used for Structural Evaluation

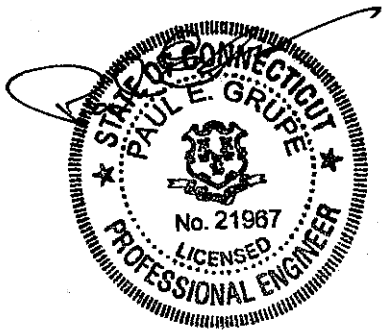
Criterion	Information Used
Tower Standard	EIA/TIA-222-F
County	Montgomery
Basic Wind Speed	80 mph, no ice
	69 mph, 1/2" ice
Mount Man Load	2 @ 250 lbs
RAD Center	65 feet
Steel Grade Assumed	36 ksi, SAE J429 Grade 5

Based on the foregoing information, the existing MetroPCS antenna mount is **sufficient to support the proposed new loading by MetroPCS**. Note that this structural evaluation was limited to the MetroPCS antenna mount. An analysis of the existing tower to support the proposed loads has not been performed.

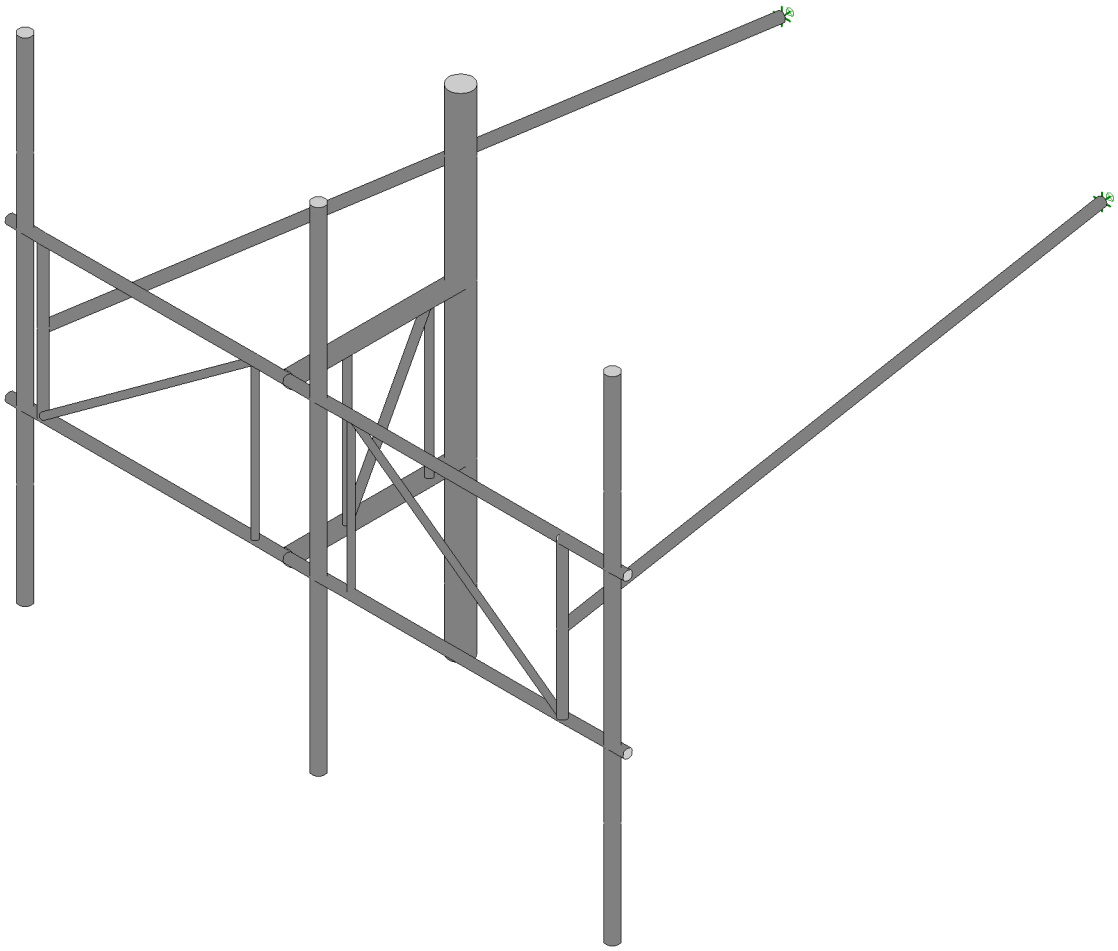
We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects please call us anytime.

Yours very truly,

BENNETT & PLESS, Inc.



Paul E. Grupe, PE
Vice President, Atlanta



B&P	Metro PCS Mount SA	SK - Rendering 1
Matt Cahir		June 23, 2016 at 3:03 PM
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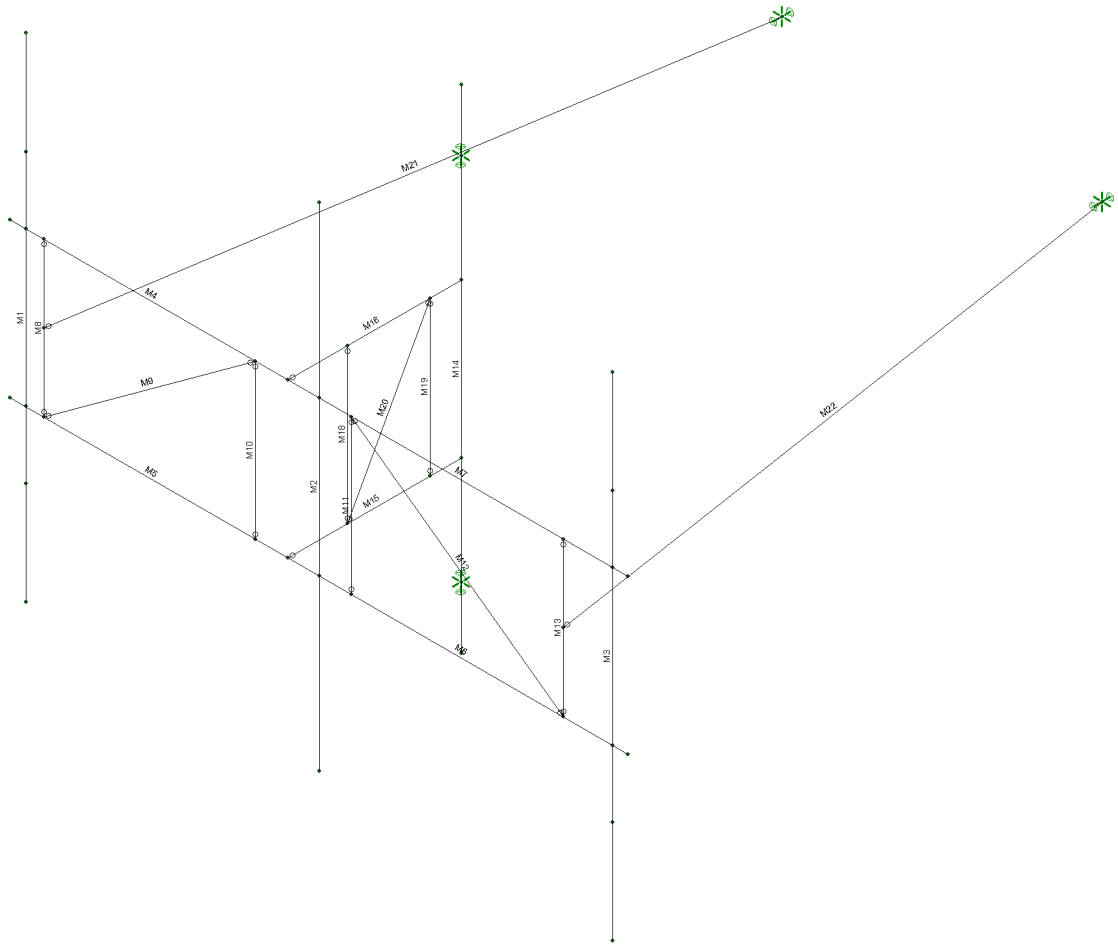
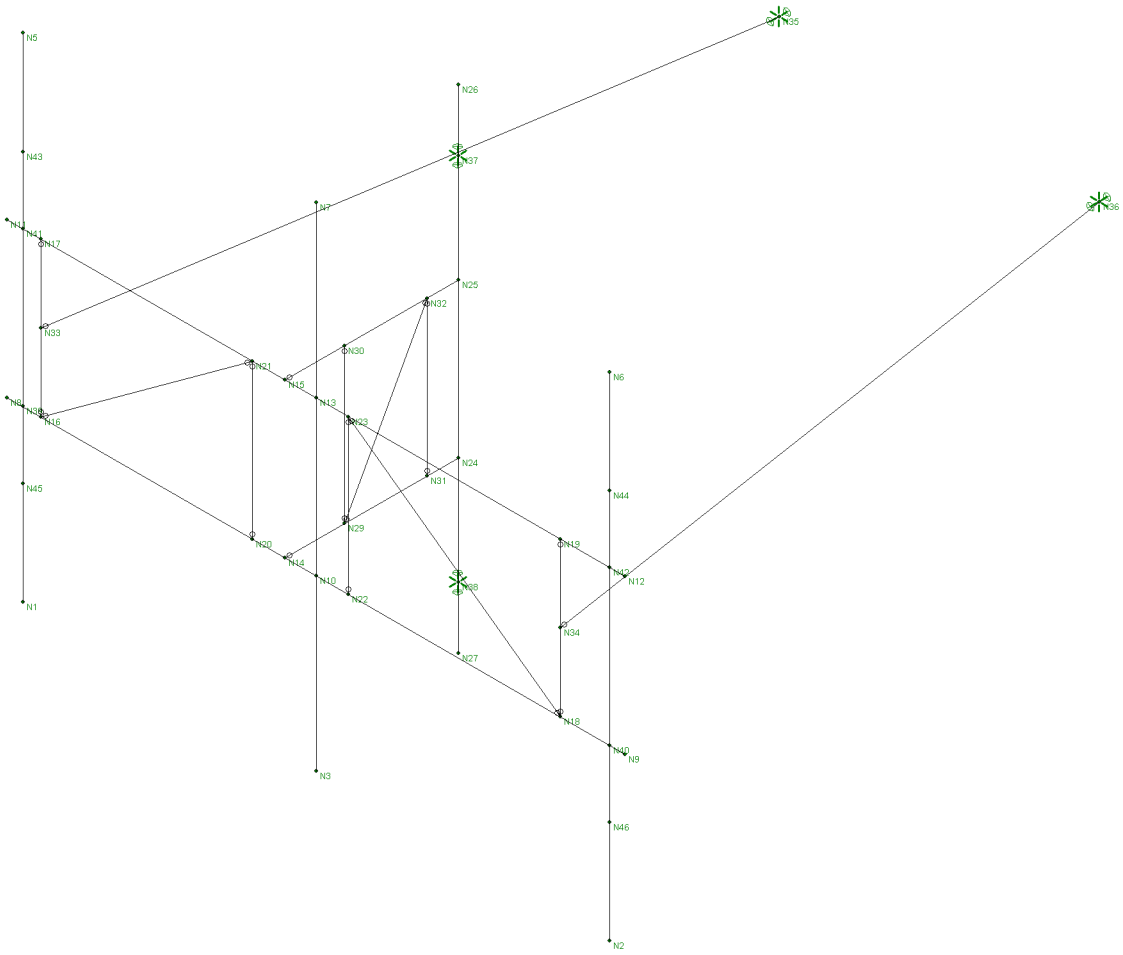
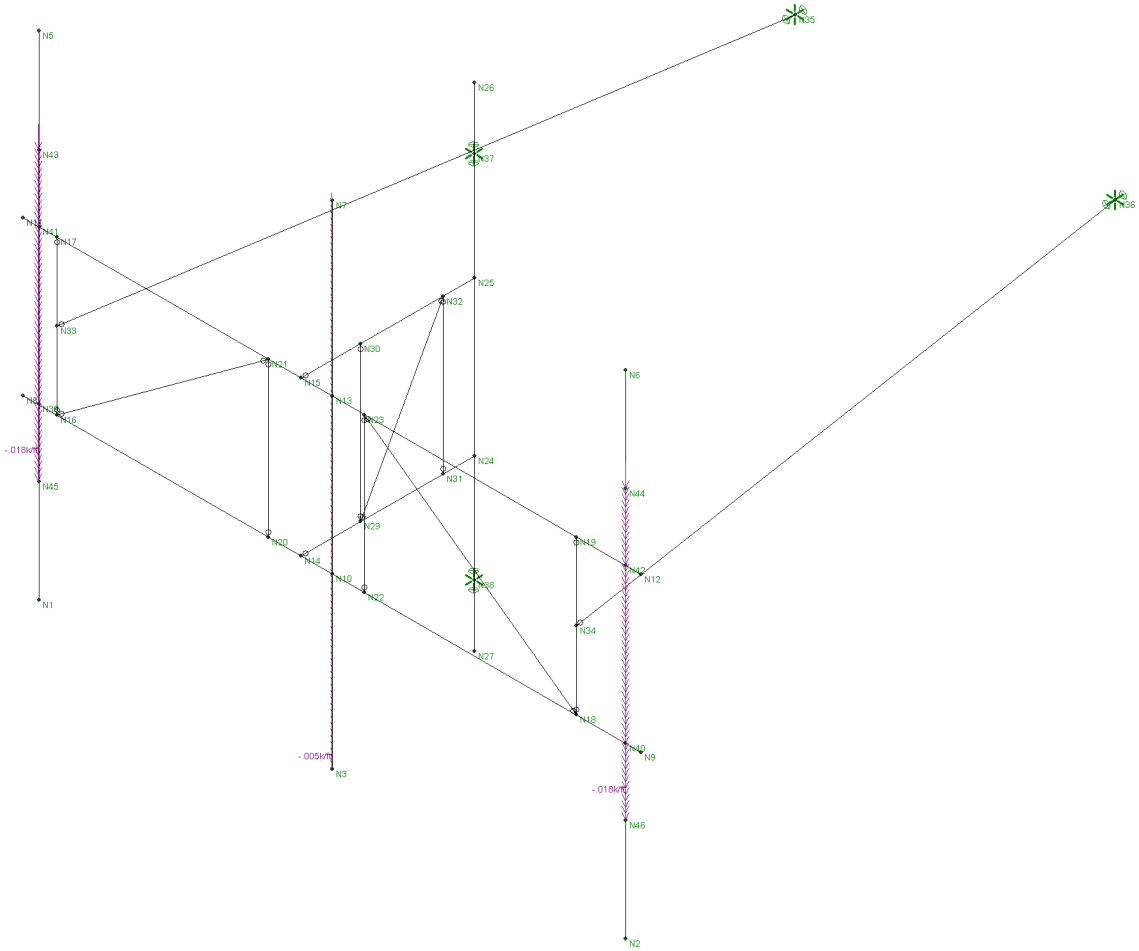


B&P	Metro PCS Mount SA	SK - Members 2
Matt Cahir		June 23, 2016 at 3:04 PM
16703.001		Mount_SA.r3d

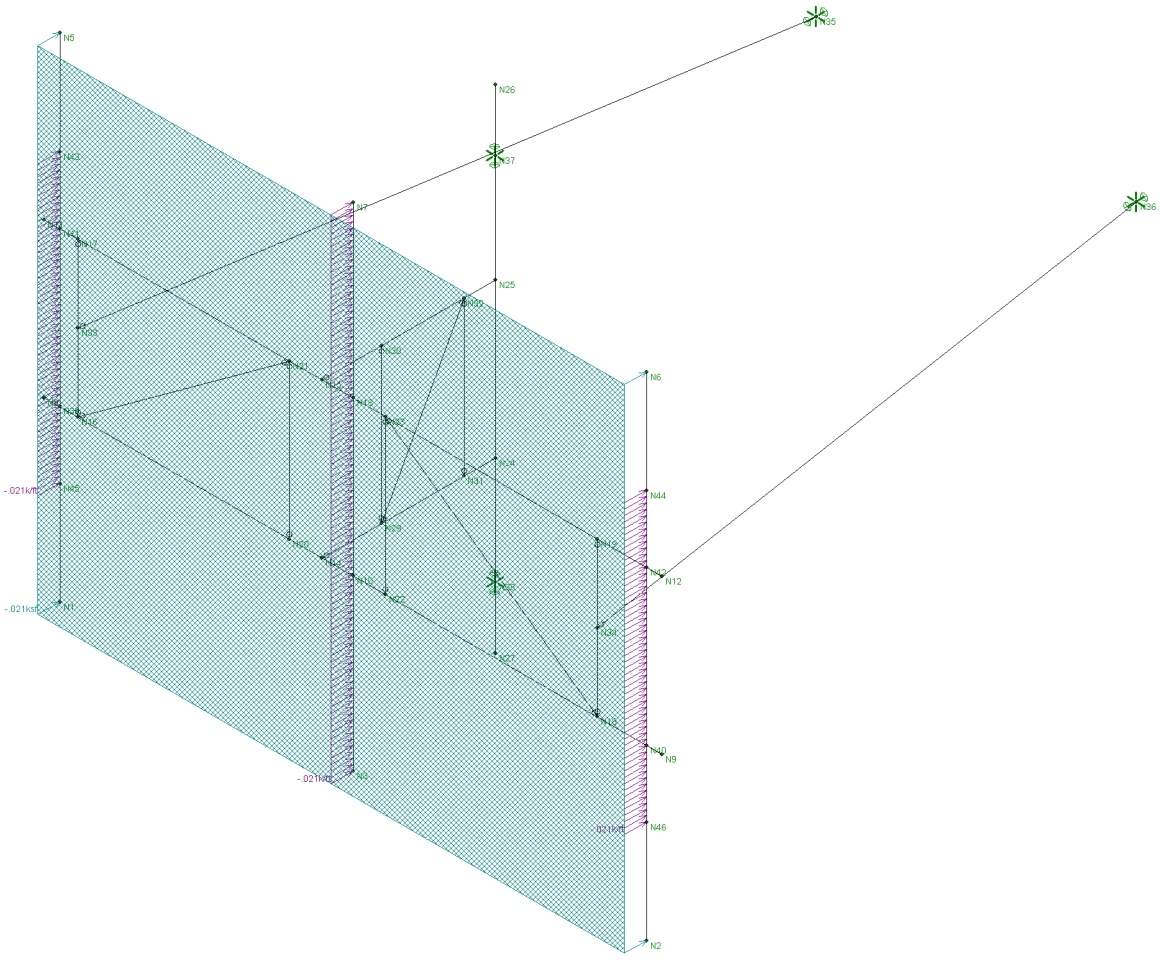


B&P	Metro PCS Mount SA	SK - Nodes 3
Matt Cahir		June 23, 2016 at 3:04 PM
16703.001		Mount_SA.r3d



Loads: BLC 1, Dead

B&P	Metro PCS Mount SA	SK - Dead Load 4
Matt Cahir		June 23, 2016 at 3:04 PM
16703.001		Mount_SA.r3d



Loads: BLC 2, Wind Z

B&P	Metro PCS Mount SA	SK - Wind Z 5
Matt Cahir		June 23, 2016 at 3:04 PM
16703.001		Mount_SA.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E..	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N37	Reaction	Reaction	Reaction		Reaction	
2	N38	Reaction	Reaction	Reaction		Reaction	
3	N35	Reaction	Reaction	Reaction			Reaction
4	N36	Reaction	Reaction	Reaction			Reaction
5	N5						
6	N1						

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N5			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
2	M2	N3	N7			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
3	M3	N2	N6			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
4	M4	N11	N15			PIPE_1.25	Beam	Pipe	A53 Gr.B	DR1
5	M5	N8	N14			PIPE_1.25	Beam	Pipe	A53 Gr.B	Typical
6	M6	N14	N9			PIPE_1.25	Beam	Pipe	A53 Gr.B	Typical
7	M7	N15	N12			PIPE_1.25	Beam	Pipe	A53 Gr.B	Typical
8	M8	N17	N16			PIPE_1.25	Beam	Pipe	A53 Gr.B	DR1
9	M9	N16	N21			PIPE_.75	Beam	Pipe	A53 Gr.B	Typical
10	M10	N21	N20			PIPE_.75	Beam	Pipe	A53 Gr.B	Typical
11	M11	N22	N23			PIPE_.75	Beam	Pipe	A53 Gr.B	Typical
12	M12	N23	N18			PIPE_.75	Beam	None	A53 Gr.B	DR1
13	M13	N18	N19			PIPE_1.25	Beam	Pipe	A53 Gr.B	Typical
14	M14	N27	N26			PIPE_4.0	Beam	Pipe	A53 Gr.B	Typical
15	M15	N14	N24			PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
16	M16	N15	N25			PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
17	M18	N29	N30			PIPE_1.0	Beam	Pipe	A53 Gr.B	Typical
18	M19	N31	N32			PIPE_1.0	Beam	Pipe	A53 Gr.B	Typical
19	M20	N29	N32			PIPE_1.0	Beam	Pipe	A53 Gr.B	Typical
20	M21	N33	N35			PIPE_1.25	Beam	Pipe	A53 Gr.B	Typical
21	M22	N34	N36			PIPE_1.25	Beam	Pipe	A53 Gr.B	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	PIPE_2.0	96			Lbyy						Lateral
2	M2	PIPE_2.0	96			Lbyy						Lateral
3	M3	PIPE_2.0	96			Lbyy						Lateral
4	M4	PIPE_1.25	54.125			Lbyy						Lateral
5	M5	PIPE_1.25	54.125			Lbyy						Lateral
6	M6	PIPE_1.25	66.25			Lbyy						Lateral
7	M7	PIPE_1.25	66.25			Lbyy						Lateral
8	M8	PIPE_1.25	30			Lbyy						Lateral
9	M9	PIPE_.75	51.006			Lbyy						Lateral
10	M10	PIPE_.75	30			Lbyy						Lateral
11	M11	PIPE_.75	30			Lbyy						Lateral
12	M12	PIPE_.75	51.006			Lbyy						Lateral
13	M13	PIPE_1.25	30			Lbyy						Lateral
14	M14	PIPE_4.0	96			Lbyy						Lateral
15	M15	PIPE_2.5	33.75			Lbyy						Lateral
16	M16	PIPE_2.5	33.75			Lbyy						Lateral
17	M18	PIPE_1.0	30			Lbyy						Lateral
18	M19	PIPE_1.0	30			Lbyy						Lateral
19	M20	PIPE_1.0	34			Lbyy						Lateral
20	M21	PIPE_1.25	125.922			Lbyy						Lateral
21	M22	PIPE_1.25	125.902			Lbyy						Lateral

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Member)	Surface...
1	Dead	DL		-1.05				3		
2	Wind Z	WL						3	1	
3	BLC 2 Transient A...	None						19		

Load Combinations

	Descript...	Solve	PDelta	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	IBC 16-8	Yes	Y		DL	1																		
2	IBC 16-9	Yes	Y		DL	1	LL	1	LLS	1														
3	IBC 16-...	Yes	Y		DL	1																		
4	IBC 16-...	Yes	Y		DL	1	WL	.6																
5	IBC 16-...	Yes	Y		DL	1	WL	.45	LL	.75	LLS	.75												
6	IBC 16-15	Yes	Y		DL	.6	WL	.6																

Envelope Member Section Forces

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
1	M1	1	max	0	1	0	6	0	4	0	1	0	1	0	1
2			min	0	1	0	4	0	1	0	1	0	1	0	1
3		2	max	-.008	6	0	6	0	1	0	1	0	1	0	4
4			min	-.013	5	0	4	-.009	6	0	1	-.006	6	0	6
5		3	max	.005	1	.006	1	0	1	0	1	0	1	.001	4
6			min	.003	6	.004	6	0	6	0	6	-.008	6	0	6
7		4	max	.013	5	0	4	.009	6	0	1	0	1	0	4

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
8			min	.008	6	0	6	0	1	0	1	-.006	6	0	6
9		5	max	0	1	0	4	0	6	0	1	0	1	0	1
10			min	0	1	0	6	0	1	0	1	0	1	0	1
11	M2	1	max	0	1	0	6	0	4	0	1	0	1	0	1
12			min	0	1	0	4	0	1	0	1	0	1	0	1
13		2	max	-.011	6	0	6	0	1	0	1	0	1	0	4
14			min	-.018	1	0	4	-.03	6	0	1	-.03	6	0	6
15		3	max	.015	1	-.012	6	.001	4	0	4	0	1	0	4
16			min	.006	6	-.019	1	0	1	0	1	-.04	6	0	1
17		4	max	.018	1	0	4	.03	4	0	1	0	1	0	4
18			min	.011	6	0	6	0	1	0	1	-.03	4	0	6
19		5	max	0	1	0	4	0	4	0	1	0	1	0	1
20			min	0	1	0	6	0	1	0	1	0	1	0	1
21	M3	1	max	0	1	0	6	0	4	0	1	0	1	0	1
22			min	0	1	0	4	0	1	0	1	0	1	0	1
23		2	max	-.008	6	0	6	0	1	0	1	0	1	0	4
24			min	-.013	1	0	4	-.009	6	0	1	-.006	6	0	6
25		3	max	0	4	-.015	6	0	1	0	4	0	1	0	6
26			min	0	6	-.025	1	0	4	0	1	-.007	6	0	4
27		4	max	.013	1	0	4	.009	6	0	1	0	1	0	4
28			min	.008	6	0	6	0	1	0	1	-.006	6	0	6
29		5	max	0	1	0	4	0	6	0	1	0	1	0	1
30			min	0	1	0	6	0	1	0	1	0	1	0	1
31	M4	1	max	0	1	0	1	0	1	0	1	0	1	0	1
32			min	0	1	0	1	0	1	0	1	0	1	0	1
33		2	max	-.006	1	.01	4	.003	4	.003	6	0	1	.003	4
34			min	-.014	4	.006	6	0	1	0	1	-.011	6	.002	6
35		3	max	-.006	1	.007	4	.001	4	.003	6	0	1	-.004	6
36			min	-.014	4	.004	6	0	1	0	1	-.008	6	-.006	4
37		4	max	-.006	1	.005	4	0	1	.003	6	0	1	-.008	6
38			min	-.014	4	.003	6	0	6	0	1	-.008	6	-.013	4
39		5	max	-.141	6	-.048	6	0	1	.003	6	0	1	.027	4
40			min	-.23	4	-.08	4	-.007	4	0	1	-.012	6	.016	6
41	M5	1	max	0	1	0	1	0	1	0	1	0	1	0	1
42			min	0	1	0	1	0	1	0	1	0	1	0	1
43		2	max	.223	1	.01	1	.002	4	0	1	0	1	.004	1
44			min	.126	6	.006	6	0	1	-.002	4	-.009	4	.002	6
45		3	max	.223	1	.007	1	0	1	0	1	0	1	-.004	6
46			min	.126	6	.004	6	0	6	-.002	4	-.008	6	-.006	1
47		4	max	.223	1	.005	1	0	1	0	1	0	1	-.007	6
48			min	.126	6	.003	6	-.002	6	-.002	4	-.009	6	-.013	1
49		5	max	.223	1	-.047	6	0	1	0	1	0	1	.027	1
50			min	.126	6	-.08	1	-.005	6	-.002	4	-.013	6	.016	6
51	M6	1	max	.262	1	.126	1	.056	4	0	1	0	1	.069	1
52			min	.148	6	.073	6	0	1	-.002	4	-.013	6	.041	6
53		2	max	.242	1	-.002	6	0	1	.002	6	.007	4	-.004	6
54			min	.136	6	-.004	4	-.01	6	0	1	0	1	-.007	4
55		3	max	.242	1	-.004	6	0	1	.002	6	0	1	0	1
56			min	.136	6	-.007	4	-.012	6	0	1	-.008	6	0	6
57		4	max	.242	1	-.006	6	0	1	.002	6	0	1	.012	4
58			min	.136	6	-.01	4	-.014	6	0	1	-.026	6	.007	6
59		5	max	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
60			min	0	1	0	1	0	1	0	1	0	1	0	1
61	M7	1	max	-.167	6	.112	4	.054	6	.003	6	0	1	.068	4
62			min	-.271	4	.068	6	0	1	0	1	-.012	6	.041	6
63		2	max	-.024	6	-.003	6	0	1	0	1	.009	4	-.005	6
64			min	-.033	4	-.004	4	-.011	4	-.003	4	0	1	-.009	4
65		3	max	-.024	6	-.004	6	0	1	0	1	0	1	0	6
66			min	-.033	4	-.007	4	-.014	4	-.003	4	-.008	6	0	1
67		4	max	-.024	6	-.006	6	0	1	0	1	0	1	.012	4
68			min	-.033	4	-.01	4	-.016	4	-.003	4	-.028	4	.007	6
69		5	max	0	1	0	1	0	1	0	1	0	1	0	1
70			min	0	1	0	1	0	1	0	1	0	1	0	1
71	M8	1	max	.063	4	0	1	.045	4	0	1	0	1	0	1
72			min	.038	6	-.008	4	0	1	0	6	0	1	0	1
73		2	max	.065	4	0	1	.046	4	0	1	.028	4	.005	4
74			min	.039	6	-.008	4	0	1	0	6	0	1	0	1
75		3	max	.078	4	0	1	.047	4	0	1	.057	4	.01	4
76			min	.047	6	-.008	4	0	1	0	6	0	1	0	1
77		4	max	.079	4	.007	6	0	1	0	1	.028	4	.004	6
78			min	.048	6	0	1	-.046	4	0	6	0	1	0	1
79		5	max	.081	4	.007	6	0	1	0	1	0	1	0	1
80			min	.048	6	0	1	-.045	4	0	6	0	1	0	1
81	M9	1	max	-.159	6	.002	1	.002	4	0	1	0	1	0	1
82			min	-.266	4	.001	6	0	1	0	6	0	1	0	1
83		2	max	-.16	6	0	1	.001	4	0	1	.002	4	0	6
84			min	-.266	4	0	6	0	1	0	6	0	1	-.002	1
85		3	max	-.16	6	0	1	0	1	0	1	.002	4	-.001	6
86			min	-.267	4	0	1	0	1	0	6	0	1	-.002	1
87		4	max	-.161	6	0	6	0	1	0	1	.002	4	0	6
88			min	-.268	4	0	4	-.001	4	0	6	0	1	-.002	1
89		5	max	-.161	6	-.001	6	0	1	0	1	0	1	0	1
90			min	-.269	4	-.002	4	-.002	4	0	6	0	1	0	1
91	M10	1	max	.079	1	0	1	0	1	0	1	0	1	0	1
92			min	.046	6	0	1	-.001	4	0	6	0	1	0	1
93		2	max	.079	1	0	1	0	1	0	1	0	1	0	1
94			min	.047	6	0	1	0	4	0	6	0	4	0	1
95		3	max	.08	1	0	1	0	1	0	1	0	1	0	1
96			min	.047	6	0	1	0	1	0	6	0	4	0	1
97		4	max	.081	1	0	1	0	4	0	1	0	1	0	1
98			min	.047	6	0	1	0	1	0	6	0	4	0	1
99		5	max	.082	1	0	1	.001	4	0	1	0	1	0	1
100			min	.048	6	0	1	0	1	0	6	0	1	0	1
101	M11	1	max	.075	4	0	1	.001	4	0	4	0	1	0	1
102			min	.045	6	0	1	0	1	0	1	0	1	0	1
103		2	max	.074	4	0	1	0	4	0	4	0	4	0	1
104			min	.045	6	0	1	0	1	0	1	0	1	0	1
105		3	max	.073	4	0	1	0	1	0	4	0	4	0	1
106			min	.044	6	0	1	0	1	0	1	0	1	0	1
107		4	max	.073	4	0	1	0	1	0	4	0	4	0	1
108			min	.044	6	0	1	0	4	0	1	0	1	0	1
109		5	max	.072	4	0	1	0	1	0	4	0	1	0	1
110			min	.043	6	0	1	-.001	4	0	1	0	1	0	1
111	M12	1	max	-.163	6	.002	5	.002	4	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
112			min	-.272	4	.001	6	0	1	0	4	0	1	0	1
113		2	max	-.163	6	0	5	.001	4	0	1	.002	4	0	6
114			min	-.272	4	0	6	0	1	0	4	0	1	-.002	5
115		3	max	-.163	6	0	1	0	1	0	1	.002	4	-.001	6
116			min	-.271	4	0	1	0	1	0	4	0	1	-.002	5
117		4	max	-.162	6	0	6	0	1	0	1	.002	4	0	6
118			min	-.27	4	0	1	-.001	4	0	4	0	1	-.002	5
119		5	max	-.162	6	-.001	6	0	1	0	1	0	1	0	1
120			min	-.27	4	-.002	1	-.002	4	0	4	0	1	0	1
121	M13	1	max	.087	4	.011	4	0	1	0	4	0	1	0	1
122			min	.052	6	.002	1	-.058	6	0	1	0	1	0	1
123		2	max	.086	4	.011	4	0	1	0	4	0	1	-.001	1
124			min	.051	6	.002	1	-.059	6	0	1	-.036	6	-.007	4
125		3	max	.084	4	.011	4	0	1	0	4	0	1	-.002	1
126			min	.051	6	.002	1	-.06	6	0	1	-.074	4	-.014	4
127		4	max	.071	1	.002	1	.059	4	0	4	0	1	.001	1
128			min	.043	6	-.008	6	0	1	0	1	-.037	4	-.005	6
129		5	max	.07	1	.002	1	.058	4	0	4	0	1	0	1
130			min	.042	6	-.008	6	0	1	0	1	0	1	0	1
131	M14	1	max	0	1	0	1	0	6	0	1	0	1	0	1
132			min	0	1	0	6	0	4	0	1	0	1	0	1
133		2	max	.248	4	-.016	6	.27	4	.041	1	.27	4	.03	1
134			min	.166	6	-.03	1	.193	6	.019	6	.193	6	.016	6
135		3	max	.05	1	.009	1	-.104	6	-.035	6	.101	4	-.002	1
136			min	-.031	6	.005	6	-.176	1	-.058	4	.028	1	-.005	4
137		4	max	-.123	6	-.02	6	.195	1	.047	4	-.041	6	-.02	6
138			min	-.277	1	-.032	4	.041	6	.03	6	-.195	1	-.032	4
139		5	max	0	1	0	6	0	1	0	1	0	1	0	1
140			min	0	1	0	4	0	6	0	1	0	1	0	1
141	M15	1	max	.061	6	-.12	6	-.022	6	.042	1	0	1	0	1
142			min	0	1	-.205	1	-.039	1	.025	6	0	1	0	1
143		2	max	.061	6	-.122	6	-.022	6	.042	1	-.015	6	.146	1
144			min	0	1	-.209	1	-.039	1	.025	6	-.028	1	.085	6
145		3	max	.433	4	.133	1	-.022	6	.043	1	-.025	6	.144	4
146			min	.285	6	.07	6	-.039	1	.026	6	-.047	1	.087	6
147		4	max	.433	4	.129	1	-.022	6	.043	1	-.04	6	.059	4
148			min	.285	6	.067	6	-.039	1	.026	6	-.074	1	.038	6
149		5	max	.435	4	-.133	1	-.022	6	.043	1	-.054	6	.156	4
150			min	.287	6	-.238	4	-.039	1	.026	6	-.099	1	.093	1
151	M16	1	max	.061	6	-.117	6	.041	4	.041	4	0	1	0	1
152			min	0	1	-.192	4	.026	6	.025	6	0	1	0	1
153		2	max	.061	6	-.119	6	.041	4	.041	4	.029	4	.137	4
154			min	0	1	-.197	4	.026	6	.025	6	.018	6	.083	6
155		3	max	.063	6	.152	4	.042	4	.041	4	.052	4	.122	4
156			min	0	1	.094	6	.026	6	.025	6	.032	6	.073	6
157		4	max	.063	6	.148	4	.042	4	.041	4	.081	4	.021	1
158			min	0	1	.092	6	.026	6	.025	6	.05	6	.008	6
159		5	max	-.155	6	-.079	6	.041	4	.04	4	.105	4	.149	1
160			min	-.371	1	-.306	1	.025	6	.024	6	.065	6	.03	6
161	M18	1	max	.357	4	0	1	.002	4	-.004	6	0	1	0	1
162			min	.218	6	0	1	0	1	-.006	4	0	1	0	1
163		2	max	.356	4	0	1	0	4	-.004	6	0	4	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
164			min	.218	6	0	1	0	1	-.006	4	0	1	0	1
165		3	max	.355	4	0	1	0	1	-.004	6	.001	4	0	1
166			min	.217	6	0	1	0	1	-.006	4	0	1	0	1
167		4	max	.354	4	0	1	0	1	-.004	6	0	4	0	1
168			min	.216	6	0	1	0	6	-.006	4	0	1	0	1
169		5	max	.353	4	0	1	0	1	-.004	6	0	1	0	1
170			min	.216	6	0	1	-.002	6	-.006	4	0	1	0	1
171	M19	1	max	.353	4	0	1	.002	4	-.002	6	0	1	0	1
172			min	.249	6	0	1	0	1	-.003	4	0	1	0	1
173		2	max	.352	4	0	1	0	4	-.002	6	0	4	0	1
174			min	.249	6	0	1	0	1	-.003	4	0	1	0	1
175		3	max	.351	4	0	1	0	1	-.002	6	.001	4	0	1
176			min	.248	6	0	1	0	1	-.003	4	0	1	0	1
177		4	max	.35	4	0	1	0	1	-.002	6	0	4	0	1
178			min	.248	6	0	1	0	6	-.003	4	0	1	0	1
179		5	max	.349	4	0	1	0	1	-.002	6	0	1	0	1
180			min	.247	6	0	1	-.002	6	-.003	4	0	1	0	1
181	M20	1	max	-.469	6	.003	4	0	1	-.002	6	0	1	0	1
182			min	-.785	1	.001	1	0	1	-.003	1	0	1	0	1
183		2	max	-.469	6	.001	4	0	1	-.002	6	0	1	0	1
184			min	-.786	1	0	1	0	1	-.003	1	0	1	-.001	4
185		3	max	-.469	6	0	1	0	1	-.002	6	0	1	0	1
186			min	-.787	1	0	1	0	1	-.003	1	0	1	-.002	4
187		4	max	-.47	6	0	1	0	1	-.002	6	0	1	0	1
188			min	-.789	1	-.001	4	0	1	-.003	1	0	1	-.001	4
189		5	max	-.47	6	-.001	1	0	1	-.002	6	0	1	0	1
190			min	-.79	1	-.003	4	0	1	-.003	1	0	1	0	1
191	M21	1	max	.095	4	.012	4	0	6	.001	4	0	1	0	1
192			min	0	1	.007	6	0	1	0	6	0	1	0	1
193		2	max	.096	4	.006	4	0	6	.001	4	0	6	-.014	6
194			min	0	1	.004	6	0	1	0	6	0	1	-.023	4
195		3	max	.096	4	0	4	0	1	.001	4	0	6	-.019	6
196			min	0	1	0	6	0	1	0	6	0	1	-.031	4
197		4	max	.097	4	-.004	6	0	1	.001	4	0	6	-.014	6
198			min	0	1	-.006	1	0	4	0	6	0	1	-.023	4
199		5	max	.098	4	-.007	6	0	1	.001	4	0	1	0	6
200			min	0	1	-.012	1	0	4	0	6	0	1	0	4
201	M22	1	max	.121	4	.012	4	0	1	.005	1	0	1	0	1
202			min	0	1	.007	6	0	6	.003	6	0	1	0	1
203		2	max	.122	4	.006	4	0	1	.005	1	0	1	-.014	6
204			min	0	1	.003	6	0	6	.003	6	0	6	-.023	4
205		3	max	.123	4	0	6	0	1	.005	1	0	1	-.018	6
206			min	0	1	0	1	0	1	.003	6	0	6	-.03	4
207		4	max	.123	4	-.004	6	0	4	.005	1	0	1	-.014	6
208			min	0	1	-.006	1	0	1	.003	6	0	6	-.023	4
209		5	max	.124	4	-.007	6	0	4	.005	1	0	1	0	1
210			min	0	1	-.012	1	0	1	.003	6	0	1	0	6

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N37	max	-.02	6	.298	1	-.032	6	0	1	-.03	6	0	1
2		min	-.032	4	.135	6	-.195	1	0	1	-.047	4	0	1
3	N38	max	.03	1	.269	4	.28	4	0	1	.041	1	0	1
4		min	.016	6	.179	6	.195	1	0	1	.019	6	0	1
5	N35	max	0	1	.012	4	.097	4	0	1	0	1	.001	4
6		min	-.015	4	.007	6	0	1	0	1	0	1	0	6
7	N36	max	.019	4	.012	1	.123	4	0	1	0	1	.005	1
8		min	0	1	.007	6	0	1	0	1	0	1	.003	6
9	Totals:	max	0	6	.547	4	.389	6						
10		min	0	1	.328	6	0	1						

Envelope AISC 14th(360-10): ASD Steel Code Checks

	Mem...	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	Pnc/om [k]	Pnt/om...	Mnyy/om...	Mnzz/o...	Cb	Eqn
1	M6	PIPE_1.25	.151	0	4	.038	0		4	6.107	13.099	.533	.533	3.75	H1-1b
2	M13	PIPE_1.25	.145	15	4	.017	15		4	11.202	13.099	.533	.533	1.386	H1-1b
3	M7	PIPE_1.25	.139	0	4	.038	0		4	6.107	13.099	.533	.533	3.637	H1-1b
4	M8	PIPE_1.25	.113	15	4	.013	15		4	11.202	13.099	.533	.533	1.346	H1-1b
5	M22	PIPE_1.25	.092	62.951	4	.013	125.902		1	1.745	13.099	.533	.533	1.138	H1-1b
6	M15	PIPE_2.5	.089	11.953	1	.044	33.75		4	31.627	33.743	2.393	2.393	1.513	H1-1b
7	M21	PIPE_1.25	.086	62.961	4	.006	0		4	1.744	13.099	.533	.533	1.136	H1-1b
8	M16	PIPE_2.5	.082	11.602	4	.049	33.75		1	31.627	33.743	2.393	2.393	1.663	H1-1b
9	M14	PIPE_4.0	.069	33	4	.024	33		4	50.551	62.036	7.073	7.073	2.059	H1-1b
10	M5	PIPE_1.25	.069	54.125	4	.024	54.125		4	7.871	13.099	.533	.533	2.402	H1-1b
11	M4	PIPE_1.25	.063	54.125	4	.027	54.125		4	7.871	13.099	.533	.533	2.375	H1-1b
12	M2	PIPE_2.0	.051	63	4	.007	63		4	9.924	21.377	1.245	1.245	4.834	H1-1b
13	M18	PIPE_1.0	.047	0	4	.023	0		4	7.577	9.829	.309	.309	1	H1-1...
14	M19	PIPE_1.0	.047	0	4	.011	0		4	7.577	9.829	.309	.309	1	H1-1...
15	M20	PIPE_1.0	.046	17	4	.011	34		4	7.036	9.829	.309	.309	1.136	H1-1b
16	M12	PIPE_.75	.040	25.503	4	.002	51.006		4	2.022	6.539	.165	.165	1.136	H1-1b
17	M9	PIPE_.75	.040	25.503	4	.002	51.006		4	2.022	6.539	.165	.165	1.136	H1-1b
18	M3	PIPE_2.0	.031	63	4	.005	63		4	9.924	21.377	1.245	1.245	4.908	H1-1b
19	M10	PIPE_.75	.019	30	1	.001	0		6	4.337	6.539	.165	.165	1	H1-1...
20	M1	PIPE_2.0	.018	33	4	.004	63		6	9.924	21.377	1.245	1.245	4.057	H1-1b
21	M11	PIPE_.75	.017	0	4	.002	0		4	4.337	6.539	.165	.165	1	H1-1...

Envelope Member Section Deflections

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ra...	LC	(n) L/z Ra...	LC
1	M1	1	max	.026	1	.048	1	-.008	1	2.461e-5	1	NC	1	NC	1
2			min	.015	6	.028	6	-.037	4	-8.695e-4	6	NC	1	3572.214	4
3		2	max	.026	1	.024	1	-.004	1	2.461e-5	1	6650.456	6	NC	1
4			min	.015	6	.013	6	-.024	4	-8.695e-4	6	3988.395	4	6726.506	4
5		3	max	.026	1	0	1	0	1	2.421e-5	1	3284.233	6	NC	1
6			min	.015	6	-.002	4	-.015	6	-8.612e-4	6	1969.488	4	NC	1
7		4	max	.026	1	-.016	6	.004	1	2.381e-5	1	2165.441	6	NC	1
8			min	.015	6	-.027	4	-.013	6	-8.53e-4	6	1298.514	4	NC	1
9		5	max	.026	1	-.031	6	.008	1	2.381e-5	1	1621.132	6	NC	1
10			min	.015	6	-.052	4	-.013	6	-8.53e-4	6	972.074	4	NC	1
11	M2	1	max	-.016	6	.055	1	-.009	1	3.971e-4	4	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ra...	LC	(n) L/z Ra...	LC
12			min	-.026	4	.032	6	-.047	4	1.655e-6	1	NC	1	5509.134	4
13		2	max	-.016	6	.027	1	-.005	1	3.971e-4	4	5646.508	6	NC	1
14			min	-.026	4	.015	6	-.018	4	1.655e-6	1	3382.909	4	5782.8	6
15		3	max	-.016	6	0	1	0	1	3.89e-4	6	2898.579	6	NC	1
16			min	-.026	4	-.001	4	-.003	4	-2.678e-6	1	1736.632	4	3233.169	6
17		4	max	-.016	6	-.018	6	.004	1	3.821e-4	6	1944.192	6	NC	1
18			min	-.026	4	-.028	4	-.01	6	-7.011e-6	1	1165.475	4	4402.113	6
19		5	max	-.016	6	-.035	6	.008	1	3.821e-4	6	1441.571	6	NC	1
20			min	-.026	4	-.057	4	-.032	6	-7.011e-6	1	864.457	4	NC	1
21	M3	1	max	-.059	6	.058	1	-.01	1	1.581e-3	6	NC	4	NC	1
22			min	-.099	4	.034	6	-.055	4	-2.139e-5	1	827.381	1	3028.719	4
23		2	max	-.059	6	.028	1	-.005	1	1.581e-3	6	NC	4	NC	1
24			min	-.099	4	.016	6	-.041	4	-2.139e-5	1	1117.291	1	5358.553	4
25		3	max	-.059	6	0	1	0	1	1.577e-3	6	NC	4	NC	1
26			min	-.099	4	-.001	6	-.03	6	-2.21e-5	1	1659.357	1	NC	1
27		4	max	-.059	6	-.018	6	.005	1	1.573e-3	6	NC	4	NC	1
28			min	-.099	4	-.029	4	-.027	6	-2.282e-5	1	3208.373	1	NC	1
29		5	max	-.059	6	-.036	6	.01	1	1.573e-3	6	NC	1	NC	1
30			min	-.099	4	-.059	4	-.027	6	-2.282e-5	1	NC	1	NC	1
31	M4	1	max	.017	4	.029	1	.003	1	1.645e-4	1	1835.064	6	NC	1
32			min	.011	6	.017	6	-.015	6	7.216e-5	6	1100.438	4	4100.582	6
33		2	max	.017	4	.014	1	.002	1	1.671e-4	1	2602.987	6	NC	1
34			min	.011	6	.008	6	-.005	6	-2.19e-5	6	1560.74	4	NC	1
35		3	max	.017	4	-.001	6	.002	1	1.705e-4	1	4749.65	6	NC	1
36			min	.011	6	-.002	4	0	6	-1.428e-4	6	2845.27	4	NC	1
37		4	max	.017	4	-.009	6	.002	1	1.739e-4	1	NC	6	NC	1
38			min	.011	6	-.014	4	0	6	-2.636e-4	6	8243.48	4	NC	1
39		5	max	.018	4	-.012	6	.002	1	1.772e-4	1	NC	1	NC	1
40			min	.011	6	-.021	4	-.002	6	-3.835e-4	6	NC	1	NC	1
41	M5	1	max	-.008	6	.029	1	-.002	1	4.207e-4	4	1842.39	6	NC	1
42			min	-.015	1	.017	6	-.023	4	1.642e-4	1	1105.485	4	3263.408	6
43		2	max	-.008	6	.015	1	-.003	1	4.785e-4	4	2582.274	6	NC	1
44			min	-.015	1	.009	6	-.012	4	1.668e-4	1	1549.902	4	9213.539	6
45		3	max	-.008	6	0	6	-.003	1	5.521e-4	4	4628.747	6	NC	1
46			min	-.016	1	0	4	-.006	4	1.7e-4	1	2780.615	4	NC	1
47		4	max	-.008	6	-.008	6	-.003	6	6.258e-4	4	NC	6	NC	1
48			min	-.016	1	-.013	4	-.004	4	1.733e-4	1	7829.712	4	NC	1
49		5	max	-.008	6	-.012	6	-.003	1	6.994e-4	4	NC	1	NC	1
50			min	-.016	1	-.02	4	-.007	4	1.766e-4	1	NC	1	NC	1
51	M6	1	max	-.008	6	-.012	6	-.003	1	6.994e-4	4	NC	1	NC	1
52			min	-.016	1	-.02	4	-.007	4	1.766e-4	1	NC	1	NC	1
53		2	max	-.009	6	-.024	6	-.003	1	6.839e-4	4	5511.26	6	NC	1
54			min	-.016	1	-.04	4	-.012	4	1.837e-4	1	3302.378	4	NC	1
55		3	max	-.009	6	-.036	6	-.003	1	6.075e-4	4	2822.754	6	NC	1
56			min	-.017	1	-.06	4	-.012	4	1.925e-4	1	1691.639	4	NC	1
57		4	max	-.009	6	-.047	6	-.003	1	5.31e-4	4	1888.26	6	NC	1
58			min	-.017	1	-.079	4	-.018	4	2.013e-4	1	1131.632	4	5699.637	6
59		5	max	-.009	6	-.062	6	-.003	1	4.699e-4	4	1343.484	6	NC	1
60			min	-.017	1	-.103	4	-.041	4	2.091e-4	1	805.274	4	1931.256	6
61	M7	1	max	.018	4	-.012	6	.002	1	1.772e-4	1	NC	1	NC	1
62			min	.011	6	-.021	4	-.002	6	-3.835e-4	6	NC	1	NC	1
63		2	max	.018	4	-.025	6	.002	1	1.846e-4	1	5411.21	6	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ra...	LC	(n) L/z Ra...	LC
64			min	.011	6	-.041	4	-.007	6	-3.371e-4	6	3247.237	4	NC	1
65		3	max	.018	4	-.036	6	.003	1	1.934e-4	1	2787.247	6	NC	1
66			min	.011	6	-.06	4	-.005	6	-1.812e-4	6	1671.581	4	NC	1
67		4	max	.018	4	-.048	6	.003	1	2.023e-4	1	1883.541	6	NC	1
68			min	.011	6	-.079	4	-.01	6	-2.532e-5	6	1129.359	4	8498.428	6
69		5	max	.018	4	-.062	6	.003	1	2.095e-4	1	1345.695	6	NC	1
70			min	.011	6	-.103	4	-.032	6	1.023e-4	6	806.877	4	2206.285	6
71	M8	1	max	-.013	6	-.011	6	.01	6	7.892e-4	6	NC	1	NC	1
72			min	-.022	1	-.017	4	-.003	1	-2.341e-5	1	951.552	4	NC	1
73		2	max	-.013	6	-.005	6	.003	6	7.968e-4	6	NC	1	NC	1
74			min	-.022	1	-.008	1	-.001	1	-2.381e-5	1	1328.984	5	4459.787	6
75		3	max	-.013	6	0	6	0	6	8.045e-4	6	NC	1	NC	1
76			min	-.022	1	0	1	0	1	-2.421e-5	1	2104.647	5	3341.71	6
77		4	max	-.013	6	.008	4	.007	4	8.121e-4	6	NC	1	NC	1
78			min	-.022	1	.005	6	.001	1	-2.461e-5	1	4361.514	5	8501.912	6
79		5	max	-.013	6	.015	1	.017	4	8.197e-4	6	NC	1	NC	1
80			min	-.022	1	.008	6	.002	1	-2.502e-5	1	NC	1	3584.817	4
81	M9	1	max	.002	4	.027	1	-.002	1	1.482e-4	1	NC	1	NC	1
82			min	0	1	.015	6	-.017	4	-1.792e-4	6	NC	1	NC	1
83		2	max	.002	4	.008	1	-.001	1	1.471e-4	1	NC	6	NC	1
84			min	.001	1	.004	6	-.02	4	-1.662e-4	6	8779.665	1	7179.325	4
85		3	max	.003	4	-.005	6	0	1	1.46e-4	1	NC	6	NC	1
86			min	.002	1	-.007	4	-.018	4	-1.532e-4	6	6255.511	1	5115.269	4
87		4	max	.003	4	-.011	6	0	1	1.45e-4	1	NC	6	NC	1
88			min	.002	6	-.018	4	-.011	6	-1.402e-4	6	8779.665	1	7179.325	4
89		5	max	.003	4	-.015	6	.002	1	1.439e-4	1	NC	1	NC	1
90			min	.002	6	-.025	4	0	6	-1.272e-4	6	NC	1	NC	1
91	M10	1	max	.018	4	-.011	6	0	6	-3.116e-6	1	NC	1	NC	1
92			min	.011	6	-.017	4	-.002	1	-2.346e-4	4	NC	1	NC	1
93		2	max	.018	4	-.006	6	.002	6	-5.512e-6	1	NC	1	NC	1
94			min	.011	6	-.009	4	0	1	-2.274e-4	4	NC	1	NC	1
95		3	max	.018	4	0	1	.003	4	-7.907e-6	1	NC	1	NC	1
96			min	.011	6	-.001	4	0	1	-2.203e-4	4	NC	1	NC	1
97		4	max	.018	4	.008	1	.004	4	-1.03e-5	1	NC	1	NC	1
98			min	.011	6	.004	6	.002	1	-2.131e-4	4	NC	1	NC	1
99		5	max	.018	4	.016	1	.005	4	-1.27e-5	1	NC	1	NC	1
100			min	.011	6	.008	6	.003	1	-2.059e-4	4	NC	1	NC	1
101	M11	1	max	-.021	6	.016	1	-.003	1	1.759e-4	4	NC	1	NC	1
102			min	-.035	4	.009	6	-.011	4	2.733e-7	1	NC	1	NC	1
103		2	max	-.021	6	.008	1	-.002	1	1.629e-4	6	NC	1	NC	1
104			min	-.035	4	.004	6	-.011	4	-3.667e-6	1	NC	1	NC	1
105		3	max	-.021	6	0	1	0	1	1.507e-4	6	NC	1	NC	1
106			min	-.035	4	-.001	4	-.01	4	-7.606e-6	1	NC	1	NC	1
107		4	max	-.021	6	-.006	6	0	1	1.386e-4	6	NC	1	NC	1
108			min	-.035	4	-.01	4	-.008	6	-1.155e-5	1	NC	1	NC	1
109		5	max	-.021	6	-.011	6	.002	1	1.264e-4	6	NC	1	NC	1
110			min	-.035	4	-.018	4	-.007	6	-1.549e-5	1	NC	1	NC	1
111	M12	1	max	.035	4	-.011	6	.002	1	1.566e-4	1	NC	1	NC	1
112			min	.022	6	-.019	1	-.007	6	-3.788e-4	6	NC	1	NC	1
113		2	max	.036	4	-.023	6	0	1	1.612e-4	1	NC	6	NC	1
114			min	.022	6	-.039	1	-.017	6	-3.684e-4	6	8779.665	5	7179.325	4
115		3	max	.036	4	-.033	6	0	1	1.659e-4	1	NC	6	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ra...	LC	(n) L/z Ra...	LC
116			min	.022	6	-.056	1	-.024	4	-3.581e-4	6	6255.511	5	5115.269	4
117		4	max	.037	4	-.041	6	-.002	1	1.706e-4	1	NC	6	NC	1
118			min	.022	6	-.069	1	-.025	4	-3.477e-4	6	8779.665	5	7179.325	6
119		5	max	.037	4	-.046	6	-.003	1	1.752e-4	1	NC	1	NC	1
120			min	.023	6	-.078	1	-.022	4	-3.373e-4	6	NC	1	NC	1
121	M13	1	max	-.051	6	.017	1	-.003	1	1.164e-3	6	NC	1	NC	1
122			min	-.085	4	.009	6	-.022	4	-1.821e-5	1	NC	1	3075.598	4
123		2	max	-.051	6	.008	1	-.002	1	1.154e-3	6	NC	1	NC	1
124			min	-.085	4	.002	6	-.009	4	-2.016e-5	1	NC	1	5637.444	6
125		3	max	-.051	6	0	1	0	1	1.144e-3	6	NC	1	NC	1
126			min	-.085	4	-.004	6	-.002	6	-2.21e-5	1	NC	1	2483.728	6
127		4	max	-.051	6	-.008	6	.002	1	1.134e-3	6	NC	1	NC	1
128			min	-.085	4	-.011	4	-.005	6	-2.405e-5	1	NC	1	3358.169	6
129		5	max	-.051	6	-.011	6	.003	1	1.124e-3	6	NC	1	NC	1
130			min	-.085	4	-.018	4	-.014	6	-2.6e-5	1	NC	1	NC	1
131	M14	1	max	0	6	0	6	.005	4	0	1	NC	1	NC	1
132			min	0	4	0	1	.003	1	0	1	NC	1	NC	1
133		2	max	0	6	0	1	-.003	1	-1.828e-5	6	NC	1	NC	1
134			min	0	4	0	6	-.005	4	-3.92e-5	1	NC	1	NC	1
135		3	max	0	6	0	1	0	1	9.309e-6	4	NC	1	NC	1
136			min	0	4	0	4	-.005	4	0	1	NC	1	NC	1
137		4	max	0	6	0	6	.002	1	4.466e-5	4	NC	1	NC	1
138			min	0	1	0	4	-.001	6	2.89e-5	6	NC	1	NC	1
139		5	max	0	6	0	4	.001	6	0	1	NC	1	NC	1
140			min	0	1	0	6	-.002	1	0	1	NC	1	NC	1
141	M15	1	max	.007	4	-.012	6	-.008	6	5.529e-4	4	2741.141	6	4034.348	6
142			min	.003	1	-.02	4	-.016	1	3.317e-4	6	1659.94	4	2151.333	1
143		2	max	.007	4	-.006	6	-.005	6	4.226e-4	4	5404.32	6	6222.163	6
144			min	.003	1	-.01	4	-.01	1	2.538e-4	6	3280	4	3306.447	1
145		3	max	.007	4	-.002	6	-.003	6	2.897e-4	4	NC	6	NC	6
146			min	.003	1	-.004	4	-.006	1	1.745e-4	6	8810.533	4	6269.181	1
147		4	max	.007	4	0	6	0	6	1.553e-4	4	NC	1	NC	1
148			min	.003	1	-.001	1	-.002	1	9.425e-5	6	NC	1	NC	1
149		5	max	.006	4	0	6	0	6	2.094e-5	4	NC	1	NC	1
150			min	.003	1	0	4	0	1	1.401e-5	6	NC	1	NC	1
151	M16	1	max	.002	6	-.012	6	.018	4	5.228e-4	4	2723.657	6	3158.591	6
152			min	-.002	1	-.021	4	.011	6	3.134e-4	6	1648.351	4	1972.961	4
153		2	max	.002	6	-.007	6	.012	4	3.938e-4	4	5023.455	6	4851.059	6
154			min	-.002	1	-.011	4	.007	6	2.357e-4	6	3049.597	4	3033.229	4
155		3	max	.002	6	-.003	6	.006	4	2.657e-4	1	NC	6	9202.7	6
156			min	-.002	1	-.005	4	.004	6	1.58e-4	6	6651.978	4	5765.751	4
157		4	max	.002	6	-.001	6	.002	4	1.379e-4	1	NC	1	NC	1
158			min	-.002	1	-.002	4	.002	6	8.031e-5	6	NC	1	NC	1
159		5	max	.002	6	0	6	0	4	1.322e-5	1	NC	1	NC	1
160			min	-.002	1	0	1	0	6	4.339e-6	6	NC	1	NC	1
161	M18	1	max	-.004	6	.009	1	-.003	1	-3.107e-4	6	NC	1	NC	1
162			min	-.007	4	.004	6	-.007	4	-5.807e-4	1	NC	1	NC	1
163		2	max	-.005	6	.004	1	-.002	1	-1.338e-4	6	NC	1	NC	1
164			min	-.008	4	.002	6	-.006	4	-2.867e-4	1	NC	1	NC	1
165		3	max	-.005	6	0	1	0	1	4.614e-5	4	NC	1	NC	1
166			min	-.008	4	0	4	-.005	4	7.354e-6	1	NC	1	NC	1
167		4	max	-.005	6	-.003	6	0	1	3.411e-4	4	NC	1	NC	1

Envelope Member Section Deflections (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [r...	LC	(n) L/y Ra...	LC	(n) L/z Ra...	LC
168			min	-.008	4	-.005	4	-.003	6	2.2e-4	6	NC	1	NC	1
169		5	max	-.005	6	-.006	6	.002	1	6.361e-4	4	NC	1	NC	1
170			min	-.008	4	-.009	4	-.002	6	3.969e-4	6	NC	1	NC	1
171	M19	1	max	0	6	.001	1	-.003	1	-1.381e-4	6	NC	1	NC	1
172			min	0	1	0	6	-.007	4	-2.633e-4	1	NC	1	NC	1
173		2	max	0	6	0	1	-.002	1	-5.881e-5	6	NC	1	NC	1
174			min	-.001	1	0	6	-.006	4	-1.316e-4	1	NC	1	NC	1
175		3	max	0	6	0	1	0	1	2.05e-5	4	NC	1	NC	1
176			min	-.001	4	0	4	-.005	4	1.019e-7	1	NC	1	NC	1
177		4	max	0	6	0	6	0	1	1.527e-4	4	NC	1	NC	1
178			min	-.001	4	0	4	-.003	6	9.967e-5	6	NC	1	NC	1
179		5	max	-.001	6	-.001	6	.002	1	2.848e-4	4	NC	1	NC	1
180			min	-.002	4	-.002	4	-.002	6	1.789e-4	6	NC	1	NC	1
181	M20	1	max	-.001	6	-.006	1	-.004	6	-1.685e-4	6	NC	1	NC	1
182			min	-.005	1	-.009	4	-.009	1	-3.379e-4	1	NC	1	NC	1
183		2	max	-.001	6	-.005	1	-.003	6	-7.999e-5	6	NC	1	NC	1
184			min	-.004	1	-.009	4	-.006	1	-1.832e-4	1	NC	1	NC	1
185		3	max	0	6	-.003	1	-.002	6	8.556e-6	6	NC	1	NC	1
186			min	-.004	1	-.007	4	-.004	1	-2.845e-5	1	NC	1	NC	1
187		4	max	0	6	-.001	1	0	6	1.479e-4	4	NC	1	NC	1
188			min	-.003	1	-.005	4	-.001	1	9.71e-5	6	NC	1	NC	1
189		5	max	0	6	0	1	.002	4	2.986e-4	4	NC	1	NC	1
190			min	-.002	1	-.002	6	.001	6	1.856e-4	6	NC	1	NC	1
191	M21	1	max	0	4	.022	1	0	1	1.071e-3	4	NC	1	NC	1
192			min	0	1	.013	6	0	6	6.494e-4	6	NC	1	NC	1
193		2	max	0	4	-.051	6	0	1	9.398e-4	4	2055.949	6	NC	1
194			min	0	1	-.086	4	-.002	6	5.689e-4	6	1233.666	4	NC	1
195		3	max	0	4	-.079	6	0	1	8.083e-4	4	1464.065	6	NC	1
196			min	0	1	-.132	4	-.003	6	4.884e-4	6	878.517	4	NC	1
197		4	max	0	4	-.058	6	0	1	6.768e-4	4	2052.749	6	NC	1
198			min	0	1	-.097	4	-.002	6	4.079e-4	6	1231.784	4	NC	1
199		5	max	0	1	0	1	0	1	5.453e-4	4	NC	1	NC	1
200			min	0	1	0	1	0	1	3.274e-4	6	NC	1	NC	1
201	M22	1	max	.001	4	-.051	6	.004	6	1.037e-3	1	NC	1	NC	1
202			min	0	1	-.085	4	0	1	6.066e-4	6	NC	1	NC	1
203		2	max	0	4	-.098	6	.005	6	6.138e-4	1	2090.205	6	NC	1
204			min	0	1	-.164	4	0	1	3.565e-4	6	1254.23	4	NC	1
205		3	max	0	4	-.11	6	.005	6	1.907e-4	1	1491.826	6	NC	1
206			min	0	1	-.183	4	0	1	1.063e-4	6	895.183	4	NC	1
207		4	max	0	4	-.073	6	.003	6	-1.438e-4	6	2100.483	6	NC	1
208			min	0	1	-.121	4	0	1	-2.365e-4	4	1260.441	4	NC	1
209		5	max	0	1	0	1	0	1	-3.939e-4	6	NC	1	NC	1
210			min	0	1	0	1	0	1	-6.563e-4	4	NC	1	NC	1

Exhibit G

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CTHA536A

Insite Glastonbury Lattice
577 Bell Street
Glastonbury, CT 06033

June 28, 2016

EBI Project Number: 6216003023

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	24.25 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

June 28, 2016

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CTHA536A – Insite Glastonbury Lattice**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **577 Bell Street, Glastonbury, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu W/cm^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **577 Bell Street, Glastonbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

3) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

5) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antennas used in this modeling are the **Ericsson AIR21 B2A/B4P** & **Ericsson AIR21 B4A/B2P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Ericsson AIR21 B4A/B2P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe at 700 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antenna mounting height centerline of the proposed antennas is **65 feet** above ground level (AGL).

8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

9) All calculations were done with respect to uncontrolled / general public threshold limits.

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	65	Height (AGL):	65	Height (AGL):	65
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60	Total TX Power(W):	60	Total TX Power(W):	60
ERP (W):	2,334.27	ERP (W):	2,334.27	ERP (W):	2,334.27
Antenna A1 MPE%	2.41	Antenna B1 MPE%	2.41	Antenna C1 MPE%	2.41
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	65	Height (AGL):	65	Height (AGL):	65
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	4.82	Antenna B2 MPE%	4.82	Antenna C2 MPE%	4.82
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	65	Height (AGL):	65	Height (AGL):	65
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	1.91	Antenna B3 MPE%	1.91	Antenna C3 MPE%	1.91

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**9.15 %**
Town	0.02 %
Clearwire	0.77 %
AT&T	6.38 %
COX	1.90 %
Verizon Wireless	6.03 %
Site Total MPE %:	**24.25 %**

T-Mobile Sector A Total:	9.15 %
T-Mobile Sector B Total:	9.15 %
T-Mobile Sector C Total:	9.15 %
Site Total:	24.25 %

T-Mobile _Max per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 1900 MHz (PCS) UMTS	**2**	**1,167.14**	**65**	**24.11**	**PCS - 1900 MHz**	**1000**	**2.41 %**
T-Mobile 2100 MHz (AWS) LTE	**2**	**2,334.27**	**65**	**48.22**	**AWS - 2100 MHz**	**1000**	**4.82 %**
T-Mobile 700 MHz LTE	**1**	**865.21**	**65**	**8.94**	**700 MHz**	**467**	**1.91 %**
						Total:	**9.15 %**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	9.15 %
Sector B:	9.15 %
Sector C:	9.15 %
T-Mobile Per Sector Maximum:	9.15 %
Site Total:	24.25 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **24.25%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.