NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

December 17, 2015

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

RE: Notice of Exempt Modification
230 Clove Mill Road, Mansfield CT 06268
Latitude: 41.77579
Longitude: -72.22258
T-Mobile Site#: CTHA211A_L700

Dear Ms. Bachman:

T-Mobile currently maintains three antennas at the 148-foot level of the existing 178-foot monopole at 230 Clove Mill Road, Mansfield Ct 06268. The tower is owned by American Tower Company formerly, Global Tower Assets III, LLC. The property is owned by Town of Mansfield. T-Mobile now intends to replace six (6) of its existing antennas with three (3) new 1900 MHz antenna and three(3) new 700 MHz antenna. The antenna would be installed at the 148-foot level of the tower. T-Mobile also intends to install three (3) Andrew ATSBT-BOTTOM-MF (Bias-T) at the 148-foot level.

This facility was approved by the Town of Mansfield in PZC file 1209 on September 15, 2003. This approval included the condition(s) for a 180-foot telecommunication tower and related facilities with a staggered row of evergreen trees of mixed species between the Town Garage/Bicentennial Pond access road and the compound area and 8 foot high wooden fence around the compound. This modification complies with the aforementioned condition(s).

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 Brandon Robertson, Town Manager for the Town of Avon, as well as the property owner and the tower owner.

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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: Paul Shapiro- Mayor - as elected official
American Tower Company - as tower owner
Town of Mansfield - as property owner

T-MOBILE USA, INC.
12920 SE 38TH STREET
BELLEVUE, WA 98006
(425) 378-4000

3176734
9/2/2015
2000011160

Invoice Number	Inv. Date	Description	Deductions	Voucher	Amount Paid
CKSEE0104	8/31/2015	SR CTHA211A SITING COUNCIL FIL	0.00	1101588439	625.00

DO NOT ACCEPT THIS CHECK UNLESS THE FACE FADES FROM BLACK TO RED WITH LOGO IN BACKGROUND. THE BACK OF THIS DOCUMENT HAS HEAT-SENSITIVE INK THAT CHANGES FROM ORANGE TO YELLOW.
COPYBAN CAPTURE® ANTI-FRAUD PROTECTION

T-MOBILE USA, INC.
12920 SE 38th Street
Bellevue, WA 98006
(425) 378-4000

The Bank of New York Mellon
Pittsburgh, PA
60-160/433

3176734
9/2/2015
VID 2000011160

PAY $625 00
SIX TWO FIVE CTS CTS

*$625.00

Six Hundred Twenty Five Dollars Only*******

To The Order Of
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQ
NEW BRITAIN, CT 06051

VOID AFTER 180 DAYS
THIS CHECK CLEARS THROUGH POSITIVE PAY

⑈000317673⑈ ⑆043301601⑆ 013⑈8430⑈

THE ORIGINAL DOCUMENT HAS A REFLECTIVE WATERMARK ON THE BACK — HOLD AT AN ANGLE TO VIEW. DO NOT CASH IF MISSING

Exhibit A

TOWN OF MANSFIELD

Planning and Zoning Commission

Audrey P. Beck Building
Four South Eagleville Road
Storrs, Connecticut 06268
Telephone (203) 429-3330

Memo to: Town Council
From: Planning and Zoning Commission
A. H. Barberet, Chairman
Date: 9/17/03

Re: PZC approval of proposed telecommunication tower and related facilities adjacent to Town Garage, PZC file 1209

At a meeting held on September 15, 2003, the Mansfield Planning and Zoning Commission unanimously adopted the following motion:

"to approve with conditions the special permit application (file 1209) of the Town of Mansfield and TCP Communications, Inc. for a 180-foot telecommunication tower and related facilities and site work to be located at 230 Clover Mill Road, in an RAR-90 zone, as submitted to the Commission and shown on plans revised through 6/5/03 and as presented at a Public Hearing on 8/4/03. This approval is granted because the application as hereby approved is considered to be in compliance with Article V, Section B, Article X, Section R, and other provisions of the Mansfield Zoning Regulations, and is granted with the following conditions:

1. This approval is based on submitted plans and project descriptions. Any change in plans or the proposed use of the site shall require further review and approval as per Mansfield's Zoning Regulations. The applicant shall be responsible for meeting Building Permit requirements and complying with all applicable State and Federal regulations pertaining to the subject telecommunication use.
2. Prior to any use of the telecommunication facilities and the issuance of a Certificate of Compliance, all site work shall be satisfactorily completed. Based on the provisions of Article V, Section B.7.c, a variation of this condition may be authorized by the Commission, provided that public health and safety components of the project have been satisfactorily completed.
3. To help ensure effective long-term screening of the equipment compound area and compliance with regulatory provisions, the plans shall be revised to incorporate a staggered row of evergreen trees of mixed species between the Town Garage/Bicentennial Pond access road and the compound area. The size, type and location of this required evergreen screen shall be approved by the PZC officers, with staff assistance. With this revision, the proposed eight (8) foot high wooden fence around the compound, and the retention of existing wooded areas around the compound, the proposal will be acceptably screened. The compound and tower are not expected to be readily visible from Clover Mill Road or nearby residences along Clover Mill Road.
4. Whereas abandonment/tower removal issues are addressed by Town ownership and the Town's contract with TCP Communications, Inc., a separate bond pursuant to Article X, Section R.6 of the Zoning Regulations shall not be required.
5. This permit shall not become valid until the applicant obtains the permit form from the Planning Office and files it on the Land Records."

If there are any questions regarding this action, the Planning Office may be contacted.

Exhibit B

T-MOBILE NORTHEAST LLC

SITE #: CTHA211A

SITE NAME: CTHA211/TCP COMMUNICATION

SITE ADDRESS:
230 CLOVER MILL ROAD
MANSFIELD , CT 06268

WIRELESS BROADBAND FACILITY
CONSTRUCTION DRAWINGS
(704G 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 T–MOBILE 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 T–MOBILE 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 T–MOBILE 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.

SITE INFORMATION

SITE NUMBER:	CTHA211A
SITE NAME:	CTHA211/TCP COMMUNICATION
SITE ADDRESS:	230 CLOVER MILL ROAD MANSFIELD , CT 06268
LAT./LONG.:	N 41.77579 / W –72.22258
JURISDICTION:	TOWN OF MANSFIELD , CT
PROPERTY OWNER:	ATC EMILY HANNON SR. ACCOUNT PROJECT MANAGER AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 781–926–4660 (OFFICE) EMILY.HANNON@AMERICANTOWER.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
ARCHITECT/ENGINEER:	ATLANTIS GROUP INC. 1340 CENTRE STREET SUITE 212 NEWTON CENTER, MA 02459 (617) 965–0789

SHEET INDEX

SHEET	DESCRIPTION
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A–1	SITE PLAN AND ELEVATION
A–2	ANTENNA PLAN AND DETAILS
E–1	GROUNDING AND POWER ONE LINE DIAGRAM
E–2	GROUNDING DETAILS

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

ATLANTIS GROUP
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617–965–0789
Fax: 617–213–5056

SUBMITTALS

DATE	DESCRIPTION	REVISION
09/04/15	ISSUED FOR REVIEW	A
10/26/15	FINAL CD	0

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

DRAWN BY: FG
CHECKED BY: SM

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

PROFESSIONAL SEAL

SITE NAME
CTHA211A
SITE NAME
CTHA211/TCP
COMMUNICATION
SITE ADDRESS
230 CLOVER MILL ROAD
MANSFIELD , CT 06268

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 T-MOBILE 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 "T-MOBILE". 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.
   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.

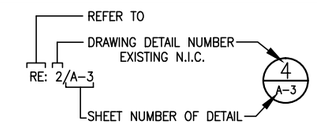
INSURANCE AND BONDS

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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SUBMITTALS

DATE	DESCRIPTION	REVISION
09/04/15	ISSUED FOR REVIEW	A
10/26/15	FINAL CD	0

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

DRAWN BY: FG
CHECKED BY: SM

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

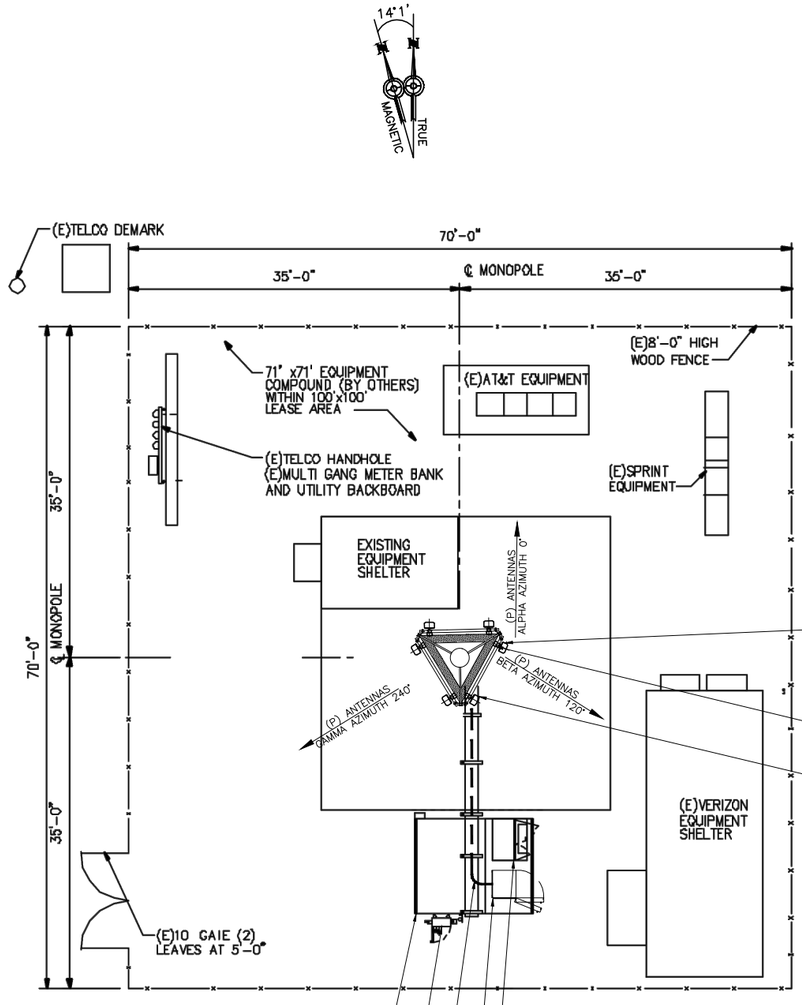
PROFESSIONAL SEAL

SITE NAME
CTHA211A
SITE NAME
CTHA211/TCP
COMMUNICATION
SITE ADDRESS
230 CLOVER MILL ROAD
MANSFIELD , CT 06268

SHEET TITLE
GENERAL AND ELECTRICAL NOTES

SHEET NUMBER
N-1

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.



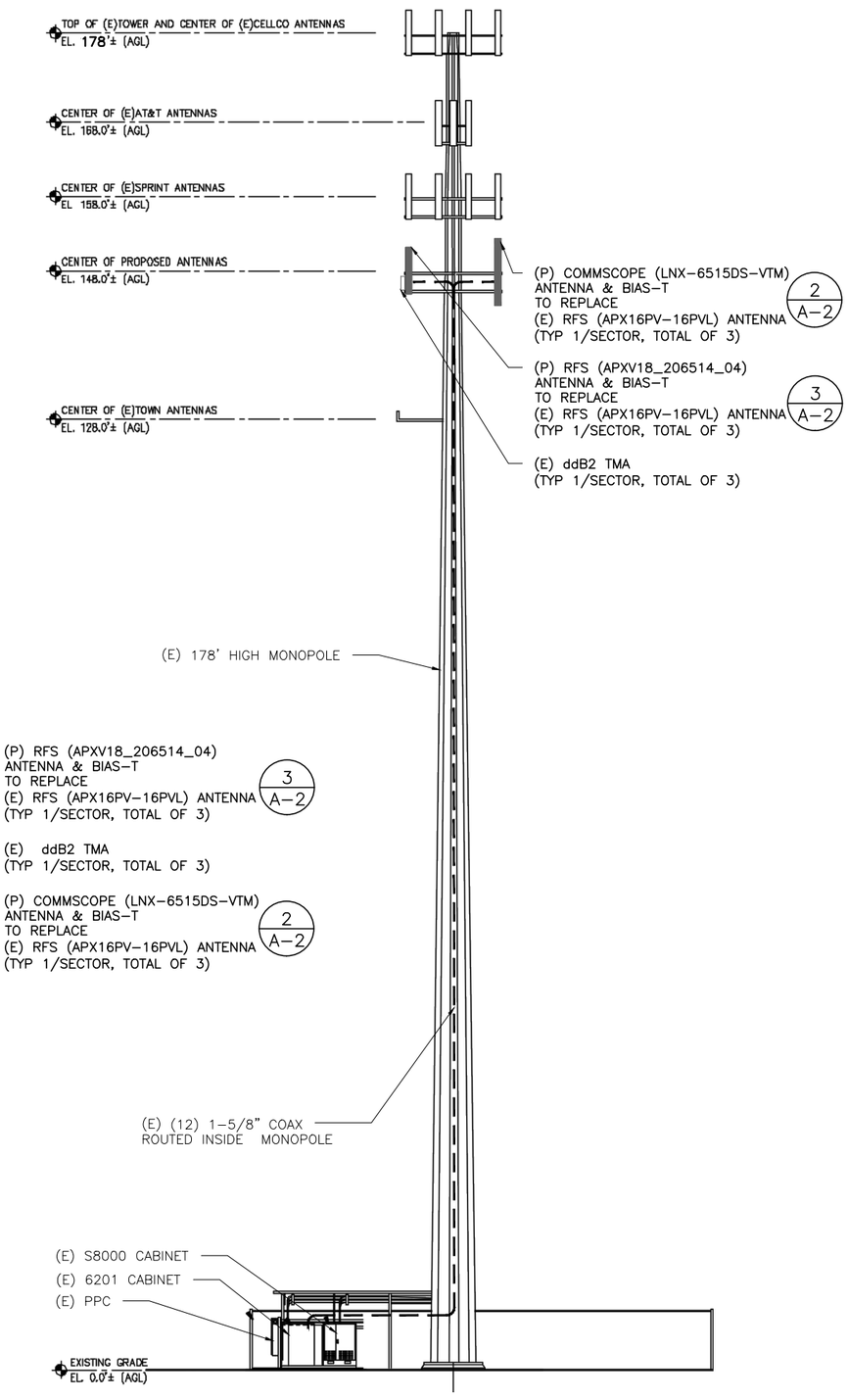
SITE PLAN

1 / A-1

SCALE: 1/16" = 1'-0" (11x17)
1/8" = 1'-0" (24X36)

0 16 32 48

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



ELEVATION

2 / A-2

SCALE: 1" = 20'-0" (11x17)
1" = 10'-0" (24x36)

0 20 40 60

SCALE 1"=20' (11x17)
1"=10' (24x36)

GENERAL SITE NOTES

1. SITE INFORMATION WAS OBTAINED FROM A FIELD INVESTIGATION PERFORMED BY ATLANTIS 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
- CHAIN LINK FENCE
- OPAQUE WOODEN FENCE
- 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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CONSTR.			
SITE AC.			

DRAWN BY: FG
CHECKED BY: SM

PROFESSIONAL SEAL

SITE NAME
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CTHA211/TCP
COMMUNICATION
SITE ADDRESS
230 CLOVER MILL ROAD
MANSFIELD , CT 06268

SHEET TITLE
SITE PLAN AND ELEVATION

SHEET NUMBER
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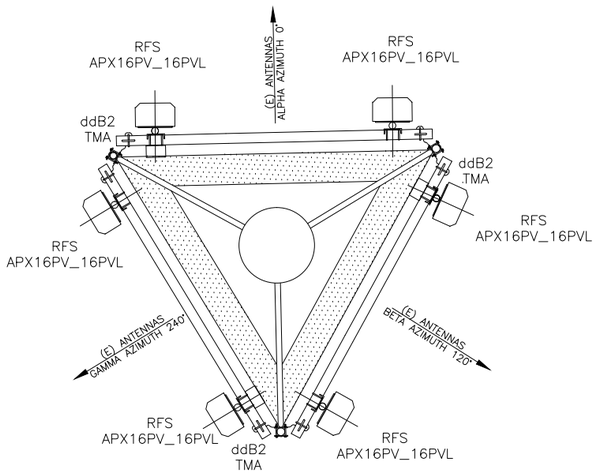
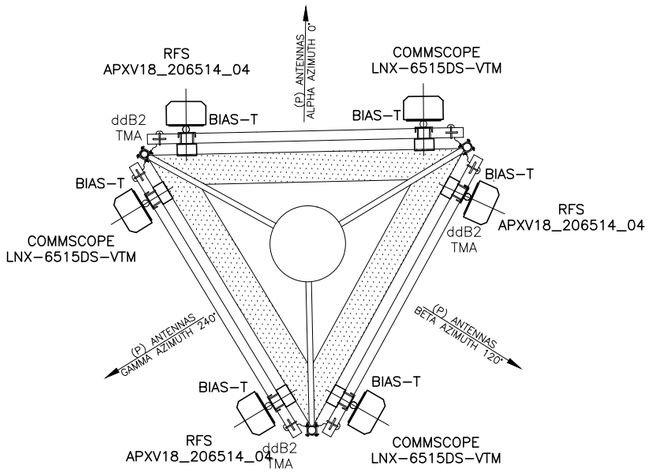


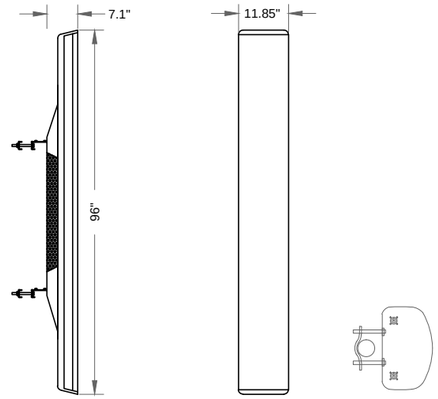
EXISTING ANTENNA CONFIGURATION



PROPOSED ANTENNA CONFIGURATION

ANTENNA PLAN 1/A-2

SCALE: N.T.S

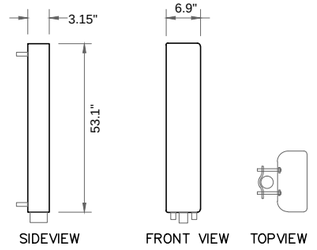


MANUFACTURE: COMMSCOPE DUAL POLE
MODEL NO. LNX-6515DS-VTM

DIMENSIONS – HxWxD, (IN) 96x11.85x7.1

COMMSCOPE ANTENNA DETAIL 2/A-2

SCALE: N.T.S

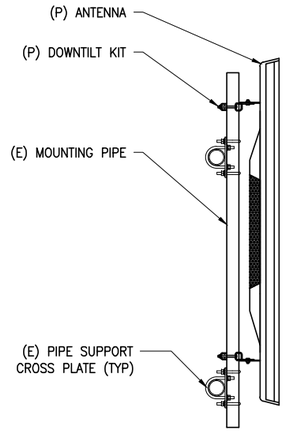


MANUFACTURE: RFS:
MODEL NO. APXV18-206514S-04

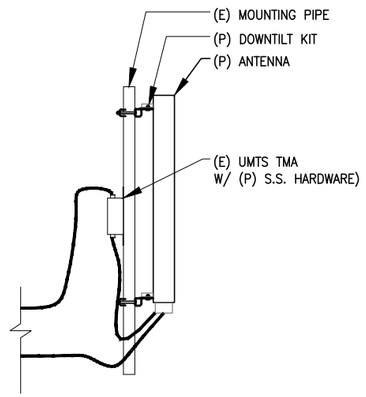
DIMENSIONS – HxWxD, (IN) 53.1x6.9x3.15

RFS APX18206514-04 ANTENNA DETAIL 3/A-2

SCALE: N.T.S



COMMSCOPE ANTENNA



RFS APX18206514-04 ANTENNA

ANTENNA MOUNT DETAILS 4/A-2

SCALE: N.T.S

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SITE NAME
CTHA211A

SITE NAME
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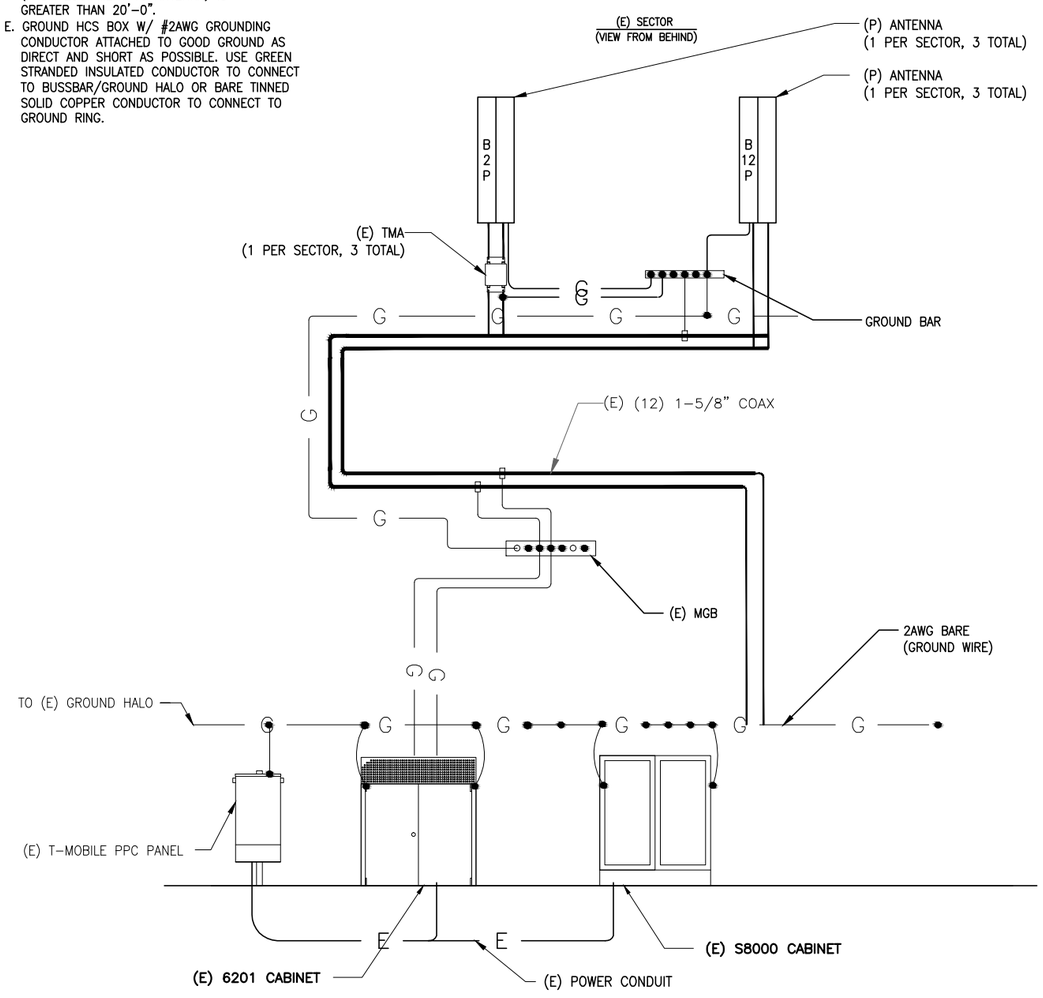
COMMUNICATION

SITE ADDRESS
230 CLOVER MILL ROAD
MANSFIELD , CT 06268

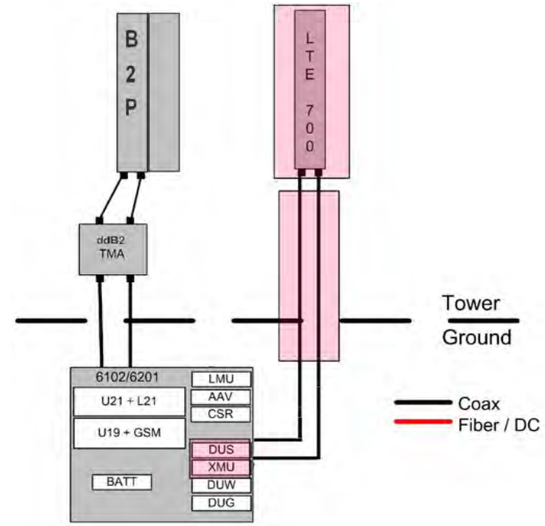
SHEET TITLE
ANTENNA PLAN
AND
DETAILS

SHEET NUMBER
A-2

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 1/E-1
SCALE: N.T.S



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 ⅜" 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

704G CONFIGURATION
COAX/FIBER PLUMBING DIAGRAM 2/E-1
SCALE: N.T.S

T-MOBILE NORTHEAST, LLC
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BLOOMFIELD, CT 06002
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SUBMITTALS		
DATE	DESCRIPTION	REVISION
09/04/15	ISSUED FOR REVIEW	A
10/26/15	FINAL CD	0

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

DRAWN BY:	FG
CHECKED BY:	SM

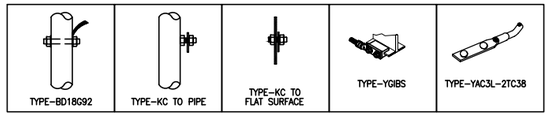
STATE OF CONNECTICUT
HOSSEIN VAHEDI
No. ARI. 11162
LICENSED ARCHITECT

PROFESSIONAL SEAL

SITE NAME
CTHA211A
SITE NAME
CTHA211/TCP
COMMUNICATION
SITE ADDRESS
230 CLOVER MILL ROAD
MANSFIELD , CT 06268

SHEET TITLE
GROUNDING AND ONE LINE DIAGRAM

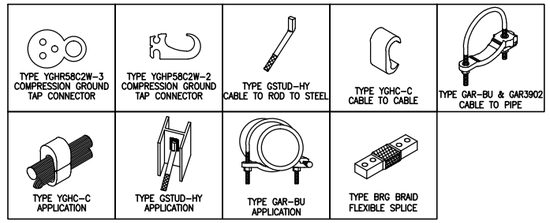
SHEET NUMBER
E-1



BURNDY GROUNDING DETAILS

1 E-3

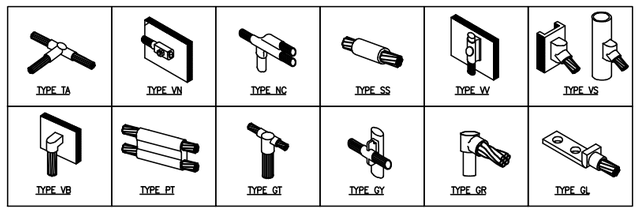
SCALE: N.T.S



BURNDY GROUNDING PRODUCTS

2 E-3

SCALE: N.T.S



CADWELD GROUNDING CONNECTION PRODUCTS

3 E-3

SCALE: N.T.S

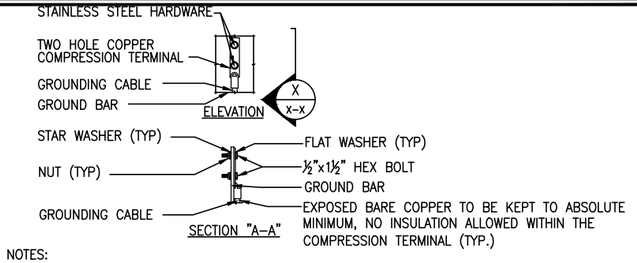
TERMINATION TYPES:
A. MECHANICAL COMPRESSION LUG
B. DOUBLE BARRELL COMPRESSION CONNECTOR
C. EXOTHERMIC TERMINATION
D. BEAM CLAMP

	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

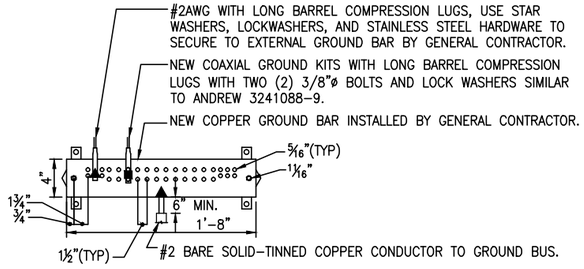
GROUNDING TERMINATION MATRIX

7 E-3

SCALE: N.T.S



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

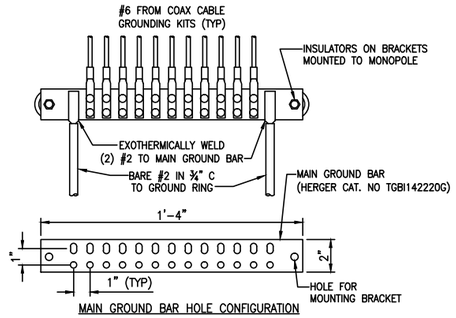


NOTES:
1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/16".

TYPICAL GROUND BAR CONNECTIONS DETAIL

4 E-3

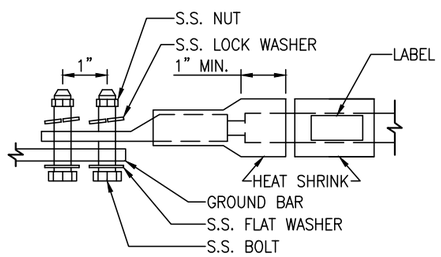
SCALE: N.T.S



GROUND BAR DETAIL

5 E-3

SCALE: N.T.S



LUG NOTES:
1. ALL HARDWARE IS 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS.
2. ALL HARDWARE SHALL BE S.S. 3/8"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

6 E-3

SCALE: N.T.S

T-MOBILE NORTHEAST, LLC
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SUBMITTALS

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

DRAWN BY: FG
CHECKED BY: SM

PROFESSIONAL SEAL

SITE NAME
CTHA211A
SITE NAME
CTHA211/TCP
COMMUNICATION
SITE ADDRESS
230 CLOVER MILL ROAD
MANSFIELD , CT 06268

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
E-2

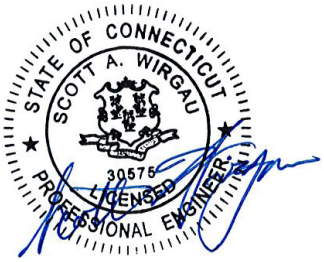
Exhibit C

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**178 ft Monopole**
ATC Site Name	:	**Mansfield Center 1 CT, CT**
ATC Site Number	:	**376046**
Engineering Number	:	**63859921**
Proposed Carrier	:	**T-Mobile**
Carrier Site Name	:	**CTHA211/TCP Communication**
Carrier Site Number	:	**CTHA211A**
Site Location	:	**230 Clover Mill Road** **STORRS MANSFIELD, CT 06268-2826** **41.775778,-72.222500**
County	:	**Tolland**
Date	:	**October 15, 2015**
Max Usage	:	**52%**
Result	:	**Pass**

Reviewed by:
Scott Wirgau, PE
Structural Team Leader



Prepared By:
Jessica Abbott, E.I.
Structural Engineer I

Jessica Abbott

Oct 20 2015 1:36 PM

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

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Supporting Documents 1

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Conclusion 1

Existing and Reserved Equipment 2

Equipment to be Removed 2

Proposed Equipment 2

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Foundations 3

Deflection, Twist, and Sway 3

Standard Conditions 4

Calculations ..... Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 178 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	PennSummit Tubular PJF Job #29203-0151, dated December 23, 2003
Foundation Drawing	PennSummit Tubular PJF Job #29203-0151, dated December 23, 2003
Geotechnical Report	JGI Project #01133G, dated May 14, 2001

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	100 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.17, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
181.0	181.0	1	Yagi	Stand-Off	(1) 7/8" Coax	Town Of Mansfield
178.0	191.0	2	18' Dipole	Platform w/ Handrails	(4) 7/8" Coax	
	184.0	1	5' Omni			
	182.0	1	2' x 4' Rectangular Grid Dish			
	178.0	6	RFS FD9R6004/2C-3L		(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH 2X60-1900			
		3	Alcatel-Lucent RRH2X60-AWS			
		2	RFS DB-T1-6Z-8AB-0Z			
		6	Commscope LNX-6514DS-A1M			
		6	Commscope HBXX-6517DS-A2M			
168.0	168.0	6	Powerwave LGP21401	Flush	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	AT&T Mobility
		1	Raycap DC6-48-60-18-8F			
		6	Ericsson RRU11			
		3	Powerwave 7770.00			
		3	KMW AM-X-CD-16-65-00T-RET			
158.0	158.0	6	RRH	Low Profile Platform	(3) 1 1/4" Hybriflex Cable	Sprint Nextel
		3	RFS APXVSPP18-C-A20			
145.0	-	-	-	Low Profile Platform	(12) 1 5/8" Coax	T-Mobile
110.0	110.0	1	Yagi	T-Arms	(8) 7/8" Coax	Town Of Mansfield
		3	5' Omni			
		1	2' x 4' Rectangular Grid Dish			
		3	18' Dipole			
73.0	73.0	1	GPS	Flush	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
145.0	148.0	6	RFS APX16PV-16PVL-E-00	-	-	T-Mobile

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
145.0	148.0	3	Andrew ATSBT-BOTTOM-MF	Low Profile Platform	-	T-Mobile
		3	RFS APX18-209014-CT5			
		3	Commscope LNX-6515DS-A1M			

[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	44%	Pass
Shaft	52%	Pass
Base Plate	42%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,091.4	51%
Shear (Kips)	32.8	21%

The foundation has a factor of safety greater than 2.0.

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
178.0	2' x 4' Rectangular Grid Dish	Town of Mansfield	1.490	0.916
145.0	Andrew ATSBT-BOTTOM-MF	T-Mobile	0.985	0.807
	RFS APX18-209014-CT5			
	Commscope LNX-6515DS-A1M			

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

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CORPORATION

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

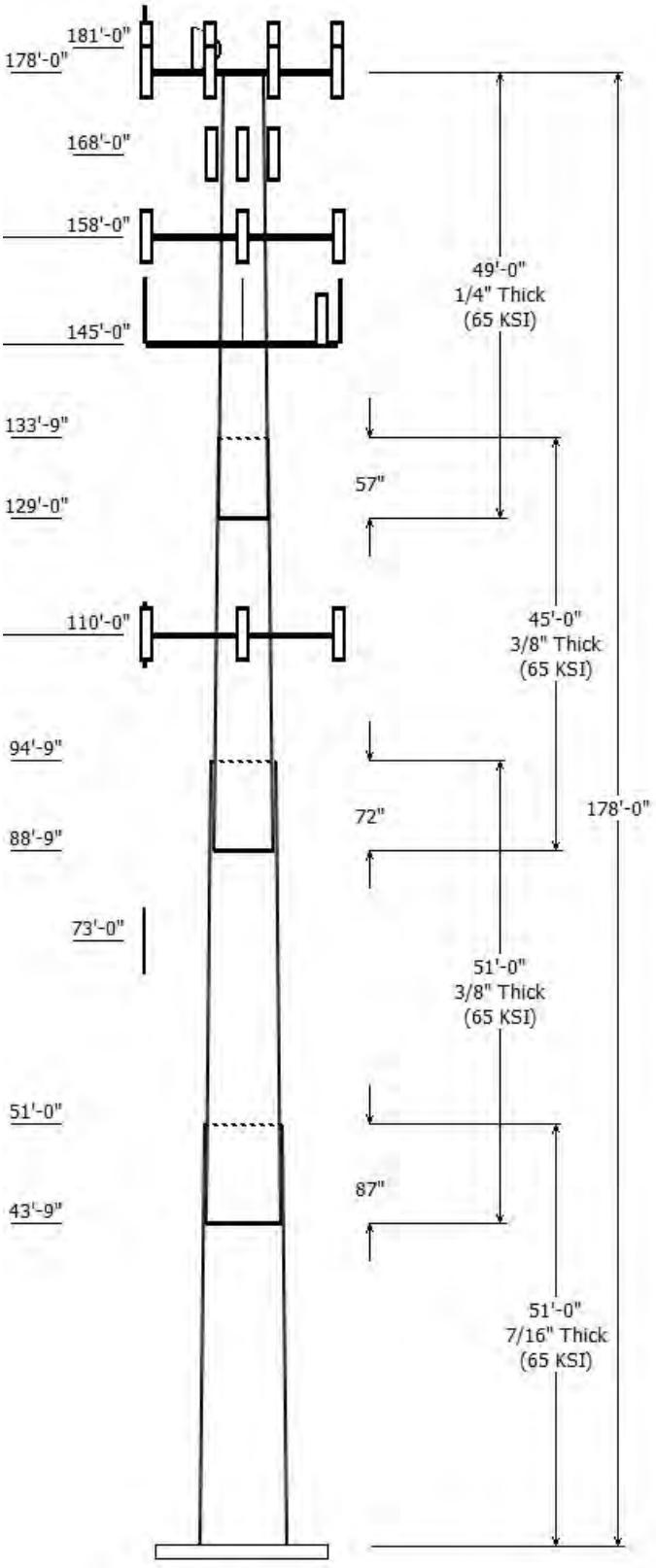
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



Job Information

Pole :	376046	Code:	ANSI/TIA-222-G
Description :	178 ft PennSummit Monopole		
Client :	T-MOBILE	Struct Class :	II
Location :	Mansfield Center 1 CT, CT		
Shape :	18 Sides	Exposure :	B
Height :	178.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.252023(in/ft)		

Sections Properties

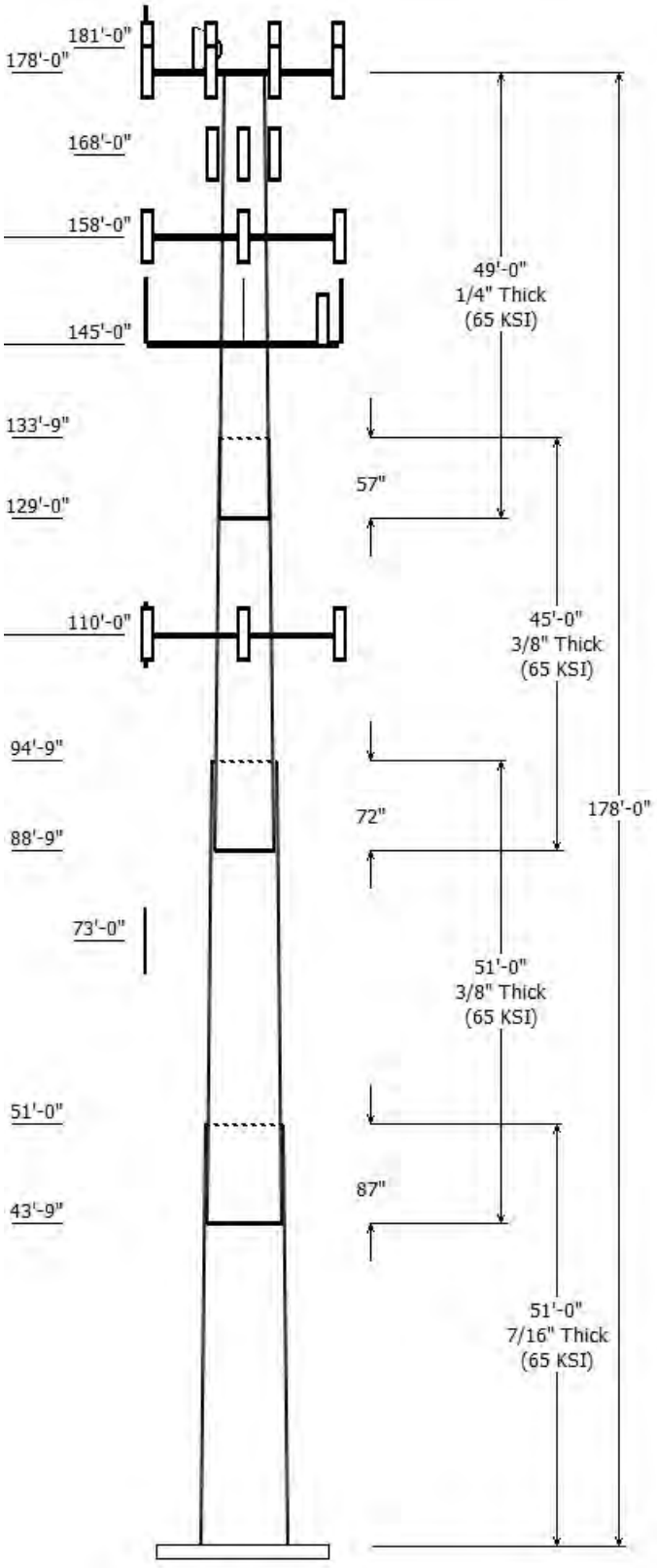
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	51.000	55.507	68.360	0.438		0.000	0.252023	65
2	51.000	45.231	58.084	0.375	Slip Joint	87.000	0.252023	65
3	45.000	36.152	47.493	0.375	Slip Joint	72.000	0.252023	65
4	49.000	25.500	37.849	0.250	Slip Joint	57.000	0.252023	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
181.000	181.000	1	Yagi
178.000	178.000	6	Commscope HBXX-6517DS-A2M
178.000	178.000	6	Commscope LNX-6514DS-A1M
178.000	178.000	2	RFS DB-T1-6Z-8AB-0Z
178.000	178.000	3	Alcatel-Lucent RRH2X60-AWS
178.000	178.000	3	Alcatel-Lucent RRH 2X60-1900
178.000	191.000	2	18' Dipole
178.000	182.000	1	2' x 4' Rectangular Grid Dish
178.000	184.000	1	5' Omni
178.000	178.000	6	RFS FD9R6004/2C-3L
178.000	178.000	1	Flat Platform w/ Handrails
168.000	168.000	3	KMW AM-X-CD-16-65-00T-RET
168.000	168.000	3	Powerwave Allgon 7770.00
168.000	168.000	6	Ericsson RRU11
168.000	168.000	6	Powerwave Allgon LGP21401
168.000	168.000	1	Raycap DC6-48-60-18-8F
158.000	158.000	3	RFS APXVSPP18-C-A20
158.000	158.000	6	RRH
158.000	158.000	1	Round Low Profile Platform
145.000	148.000	3	Commscope LNX-6515DS-A1M
145.000	148.000	3	RFS APX18-209014-CT5
145.000	148.000	3	Andrew ATSBT-BOTTOM-MF
145.000	145.000	1	Round Low Profile Platform
110.000	110.000	1	Yagi
110.000	110.000	3	18' Dipole
110.000	110.000	1	2' x 4' Rectangular Grid Dish
110.000	110.000	3	5' Omni
110.000	110.000	3	Flat T-Arm
73.000	73.000	1	GPS

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	73.000	1/2" Coax	No
0.000	110.00	7/8" Coax	No
0.000	145.00	1 5/8" Coax	No
0.000	158.00	1 1/4" Hybriflex	No
0.000	168.00	0.39" Fiber Trunk	No
0.000	168.00	0.78" 8 AWG 6	No
0.000	168.00	1 5/8" Coax	No
0.000	178.00	1 5/8" Coax	No



0.000	178.00	1 5/8" Hybriflex	No
0.000	178.00	7/8" Coax	No
0.000	181.00	7/8" Coax	No

Load Cases

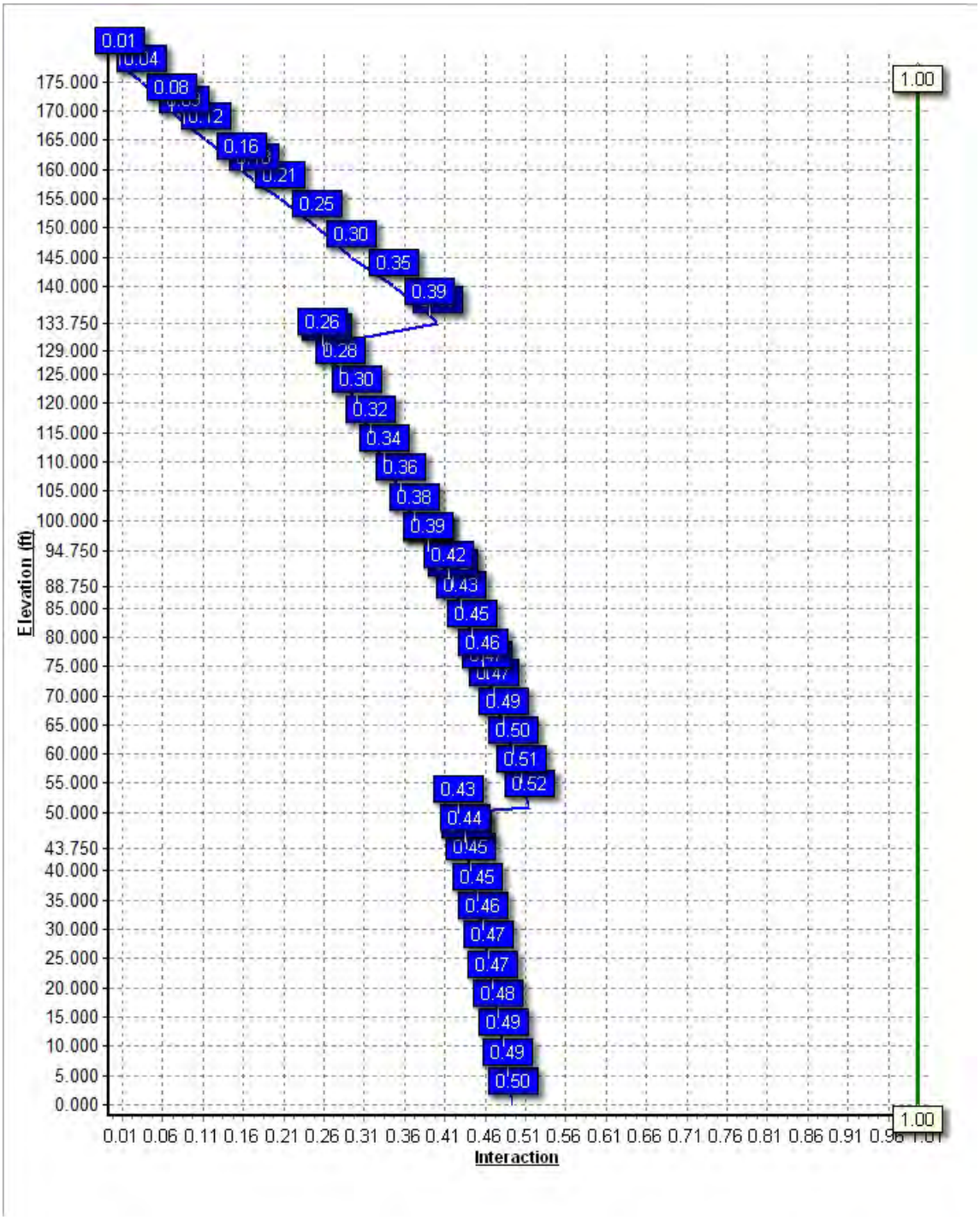
1.2D + 1.6W	100 mph with No Ice
0.9D + 1.6W	100 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4091.38	32.80	62.43
0.9D + 1.6W	4057.07	32.79	46.82
1.2D + 1.0Di + 1.0Wi	1225.93	9.79	100.96
(1.2 + 0.2Sds) * DL + E ELFM	292.34	2.14	62.17
(1.2 + 0.2Sds) * DL + E EMAM	350.71	2.64	62.17
(0.9 - 0.2Sds) * DL + E ELFM	289.45	2.13	43.36
(0.9 - 0.2Sds) * DL + E EMAM	346.95	2.64	43.36
1.0D + 1.0W	915.91	7.38	52.05

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	178.00	17.878	0.916


Elevation (ft)
175.000
170.000
165.000
160.000
155.000
150.000
145.000
140.000
133.750
129.000
125.000
120.000
115.000
110.000
105.000
100.000
94.750
88.750
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
43.750
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
0.01 0.06 0.11 0.16 0.21 0.26 0.31 0.36 0.41 0.46 0.51 0.56 0.61 0.66 0.71 0.76 0.81 0.86 0.91
Interaction
1.00
1.00

Site Number:	**376046**	**Code: ANSI/TIA-222-G**	
Site Name:	**Mansfield Center 1 CT, CT**	**Engineering Number: 63859921**	**10/20/2015 1:09:51 PM**
Customer:	**T-MOBILE**		

Analysis Parameters

Location:	**TOLLAND County, CT**		
Code:	**ANSI/TIA-222-G**	**Height (ft):**	**178**
Shape:	**18 Sides**	**Base Diameter (in):**	**68.36**
Pole Type:	**Taper**	**Top Diameter (in):**	**25.50**
Pole Manfacturer:	**PennSummit Tub**	**Taper (in/ft) :**	**0.252**

Ice & Wind Parameters

Structure Class:	**II**	**Design Wind Speed Without Ice:**	**100 mph**
Exposure Catagory:	**B**	**Design Wind Speed With Ice:**	**50 mph**
Topographic Catagory:	**1**	**Operational Wind Speed:**	**60 mph**
Crest Height:	**0.0 ft**	**Design Ice Thickness:**	**0.00 in**

Seismic Parameters

Analysis Method:	**Equivalent Modal Analysis & Equivalent Lateral Force Methods**				
Site Class:	**D - Stiff Soil**				
Period Based on Rayleigh Method (sec):	**2.13**				
T_L (sec):	**6**	**p:**	**1.3**	**C_s:**	**0.032**
S_s:	**0.174**	**S_1:**	**0.063**	**C_s Max:**	**0.032**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s Min:**	**0.030**
S_{ds}:	**0.186**	**S_{d1}:**	**0.101**		

Load Cases

1.2D + 1.6W	**100 mph with No Ice**
0.9D + 1.6W	**100 mph with No Ice (Reduced DL)**
1.2D + 1.0Di + 1.0Wi	**50 mph with 1.00 in Radial Ice**
(1.2 + 0.2Sds) * DL + E ELFM	**Seismic Equivalent Lateral Forces Method**
(1.2 + 0.2Sds) * DL + E EMAM	**Seismic Equivalent Modal Analysis Method**
(0.9 - 0.2Sds) * DL + E ELFM	**Seismic (Reduced DL) Equivalent Lateral Forces Method**
(0.9 - 0.2Sds) * DL + E EMAM	**Seismic (Reduced DL) Equivalent Modal Analysis Method**
1.0D + 1.0W	**Serviceability 60 mph**

Site Number: 376046 **Code:** ANSI/TIA-222-G

Site Name: Mansfield Center 1 CT, CT **Engineering Number:** 63859921 **10/20/2015 1:09:51 PM**

Customer: T-MOBILE

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	51.000	0.4375	65		0.00	14,819	68.36	0.00	94.32	54974.8	26.14	156.25	55.507	51.00	76.47	29298.9	20.96	126.87	0.252023
2-18	51.000	0.3750	65	Slip	87.00	10,592	58.08	43.75	68.69	28900.5	25.90	154.89	45.231	94.75	53.39	13571.6	19.86	120.62	0.252023
3-18	45.000	0.3750	65	Slip	72.00	7,554	47.49	88.75	56.08	15730.2	20.92	126.65	36.152	133.75	42.58	6886.3	15.59	96.41	0.252023
4-18	49.000	0.2500	65	Slip	57.00	4,157	37.84	129.00	29.83	5328.6	25.28	151.40	25.500	178.00	20.04	1613.8	16.57	102.00	0.252023
				Shaft Weight		37,123													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
181.00	Yagi	1	1.50	0.420	1.00	18.41	1.523	1.00	0.000	0.000
178.00	18' Dipole	2	55.00	6.770	1.00	273.43	7.077	1.00	0.000	13.000
178.00	2' x 4' Rectangular Grid Dish	1	40.00	4.750	1.00	244.54	48.582	1.00	0.000	4.000
178.00	5' Omni	1	10.00	1.000	1.00	117.85	2.886	1.00	0.000	6.000
178.00	Alcatel-Lucent RRH 2X60-	3	39.60	1.880	0.50	139.24	2.697	0.50	0.000	0.000
178.00	Alcatel-Lucent RRH2X60-AWS	3	39.60	1.880	0.50	139.24	2.697	0.50	0.000	0.000
178.00	Commscope HBXX-6517DS-	6	40.80	8.530	0.81	279.69	11.782	0.81	0.000	0.000
178.00	Commscope LNX-6514DS-	6	38.80	8.170	0.83	333.49	9.983	0.83	0.000	0.000
178.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,929.92	70.880	1.00	0.000	0.000
178.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.800	0.67	243.28	6.012	0.67	0.000	0.000
178.00	RFS FD9R6004/2C-3L	6	2.60	0.370	0.50	24.64	0.706	0.50	0.000	0.000
168.00	Ericsson RRU11	6	63.90	2.950	0.67	224.97	3.946	0.67	0.000	0.000
168.00	KMW AM-X-CD-16-65-00T-	3	48.50	8.020	0.79	320.99	9.804	0.79	0.000	0.000
168.00	Powerwave Allgon 7770.00	3	35.00	5.510	0.77	231.63	6.963	0.77	0.000	0.000
168.00	Powerwave Allgon LGP21401	6	14.10	1.100	0.50	65.79	1.751	0.50	0.000	0.000
168.00	Raycap DC6-48-60-18-8F	1	20.00	1.110	1.00	137.92	2.766	1.00	0.000	0.000
158.00	RFS APXVSPP18-C-A20	3	57.00	8.020	0.83	342.11	9.792	0.83	0.000	0.000
158.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,369.31	47.460	1.00	0.000	0.000
158.00	RRH	6	45.00	2.400	1.00	161.47	3.840	1.00	0.000	0.000
145.00	Andrew ATSBT-BOTTOM-MF	3	1.80	0.200	0.50	18.83	0.488	0.50	0.000	3.000
145.00	Commscope LNX-6515DS-	3	50.30	11.440	0.84	421.06	13.665	0.84	0.000	3.000
145.00	RFS APX18-209014-CT5	3	14.30	3.220	0.78	236.41	7.983	0.78	0.000	3.000
145.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,361.20	47.220	1.00	0.000	0.000
110.00	18' Dipole	3	55.00	6.770	1.00	394.11	17.384	1.00	0.000	0.000
110.00	2' x 4' Rectangular Grid Dish	1	40.00	4.750	1.00	234.64	46.461	1.00	0.000	0.000
110.00	5' Omni	3	10.00	1.000	1.00	62.49	1.652	1.00	0.000	0.000
110.00	Flat T-Arm	3	250.00	12.900	0.67	520.09	23.468	0.67	0.000	0.000
110.00	Yagi	1	1.50	0.420	1.00	17.59	1.470	1.00	0.000	0.000
73.00	GPS	1	10.00	1.000	1.00	61.73	1.057	1.00	0.000	0.000
	Totals	83	8355.50		25,545.45			Number of Loadings :		29

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	181.00	1	7/8" Coax	1.09	0.33	N	0.00	N	Tower of Mansfield
0.00	178.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	178.00	2	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon
0.00	178.00	4	7/8" Coax	1.09	0.33	N	0.00	N	Tower of Mansfield
0.00	168.00	1	0.39" Fiber Trunk	0.39	0.07	N	0.00	N	AT&T Mobility
0.00	168.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	168.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility

0.00	158.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Sprint Nextel
0.00	145.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	110.00	8	7/8" Coax	1.09	0.33	N	0.00	N	Town Of Mansfield
0.00	73.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Town Of Mansfield

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	68.360	94.315	54,974.8	26.14	156.25	70.7	1584.	0.0	0.0
5.00		0.4375	67.100	92.566	51,971.5	25.63	153.37	71.3	1525.	0.0	1,589.8
10.00		0.4375	65.840	90.816	49,079.6	25.12	150.49	71.8	1468.	0.0	1,560.0
15.00		0.4375	64.580	89.066	46,297.0	24.62	147.61	72.4	1412.	0.0	1,530.2
20.00		0.4375	63.320	87.316	43,621.7	24.11	144.73	73.0	1356.	0.0	1,500.5
25.00		0.4375	62.059	85.567	41,051.4	23.60	141.85	73.6	1302.	0.0	1,470.7
30.00		0.4375	60.799	83.817	38,584.2	23.09	138.97	74.2	1249.	0.0	1,440.9
35.00		0.4375	59.539	82.067	36,217.8	22.59	136.09	74.8	1198.	0.0	1,411.2
40.00		0.4375	58.279	80.317	33,950.2	22.08	133.21	75.4	1147.	0.0	1,381.4
43.75	Bot - Section 2	0.4375	57.334	79.005	32,313.1	21.70	131.05	75.9	1110.	0.0	1,016.5
45.00		0.4375	57.019	78.568	31,779.3	21.57	130.33	76.0	1097.	0.0	626.5
50.00		0.4375	55.759	76.818	29,703.0	21.06	127.45	76.6	1049.	0.0	2,471.3
51.00	Top - Section 1	0.3750	56.257	66.511	26,241.4	25.04	150.02	71.9	918.7	0.0	487.6
55.00		0.3750	55.249	65.311	24,846.7	24.57	147.33	72.5	885.8	0.0	897.1
60.00		0.3750	53.989	63.811	23,174.0	23.98	143.97	73.2	845.4	0.0	1,098.4
65.00		0.3750	52.728	62.312	21,578.1	23.38	140.61	73.9	806.0	0.0	1,072.9
70.00		0.3750	51.468	60.812	20,057.2	22.79	137.25	74.6	767.6	0.0	1,047.4
73.00		0.3750	50.712	59.912	19,179.9	22.43	135.23	75.0	744.9	0.0	616.2
75.00		0.3750	50.208	59.312	18,609.5	22.20	133.89	75.3	730.0	0.0	405.7
80.00		0.3750	48.948	57.812	17,233.1	21.61	130.53	76.0	693.4	0.0	996.4
85.00		0.3750	47.688	56.312	15,926.4	21.01	127.17	76.7	657.8	0.0	970.9
88.75	Bot - Section 3	0.3750	46.743	55.187	14,991.0	20.57	124.65	77.2	631.7	0.0	711.4
90.00		0.3750	46.428	54.813	14,687.5	20.42	123.81	77.4	623.1	0.0	471.7
94.75	Top - Section 2	0.3750	45.981	54.280	14,263.8	20.21	122.62	77.6	611.0	0.0	1,763.3
95.00		0.3750	45.918	54.205	14,204.8	20.18	122.45	77.7	609.3	0.0	46.1
100.00		0.3750	44.658	52.706	13,058.0	19.59	119.09	78.4	575.9	0.0	909.5
105.00		0.3750	43.398	51.206	11,974.7	19.00	115.73	79.1	543.5	0.0	884.0
110.00		0.3750	42.137	49.706	10,953.0	18.40	112.37	79.8	512.0	0.0	858.5
115.00		0.3750	40.877	48.206	9,991.2	17.81	109.01	80.5	481.4	0.0	832.9
120.00		0.3750	39.617	46.706	9,087.3	17.22	105.65	81.1	451.8	0.0	807.4
125.00		0.3750	38.357	45.207	8,239.7	16.63	102.29	81.8	423.1	0.0	781.9
129.00	Bot - Section 4	0.3750	37.349	44.007	7,600.9	16.15	99.60	82.4	400.8	0.0	607.1
130.00		0.3750	37.097	43.707	7,446.5	16.03	98.93	82.5	395.4	0.0	250.4
133.75	Top - Section 3	0.2500	36.652	28.884	4,835.7	24.44	146.61	72.7	259.9	0.0	923.9
135.00		0.2500	36.337	28.634	4,711.2	24.22	145.35	72.9	255.4	0.0	122.3
140.00		0.2500	35.077	27.634	4,234.7	23.33	140.31	74.0	237.8	0.0	478.7
145.00		0.2500	33.817	26.634	3,791.5	22.44	135.27	75.0	220.8	0.0	461.7
150.00		0.2500	32.557	25.634	3,380.3	21.55	130.23	76.1	204.5	0.0	444.6
155.00		0.2500	31.296	24.634	3,000.0	20.66	125.19	77.1	188.8	0.0	427.6
158.00		0.2500	30.540	24.035	2,786.1	20.13	122.16	77.7	179.7	0.0	248.4
160.00		0.2500	30.036	23.635	2,649.3	19.77	120.15	78.1	173.7	0.0	162.2
165.00		0.2500	28.776	22.635	2,327.1	18.89	115.10	79.2	159.3	0.0	393.6
168.00		0.2500	28.020	22.035	2,146.9	18.35	112.08	79.8	150.9	0.0	228.0
170.00		0.2500	27.516	21.635	2,032.1	18.00	110.06	80.2	145.5	0.0	148.6
175.00		0.2500	26.256	20.635	1,763.2	17.11	105.02	81.3	132.3	0.0	359.6
178.00		0.2500	25.500	20.035	1,613.8	16.57	102.00	81.9	124.7	0.0	207.6
											37,122.7

Load Case: 1.2D + 1.6W — 100 mph with No Ice — 23 Iterations

Gust Response Factor 1.10 — Wind Importance Factor : 1.00
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		279.0	0.0					0.0	0.0	279.0	0.0	0.0	0.0
5.00		552.9	1,907.7					0.0	244.9	552.9	2,152.6	0.0	0.0
10.00		542.5	1,872.0					0.0	244.9	542.5	2,116.9	0.0	0.0
15.00		532.1	1,836.3					0.0	244.9	532.1	2,081.2	0.0	0.0
20.00		521.8	1,800.6					0.0	244.9	521.8	2,045.4	0.0	0.0
25.00		511.4	1,764.8					0.0	244.9	511.4	2,009.7	0.0	0.0
30.00		506.9	1,729.1					0.0	244.9	506.9	1,974.0	0.0	0.0
35.00		512.7	1,693.4					0.0	244.9	512.7	1,938.3	0.0	0.0
40.00		455.5	1,657.7					0.0	244.9	455.5	1,902.5	0.0	0.0
43.75	Bot - Section 2	263.4	1,219.8					0.0	183.6	263.4	1,403.5	0.0	0.0
45.00		335.4	751.8					0.0	61.2	335.4	813.0	0.0	0.0
50.00		322.6	2,965.6					0.0	244.9	322.6	3,210.5	0.0	0.0
51.00	Top - Section 1	270.3	585.2					0.0	49.0	270.3	634.1	0.0	0.0
55.00		487.6	1,076.5					0.0	195.9	487.6	1,272.4	0.0	0.0
60.00		542.6	1,318.1					0.0	244.9	542.6	1,563.0	0.0	0.0
65.00		542.2	1,287.5					0.0	244.9	542.2	1,532.4	0.0	0.0
70.00		432.8	1,256.9					0.0	244.9	432.8	1,501.7	0.0	0.0
73.00	Appertunance(s)	269.7	739.4	38.7	0.0	0.0	12.0	0.0	146.9	308.4	898.3	0.0	0.0
75.00		375.8	486.8					0.0	97.6	375.8	584.4	0.0	0.0
80.00		534.1	1,195.6					0.0	244.0	534.1	1,439.6	0.0	0.0
85.00		463.9	1,165.0					0.0	244.0	463.9	1,409.0	0.0	0.0
88.75	Bot - Section 3	264.5	853.7					0.0	183.0	264.5	1,036.6	0.0	0.0
90.00		318.3	566.0					0.0	61.0	318.3	627.0	0.0	0.0
94.75	Top - Section 2	264.8	2,115.9					0.0	231.8	264.8	2,347.7	0.0	0.0
95.00		274.7	55.4					0.0	12.2	274.7	67.6	0.0	0.0
100.00		519.4	1,091.4					0.0	244.0	519.4	1,335.3	0.0	0.0
105.00		511.8	1,060.8					0.0	244.0	511.8	1,304.7	0.0	0.0
110.00	Appertunance(s)	503.6	1,030.1	1,839.3	0.0	0.0	1,183.8	0.0	244.0	2,342.9	2,457.9	0.0	0.0
115.00		494.8	999.5					0.0	228.1	494.8	1,227.6	0.0	0.0
120.00		485.4	968.9					0.0	228.1	485.4	1,197.0	0.0	0.0
125.00		428.9	938.3					0.0	228.1	428.9	1,166.4	0.0	0.0
129.00	Bot - Section 4	235.8	728.6					0.0	182.5	235.8	911.1	0.0	0.0
130.00		222.5	300.5					0.0	45.6	222.5	346.1	0.0	0.0
133.75	Top - Section 3	233.0	1,108.7					0.0	171.1	233.0	1,279.8	0.0	0.0
135.00		285.2	146.8					0.0	57.0	285.2	203.8	0.0	0.0
140.00		449.2	574.4					0.0	228.1	449.2	802.5	0.0	0.0
145.00	Appertunance(s)	437.4	554.0	2,408.4	0.0	4,163.2	2,039.0	0.0	228.1	2,845.8	2,821.1	0.0	0.0
150.00		425.2	533.6					0.0	169.1	425.2	702.7	0.0	0.0
155.00		332.1	513.2					0.0	169.1	332.1	682.2	0.0	0.0
158.00	Appertunance(s)	203.1	298.1	2,371.5	0.0	0.0	2,329.2	0.0	101.4	2,574.6	2,728.7	0.0	0.0
160.00		276.9	194.6					0.0	60.4	276.9	255.1	0.0	0.0
165.00		311.1	472.3					0.0	151.1	311.1	623.4	0.0	0.0
168.00	Appertunance(s)	189.7	273.6	2,355.0	0.0	0.0	886.2	0.0	90.6	2,544.7	1,250.4	0.0	0.0
170.00		257.8	178.3					0.0	33.8	257.8	212.1	0.0	0.0
175.00		289.0	431.5					0.0	84.5	289.0	516.0	0.0	0.0
178.00	Appertunance(s)	106.2	249.1	6,413.8	0.0	7,660.0	3,574.6	0.0	50.7	6,520.0	3,874.4	0.0	0.0

Site Number:	**376046**	**Code: ANSI/TIA-222-G**	
Site Name:	**Mansfield Center 1 CT, CT**	**Engineering Number: 63859921**	**10/20/2015 1:09:54 PM**
Customer:	**T-MOBILE**		

Load Case: **1.2D + 1.6W** **100 mph with No Ice** **23 Iterations**

Gust Response Factor 1.10 **Wind Importance Factor : 1.00**
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Totals:	**33,002.76**	**62,459.99**	**0.00**	**0.00**

Site Number: 376046 Code: ANSI/TIA-222-G

Site Name: Mansfield Center 1 CT, CT Engineering Number: 63859921 10/20/2015 1:09:54 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.6W 100 mph with No Ice 23 Iterations

Gust Response Factor 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-62.43	-32.80	0.00	-4,091.38	0.00	4,091.38	5,997.45	2,998.72	16,762.15	8,393.53	0.00	0.00	0.498
5.00	-60.22	-32.36	0.00	-3,927.37	0.00	3,927.37	5,935.94	2,967.97	16,280.50	8,152.35	0.06	-0.10	0.492
10.00	-58.05	-31.92	0.00	-3,765.59	0.00	3,765.59	5,872.56	2,936.28	15,800.21	7,911.85	0.22	-0.21	0.486
15.00	-55.91	-31.48	0.00	-3,606.01	0.00	3,606.01	5,807.29	2,903.65	15,321.57	7,672.17	0.50	-0.32	0.480
20.00	-53.81	-31.05	0.00	-3,448.62	0.00	3,448.62	5,740.14	2,870.07	14,844.87	7,433.47	0.89	-0.42	0.473
25.00	-51.74	-30.62	0.00	-3,293.39	0.00	3,293.39	5,671.12	2,835.56	14,370.42	7,195.89	1.39	-0.53	0.467
30.00	-49.71	-30.19	0.00	-3,140.29	0.00	3,140.29	5,600.21	2,800.10	13,898.50	6,959.58	2.01	-0.65	0.460
35.00	-47.72	-29.75	0.00	-2,989.35	0.00	2,989.35	5,527.41	2,763.71	13,429.42	6,724.69	2.75	-0.76	0.453
40.00	-45.78	-29.35	0.00	-2,840.61	0.00	2,840.61	5,452.74	2,726.37	12,963.45	6,491.36	3.60	-0.87	0.446
43.75	-44.35	-29.10	0.00	-2,730.57	0.00	2,730.57	5,395.50	2,697.75	12,616.21	6,317.48	4.33	-0.96	0.441
45.00	-43.50	-28.81	0.00	-2,694.19	0.00	2,694.19	5,376.19	2,688.09	12,500.91	6,259.75	4.58	-0.99	0.439
50.00	-40.26	-28.48	0.00	-2,550.13	0.00	2,550.13	5,297.75	2,648.88	12,042.08	6,029.99	5.68	-1.11	0.431
51.00	-39.61	-28.24	0.00	-2,521.65	0.00	2,521.65	4,306.76	2,153.38	9,900.44	4,957.58	5.92	-1.13	0.518
55.00	-38.29	-27.80	0.00	-2,408.70	0.00	2,408.70	4,261.83	2,130.92	9,619.25	4,816.78	6.91	-1.23	0.509
60.00	-36.67	-27.31	0.00	-2,269.69	0.00	2,269.69	4,203.99	2,101.99	9,269.32	4,641.55	8.27	-1.36	0.498
65.00	-35.09	-26.81	0.00	-2,133.14	0.00	2,133.14	4,144.26	2,072.13	8,921.36	4,467.31	9.77	-1.50	0.486
70.00	-33.55	-26.40	0.00	-1,999.07	0.00	1,999.07	4,082.65	2,041.33	8,575.69	4,294.22	11.41	-1.63	0.474
73.00	-32.63	-26.11	0.00	-1,919.86	0.00	1,919.86	4,044.78	2,022.39	8,369.51	4,190.98	12.46	-1.72	0.466
75.00	-32.02	-25.77	0.00	-1,867.65	0.00	1,867.65	4,019.16	2,009.58	8,232.60	4,122.42	13.19	-1.77	0.461
80.00	-30.53	-25.26	0.00	-1,738.80	0.00	1,738.80	3,953.79	1,976.89	7,892.38	3,952.06	15.12	-1.91	0.448
85.00	-29.09	-24.81	0.00	-1,612.48	0.00	1,612.48	3,886.54	1,943.27	7,555.33	3,783.28	17.20	-2.05	0.434
88.75	-28.03	-24.55	0.00	-1,519.43	0.00	1,519.43	3,834.86	1,917.43	7,304.79	3,657.82	18.85	-2.15	0.423
90.00	-27.38	-24.24	0.00	-1,488.75	0.00	1,488.75	3,817.40	1,908.70	7,221.73	3,616.23	19.42	-2.19	0.419
94.75	-25.02	-23.92	0.00	-1,373.60	0.00	1,373.60	3,792.42	1,896.21	7,104.25	3,557.41	21.66	-2.32	0.393
95.00	-24.93	-23.67	0.00	-1,367.62	0.00	1,367.62	3,788.88	1,894.44	7,087.74	3,549.14	21.79	-2.33	0.392
100.00	-23.57	-23.15	0.00	-1,249.27	0.00	1,249.27	3,717.10	1,858.55	6,759.50	3,384.77	24.29	-2.46	0.376
105.00	-22.24	-22.63	0.00	-1,133.53	0.00	1,133.53	3,643.45	1,821.72	6,435.43	3,222.50	26.94	-2.59	0.358
110.00	-19.84	-20.22	0.00	-1,020.38	0.00	1,020.38	3,567.91	1,783.95	6,115.83	3,062.46	29.72	-2.72	0.339
115.00	-18.60	-19.71	0.00	-919.28	0.00	919.28	3,490.48	1,745.24	5,800.98	2,904.80	32.63	-2.84	0.322
120.00	-17.39	-19.20	0.00	-820.75	0.00	820.75	3,411.18	1,705.59	5,491.19	2,749.67	35.68	-2.97	0.304
125.00	-16.21	-18.74	0.00	-724.76	0.00	724.76	3,330.00	1,665.00	5,186.74	2,597.22	38.85	-3.09	0.284
129.00	-15.29	-18.47	0.00	-649.81	0.00	649.81	3,263.70	1,631.85	4,947.23	2,477.29	41.48	-3.18	0.267
130.00	-14.94	-18.24	0.00	-631.34	0.00	631.34	3,246.93	1,623.47	4,887.93	2,447.60	42.15	-3.21	0.263
133.75	-13.66	-17.95	0.00	-562.93	0.00	562.93	1,888.69	944.35	2,827.82	1,416.01	44.70	-3.29	0.405
135.00	-13.45	-17.68	0.00	-540.49	0.00	540.49	1,879.08	939.54	2,788.91	1,396.53	45.56	-3.32	0.395
140.00	-12.63	-17.21	0.00	-452.12	0.00	452.12	1,839.46	919.73	2,634.12	1,319.02	49.12	-3.47	0.350
145.00	-9.96	-14.22	0.00	-361.90	0.00	361.90	1,797.97	898.98	2,480.87	1,242.28	52.83	-3.61	0.297
150.00	-9.25	-13.77	0.00	-290.80	0.00	290.80	1,754.58	877.29	2,329.46	1,166.46	56.68	-3.73	0.255
155.00	-8.58	-13.40	0.00	-221.96	0.00	221.96	1,709.32	854.66	2,180.17	1,091.71	60.64	-3.84	0.209
158.00	-6.02	-10.66	0.00	-181.75	0.00	181.75	1,681.26	840.63	2,091.74	1,047.43	63.07	-3.90	0.177
160.00	-5.77	-10.37	0.00	-160.44	0.00	160.44	1,662.18	831.09	2,033.31	1,018.16	64.71	-3.93	0.161
165.00	-5.16	-10.02	0.00	-108.60	0.00	108.60	1,613.16	806.58	1,889.16	945.98	68.86	-4.00	0.118
168.00	-4.09	-7.40	0.00	-78.54	0.00	78.54	1,582.84	791.42	1,804.10	903.39	71.39	-4.04	0.090
170.00	-3.90	-7.12	0.00	-63.75	0.00	63.75	1,562.25	781.13	1,748.02	875.31	73.08	-4.06	0.075
175.00	-3.40	-6.80	0.00	-28.13	0.00	28.13	1,509.46	754.73	1,610.20	806.29	77.35	-4.09	0.037
178.00	0.00	-6.54	0.00	-7.72	0.00	7.72	1,476.89	738.44	1,529.21	765.74	79.92	-4.10	0.010

Load Case: 0.9D + 1.6W — 100 mph with No Ice (Reduced DL) — 23 Iterations

Gust Response Factor 1.10 — Wind Importance Factor : 1.00
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		279.0	0.0					0.0	0.0	279.0	0.0	0.0	0.0
5.00		552.9	1,430.8					0.0	183.6	552.9	1,614.5	0.0	0.0
10.00		542.5	1,404.0					0.0	183.6	542.5	1,587.7	0.0	0.0
15.00		532.1	1,377.2					0.0	183.6	532.1	1,560.9	0.0	0.0
20.00		521.8	1,350.4					0.0	183.6	521.8	1,534.1	0.0	0.0
25.00		511.4	1,323.6					0.0	183.6	511.4	1,507.3	0.0	0.0
30.00		506.9	1,296.8					0.0	183.6	506.9	1,480.5	0.0	0.0
35.00		512.7	1,270.0					0.0	183.6	512.7	1,453.7	0.0	0.0
40.00		455.5	1,243.3					0.0	183.6	455.5	1,426.9	0.0	0.0
43.75	Bot - Section 2	263.4	914.9					0.0	137.7	263.4	1,052.6	0.0	0.0
45.00		335.4	563.8					0.0	45.9	335.4	609.7	0.0	0.0
50.00		322.6	2,224.2					0.0	183.6	322.6	2,407.8	0.0	0.0
51.00	Top - Section 1	270.3	438.9					0.0	36.7	270.3	475.6	0.0	0.0
55.00		487.6	807.4					0.0	146.9	487.6	954.3	0.0	0.0
60.00		542.6	988.6					0.0	183.6	542.6	1,172.2	0.0	0.0
65.00		542.2	965.6					0.0	183.6	542.2	1,149.3	0.0	0.0
70.00		432.8	942.7					0.0	183.6	432.8	1,126.3	0.0	0.0
73.00	Appertunance(s)	269.7	554.6	38.7	0.0	0.0	9.0	0.0	110.2	308.4	673.8	0.0	0.0
75.00		375.8	365.1					0.0	73.2	375.8	438.3	0.0	0.0
80.00		534.1	896.7					0.0	183.0	534.1	1,079.7	0.0	0.0
85.00		463.9	873.8					0.0	183.0	463.9	1,056.7	0.0	0.0
88.75	Bot - Section 3	264.5	640.3					0.0	137.2	264.5	777.5	0.0	0.0
90.00		318.3	424.5					0.0	45.7	318.3	470.3	0.0	0.0
94.75	Top - Section 2	264.8	1,587.0					0.0	173.8	264.8	1,760.8	0.0	0.0
95.00		274.7	41.5					0.0	9.1	274.7	50.7	0.0	0.0
100.00		519.4	818.5					0.0	183.0	519.4	1,001.5	0.0	0.0
105.00		511.8	795.6					0.0	183.0	511.8	978.5	0.0	0.0
110.00	Appertunance(s)	503.6	772.6	1,839.3	0.0	0.0	887.8	0.0	183.0	2,342.9	1,843.4	0.0	0.0
115.00		494.8	749.6					0.0	171.1	494.8	920.7	0.0	0.0
120.00		485.4	726.7					0.0	171.1	485.4	897.8	0.0	0.0
125.00		428.9	703.7					0.0	171.1	428.9	874.8	0.0	0.0
129.00	Bot - Section 4	235.8	546.4					0.0	136.9	235.8	683.3	0.0	0.0
130.00		222.5	225.4					0.0	34.2	222.5	259.6	0.0	0.0
133.75	Top - Section 3	233.0	831.5					0.0	128.3	233.0	959.8	0.0	0.0
135.00		285.2	110.1					0.0	42.8	285.2	152.9	0.0	0.0
140.00		449.2	430.8					0.0	171.1	449.2	601.9	0.0	0.0
145.00	Appertunance(s)	437.4	415.5	2,408.4	0.0	4,163.2	1,529.3	0.0	171.1	2,845.8	2,115.9	0.0	0.0
150.00		425.2	400.2					0.0	126.8	425.2	527.0	0.0	0.0
155.00		332.1	384.9					0.0	126.8	332.1	511.7	0.0	0.0
158.00	Appertunance(s)	203.1	223.6	2,371.5	0.0	0.0	1,746.9	0.0	76.1	2,574.6	2,046.6	0.0	0.0
160.00		276.9	146.0					0.0	45.3	276.9	191.3	0.0	0.0
165.00		311.1	354.2					0.0	113.3	311.1	467.6	0.0	0.0
168.00	Appertunance(s)	189.7	205.2	2,355.0	0.0	0.0	664.6	0.0	68.0	2,544.7	937.8	0.0	0.0
170.00		257.8	133.7					0.0	25.4	257.8	159.1	0.0	0.0
175.00		289.0	323.6					0.0	63.4	289.0	387.0	0.0	0.0
178.00	Appertunance(s)	106.2	186.8	6,413.8	0.0	7,660.0	2,680.9	0.0	38.0	6,520.0	2,905.8	0.0	0.0

Site Number:	**376046**	**Code: ANSI/TIA-222-G**	
Site Name:	**Mansfield Center 1 CT, CT**	**Engineering Number: 63859921**	**10/20/2015 1:09:56 PM**
Customer:	**T-MOBILE**		

Load Case: **0.9D + 1.6W** — **100 mph with No Ice (Reduced DL)** — **23 Iterations**

Gust Response Factor 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Totals:	**33,002.76**	**46,844.99**	**0.00**	**0.00**

Site Number: 376046 Code: ANSI/TIA-222-G

Site Name: Mansfield Center 1 CT, CT Engineering Number: 63859921 10/20/2015 1:09:56 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.6W 100 mph with No Ice (Reduced DL) 23 Iterations

Gust Response Factor 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.82	-32.79	0.00	-4,057.07	0.00	4,057.07	5,997.45	2,998.72	16,762.15	8,393.53	0.00	0.00	0.491
5.00	-45.14	-32.31	0.00	-3,893.14	0.00	3,893.14	5,935.94	2,967.97	16,280.50	8,152.35	0.06	-0.10	0.485
10.00	-43.50	-31.85	0.00	-3,731.57	0.00	3,731.57	5,872.56	2,936.28	15,800.21	7,911.85	0.22	-0.21	0.479
15.00	-41.88	-31.39	0.00	-3,572.33	0.00	3,572.33	5,807.29	2,903.65	15,321.57	7,672.17	0.49	-0.31	0.473
20.00	-40.29	-30.93	0.00	-3,415.40	0.00	3,415.40	5,740.14	2,870.07	14,844.87	7,433.47	0.88	-0.42	0.467
25.00	-38.73	-30.48	0.00	-3,260.75	0.00	3,260.75	5,671.12	2,835.56	14,370.42	7,195.89	1.38	-0.53	0.460
30.00	-37.20	-30.03	0.00	-3,108.35	0.00	3,108.35	5,600.21	2,800.10	13,898.50	6,959.58	1.99	-0.64	0.453
35.00	-35.69	-29.57	0.00	-2,958.19	0.00	2,958.19	5,527.41	2,763.71	13,429.42	6,724.69	2.72	-0.75	0.446
40.00	-34.22	-29.16	0.00	-2,810.34	0.00	2,810.34	5,452.74	2,726.37	12,963.45	6,491.36	3.57	-0.86	0.439
43.75	-33.14	-28.91	0.00	-2,701.01	0.00	2,701.01	5,395.50	2,697.75	12,616.21	6,317.48	4.29	-0.95	0.434
45.00	-32.50	-28.60	0.00	-2,664.87	0.00	2,664.87	5,376.19	2,688.09	12,500.91	6,259.75	4.54	-0.98	0.432
50.00	-30.07	-28.27	0.00	-2,521.86	0.00	2,521.86	5,297.75	2,648.88	12,042.08	6,029.99	5.63	-1.10	0.424
51.00	-29.57	-28.03	0.00	-2,493.58	0.00	2,493.58	4,306.76	2,153.38	9,900.44	4,957.58	5.86	-1.12	0.510
55.00	-28.57	-27.58	0.00	-2,381.48	0.00	2,381.48	4,261.83	2,130.92	9,619.25	4,816.78	6.84	-1.22	0.501
60.00	-27.35	-27.07	0.00	-2,243.60	0.00	2,243.60	4,203.99	2,101.99	9,269.32	4,641.55	8.19	-1.35	0.490
65.00	-26.15	-26.56	0.00	-2,108.25	0.00	2,108.25	4,144.26	2,072.13	8,921.36	4,467.31	9.67	-1.48	0.478
70.00	-24.99	-26.15	0.00	-1,975.45	0.00	1,975.45	4,082.65	2,041.33	8,575.69	4,294.22	11.29	-1.62	0.466
73.00	-24.29	-25.85	0.00	-1,897.01	0.00	1,897.01	4,044.78	2,022.39	8,369.51	4,190.98	12.34	-1.70	0.459
75.00	-23.82	-25.50	0.00	-1,845.32	0.00	1,845.32	4,019.16	2,009.58	8,232.60	4,122.42	13.06	-1.75	0.454
80.00	-22.70	-24.98	0.00	-1,717.83	0.00	1,717.83	3,953.79	1,976.89	7,892.38	3,952.06	14.97	-1.89	0.441
85.00	-21.61	-24.53	0.00	-1,592.91	0.00	1,592.91	3,886.54	1,943.27	7,555.33	3,783.28	17.02	-2.03	0.427
88.75	-20.81	-24.26	0.00	-1,500.93	0.00	1,500.93	3,834.86	1,917.43	7,304.79	3,657.82	18.66	-2.13	0.416
90.00	-20.32	-23.96	0.00	-1,470.60	0.00	1,470.60	3,817.40	1,908.70	7,221.73	3,616.23	19.22	-2.17	0.412
94.75	-18.54	-23.64	0.00	-1,356.81	0.00	1,356.81	3,792.42	1,896.21	7,104.25	3,557.41	21.44	-2.30	0.386
95.00	-18.47	-23.39	0.00	-1,350.90	0.00	1,350.90	3,788.88	1,894.44	7,087.74	3,549.14	21.56	-2.30	0.386
100.00	-17.44	-22.87	0.00	-1,233.95	0.00	1,233.95	3,717.10	1,858.55	6,759.50	3,384.77	24.04	-2.43	0.369
105.00	-16.44	-22.35	0.00	-1,119.60	0.00	1,119.60	3,643.45	1,821.72	6,435.43	3,222.50	26.66	-2.56	0.352
110.00	-14.66	-19.96	0.00	-1,007.84	0.00	1,007.84	3,567.91	1,783.95	6,115.83	3,062.46	29.41	-2.69	0.333
115.00	-13.72	-19.45	0.00	-908.04	0.00	908.04	3,490.48	1,745.24	5,800.98	2,904.80	32.29	-2.81	0.317
120.00	-12.81	-18.95	0.00	-810.79	0.00	810.79	3,411.18	1,705.59	5,491.19	2,749.67	35.30	-2.93	0.299
125.00	-11.92	-18.50	0.00	-716.05	0.00	716.05	3,330.00	1,665.00	5,186.74	2,597.22	38.44	-3.05	0.279
129.00	-11.24	-18.23	0.00	-642.07	0.00	642.07	3,263.70	1,631.85	4,947.23	2,477.29	41.04	-3.15	0.263
130.00	-10.97	-18.01	0.00	-623.84	0.00	623.84	3,246.93	1,623.47	4,887.93	2,447.60	41.70	-3.17	0.258
133.75	-10.01	-17.73	0.00	-556.30	0.00	556.30	1,888.69	944.35	2,827.82	1,416.01	44.22	-3.26	0.399
135.00	-9.85	-17.45	0.00	-534.14	0.00	534.14	1,879.08	939.54	2,788.91	1,396.53	45.08	-3.28	0.388
140.00	-9.23	-16.99	0.00	-446.87	0.00	446.87	1,839.46	919.73	2,634.12	1,319.02	48.60	-3.43	0.344
145.00	-7.26	-14.04	0.00	-357.74	0.00	357.74	1,797.97	898.98	2,480.87	1,242.28	52.26	-3.57	0.292
150.00	-6.73	-13.60	0.00	-287.54	0.00	287.54	1,754.58	877.29	2,329.46	1,166.46	56.06	-3.69	0.251
155.00	-6.23	-13.24	0.00	-219.56	0.00	219.56	1,709.32	854.66	2,180.17	1,091.71	59.98	-3.80	0.205
158.00	-4.35	-10.54	0.00	-179.84	0.00	179.84	1,681.26	840.63	2,091.74	1,047.43	62.39	-3.85	0.174
160.00	-4.17	-10.25	0.00	-158.76	0.00	158.76	1,662.18	831.09	2,033.31	1,018.16	64.01	-3.89	0.159
165.00	-3.71	-9.91	0.00	-107.50	0.00	107.50	1,613.16	806.58	1,889.16	945.98	68.12	-3.96	0.116
168.00	-2.95	-7.31	0.00	-77.76	0.00	77.76	1,582.84	791.42	1,804.10	903.39	70.61	-3.99	0.088
170.00	-2.81	-7.04	0.00	-63.14	0.00	63.14	1,562.25	781.13	1,748.02	875.31	72.29	-4.01	0.074
175.00	-2.44	-6.73	0.00	-27.91	0.00	27.91	1,509.46	754.73	1,610.20	806.29	76.50	-4.04	0.036
178.00	0.00	-6.54	0.00	-7.72	0.00	7.72	1,476.89	738.44	1,529.21	765.74	79.05	-4.05	0.010

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 23 Iterations

Gust Response Factor 1.10 | Ice Dead Load Factor : 1.00 | Wind Importance Factor : 1.00
Dead Load Factor : 1.20 | Ice Importance Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		84.1	0.0					0.0	0.0	84.1	0.0	0.0	0.0
5.00		167.1	2,572.2					0.0	244.9	167.1	2,817.1	0.0	0.0
10.00		164.8	2,601.9					0.0	244.9	164.8	2,846.8	0.0	0.0
15.00		162.1	2,591.1					0.0	244.9	162.1	2,836.0	0.0	0.0
20.00		159.4	2,567.1					0.0	244.9	159.4	2,812.0	0.0	0.0
25.00		156.6	2,536.3					0.0	244.9	156.6	2,781.2	0.0	0.0
30.00		155.6	2,501.2					0.0	244.9	155.6	2,746.0	0.0	0.0
35.00		157.8	2,463.1					0.0	244.9	157.8	2,708.0	0.0	0.0
40.00		140.4	2,422.8					0.0	244.9	140.4	2,667.7	0.0	0.0
43.75	Bot - Section 2	81.3	1,791.2					0.0	183.6	81.3	1,974.8	0.0	0.0
45.00		103.7	944.8					0.0	61.2	103.7	1,006.0	0.0	0.0
50.00		99.7	3,726.7					0.0	244.9	99.7	3,971.5	0.0	0.0
51.00	Top - Section 1	83.7	737.7					0.0	49.0	83.7	786.7	0.0	0.0
55.00		151.2	1,679.1					0.0	195.9	151.2	1,875.0	0.0	0.0
60.00		168.6	2,061.0					0.0	244.9	168.6	2,305.9	0.0	0.0
65.00		168.9	2,020.0					0.0	244.9	168.9	2,264.9	0.0	0.0
70.00		135.1	1,978.3					0.0	244.9	135.1	2,223.1	0.0	0.0
73.00	Appertunance(s)	84.3	1,168.7	6.4	0.0	0.0	63.7	0.0	146.9	90.7	1,379.4	0.0	0.0
75.00		117.7	771.3					0.0	97.6	117.7	868.9	0.0	0.0
80.00		167.6	1,893.1					0.0	244.0	167.6	2,137.0	0.0	0.0
85.00		145.9	1,849.7					0.0	244.0	145.9	2,093.7	0.0	0.0
88.75	Bot - Section 3	83.3	1,360.2					0.0	183.0	83.3	1,543.1	0.0	0.0
90.00		100.4	736.9					0.0	61.0	100.4	797.8	0.0	0.0
94.75	Top - Section 2	83.5	2,751.6					0.0	231.8	83.5	2,983.4	0.0	0.0
95.00		86.9	88.9					0.0	12.2	86.9	101.1	0.0	0.0
100.00		164.6	1,745.8					0.0	244.0	164.6	1,989.8	0.0	0.0
105.00		162.7	1,700.9					0.0	244.0	162.7	1,944.9	0.0	0.0
110.00	Appertunance(s)	160.6	1,655.7	813.0	0.0	0.0	3,164.1	0.0	244.0	973.6	5,063.8	0.0	0.0
115.00		158.3	1,610.2					0.0	228.1	158.3	1,838.4	0.0	0.0
120.00		155.9	1,564.5					0.0	228.1	155.9	1,792.6	0.0	0.0
125.00		138.2	1,518.5					0.0	228.1	138.2	1,746.6	0.0	0.0
129.00	Bot - Section 4	76.1	1,182.9					0.0	182.5	76.1	1,365.4	0.0	0.0
130.00		72.0	415.0					0.0	45.6	72.0	460.7	0.0	0.0
133.75	Top - Section 3	75.4	1,528.8					0.0	171.1	75.4	1,699.9	0.0	0.0
135.00		92.7	286.0					0.0	57.0	92.7	343.0	0.0	0.0
140.00		146.4	1,114.3					0.0	228.1	146.4	1,342.4	0.0	0.0
145.00	Appertunance(s)	143.2	1,077.7	665.5	0.0	955.4	4,529.9	0.0	228.1	808.7	5,835.7	0.0	0.0
150.00		139.9	1,040.8					0.0	169.1	139.9	1,209.9	0.0	0.0
155.00		109.8	1,003.8					0.0	169.1	109.8	1,172.9	0.0	0.0
158.00	Appertunance(s)	67.4	586.7	643.2	0.0	0.0	4,403.3	0.0	101.4	710.6	5,091.4	0.0	0.0
160.00		92.3	384.4					0.0	60.4	92.3	444.8	0.0	0.0
165.00		104.0	929.3					0.0	151.1	104.0	1,080.4	0.0	0.0
168.00	Appertunance(s)	63.7	541.8	484.5	0.0	0.0	3,688.0	0.0	90.6	548.2	4,320.5	0.0	0.0
170.00		87.1	354.4					0.0	33.8	87.1	388.2	0.0	0.0
175.00		98.0	854.1					0.0	84.5	98.0	938.7	0.0	0.0
178.00	Appertunance(s)	36.2	496.6	1,671.6	0.0	2,342.6	9,802.7	0.0	50.7	1,707.7	10,350.0	0.0	0.0

Site Number:	**376046**	**Code: ANSI/TIA-222-G**	
Site Name:	**Mansfield Center 1 CT, CT**	**Engineering Number: 63859921**	**10/20/2015 1:09:59 PM**
Customer:	**T-MOBILE**		

Load Case: **1.2D + 1.0Di + 1.0Wi** **50 mph with 1.00 in Radial Ice** **23 Iterations**

Gust Response Factor 1.10 **Ice Dead Load Factor : 1.00** **Wind Importance Factor : 1.00**
Dead Load Factor : 1.20 **Ice Importance Factor : 1.00**
Wind Load Factor : 1.00

Totals:	**9,838.70**	**100,946.8**	**0.00**	**0.00**

Site Number: 376046 Code: ANSI/TIA-222-G

Site Name: Mansfield Center 1 CT, CT Engineering Number: 63859921 10/20/2015 1:09:59 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 23 Iterations

Gust Response Factor 1.10 Ice Dead Load Factor : 1.00 Wind Importance Factor : 1.00

Dead Load Factor : 1.20 Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-100.96	-9.79	0.00	-1,225.93	0.00	1,225.93	5,997.45	2,998.72	16,762.15	8,393.53	0.00	0.00	0.163
5.00	-98.14	-9.68	0.00	-1,176.96	0.00	1,176.96	5,935.94	2,967.97	16,280.50	8,152.35	0.02	-0.03	0.161
10.00	-95.29	-9.57	0.00	-1,128.56	0.00	1,128.56	5,872.56	2,936.28	15,800.21	7,911.85	0.07	-0.06	0.159
15.00	-92.45	-9.45	0.00	-1,080.73	0.00	1,080.73	5,807.29	2,903.65	15,321.57	7,672.17	0.15	-0.09	0.157
20.00	-89.63	-9.34	0.00	-1,033.47	0.00	1,033.47	5,740.14	2,870.07	14,844.87	7,433.47	0.27	-0.13	0.155
25.00	-86.85	-9.22	0.00	-986.78	0.00	986.78	5,671.12	2,835.56	14,370.42	7,195.89	0.42	-0.16	0.152
30.00	-84.09	-9.11	0.00	-940.66	0.00	940.66	5,600.21	2,800.10	13,898.50	6,959.58	0.60	-0.19	0.150
35.00	-81.38	-8.99	0.00	-895.11	0.00	895.11	5,527.41	2,763.71	13,429.42	6,724.69	0.82	-0.23	0.148
40.00	-78.71	-8.88	0.00	-850.16	0.00	850.16	5,452.74	2,726.37	12,963.45	6,491.36	1.08	-0.26	0.145
43.75	-76.73	-8.81	0.00	-816.86	0.00	816.86	5,395.50	2,697.75	12,616.21	6,317.48	1.30	-0.29	0.144
45.00	-75.72	-8.73	0.00	-805.84	0.00	805.84	5,376.19	2,688.09	12,500.91	6,259.75	1.37	-0.30	0.143
50.00	-71.75	-8.64	0.00	-762.17	0.00	762.17	5,297.75	2,648.88	12,042.08	6,029.99	1.70	-0.33	0.140
51.00	-70.96	-8.57	0.00	-753.54	0.00	753.54	4,306.76	2,153.38	9,900.44	4,957.58	1.77	-0.34	0.168
55.00	-69.08	-8.45	0.00	-719.25	0.00	719.25	4,261.83	2,130.92	9,619.25	4,816.78	2.07	-0.37	0.166
60.00	-66.77	-8.31	0.00	-676.99	0.00	676.99	4,203.99	2,101.99	9,269.32	4,641.55	2.48	-0.41	0.162
65.00	-64.50	-8.17	0.00	-635.43	0.00	635.43	4,144.26	2,072.13	8,921.36	4,467.31	2.92	-0.45	0.158
70.00	-62.28	-8.06	0.00	-594.56	0.00	594.56	4,082.65	2,041.33	8,575.69	4,294.22	3.42	-0.49	0.154
73.00	-60.90	-7.97	0.00	-570.40	0.00	570.40	4,044.78	2,022.39	8,369.51	4,190.98	3.73	-0.51	0.151
75.00	-60.02	-7.88	0.00	-554.45	0.00	554.45	4,019.16	2,009.58	8,232.60	4,122.42	3.95	-0.53	0.149
80.00	-57.88	-7.73	0.00	-515.05	0.00	515.05	3,953.79	1,976.89	7,892.38	3,952.06	4.53	-0.57	0.145
85.00	-55.79	-7.60	0.00	-476.39	0.00	476.39	3,886.54	1,943.27	7,555.33	3,783.28	5.15	-0.61	0.140
88.75	-54.24	-7.52	0.00	-447.90	0.00	447.90	3,834.86	1,917.43	7,304.79	3,657.82	5.64	-0.64	0.137
90.00	-53.44	-7.43	0.00	-438.50	0.00	438.50	3,817.40	1,908.70	7,221.73	3,616.23	5.81	-0.65	0.135
94.75	-50.46	-7.33	0.00	-403.19	0.00	403.19	3,792.42	1,896.21	7,104.25	3,557.41	6.48	-0.69	0.127
95.00	-50.35	-7.26	0.00	-401.36	0.00	401.36	3,788.88	1,894.44	7,087.74	3,549.14	6.52	-0.69	0.126
100.00	-48.36	-7.10	0.00	-365.05	0.00	365.05	3,717.10	1,858.55	6,759.50	3,384.77	7.26	-0.73	0.121
105.00	-46.41	-6.95	0.00	-329.53	0.00	329.53	3,643.45	1,821.72	6,435.43	3,222.50	8.05	-0.77	0.115
110.00	-41.36	-5.93	0.00	-294.79	0.00	294.79	3,567.91	1,783.95	6,115.83	3,062.46	8.88	-0.81	0.108
115.00	-39.52	-5.77	0.00	-265.14	0.00	265.14	3,490.48	1,745.24	5,800.98	2,904.80	9.74	-0.84	0.103
120.00	-37.73	-5.61	0.00	-236.29	0.00	236.29	3,411.18	1,705.59	5,491.19	2,749.67	10.65	-0.88	0.097
125.00	-35.98	-5.46	0.00	-208.24	0.00	208.24	3,330.00	1,665.00	5,186.74	2,597.22	11.59	-0.91	0.091
129.00	-34.61	-5.38	0.00	-186.39	0.00	186.39	3,263.70	1,631.85	4,947.23	2,477.29	12.36	-0.94	0.086
130.00	-34.15	-5.31	0.00	-181.01	0.00	181.01	3,246.93	1,623.47	4,887.93	2,447.60	12.56	-0.95	0.084
133.75	-32.45	-5.21	0.00	-161.11	0.00	161.11	1,888.69	944.35	2,827.82	1,416.01	13.32	-0.97	0.131
135.00	-32.11	-5.13	0.00	-154.60	0.00	154.60	1,879.08	939.54	2,788.91	1,396.53	13.57	-0.98	0.128
140.00	-30.77	-4.98	0.00	-128.96	0.00	128.96	1,839.46	919.73	2,634.12	1,319.02	14.62	-1.02	0.115
145.00	-24.94	-4.08	0.00	-103.11	0.00	103.11	1,797.97	898.98	2,480.87	1,242.28	15.72	-1.06	0.097
150.00	-23.74	-3.93	0.00	-82.70	0.00	82.70	1,754.58	877.29	2,329.46	1,166.46	16.85	-1.10	0.084
155.00	-22.56	-3.81	0.00	-63.04	0.00	63.04	1,709.32	854.66	2,180.17	1,091.71	18.02	-1.13	0.071
158.00	-17.49	-3.00	0.00	-51.62	0.00	51.62	1,681.26	840.63	2,091.74	1,047.43	18.73	-1.14	0.060
160.00	-17.04	-2.90	0.00	-45.62	0.00	45.62	1,662.18	831.09	2,033.31	1,018.16	19.21	-1.15	0.055
165.00	-15.96	-2.78	0.00	-31.10	0.00	31.10	1,613.16	806.58	1,889.16	945.98	20.43	-1.18	0.043
168.00	-11.66	-2.15	0.00	-22.75	0.00	22.75	1,582.84	791.42	1,804.10	903.39	21.18	-1.19	0.033
170.00	-11.27	-2.05	0.00	-18.45	0.00	18.45	1,562.25	781.13	1,748.02	875.31	21.67	-1.19	0.028
175.00	-10.33	-1.94	0.00	-8.19	0.00	8.19	1,509.46	754.73	1,610.20	806.29	22.93	-1.20	0.017
178.00	0.00	-1.72	0.00	-2.38	0.00	2.38	1,476.89	738.44	1,529.21	765.74	23.68	-1.20	0.003

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 Iterations

Gust Response Factor 1.10 Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		62.8	0.0					0.0	0.0	62.8	0.0	0.0	0.0
5.00		124.4	1,589.8					0.0	204.1	124.4	1,793.8	0.0	0.0
10.00		122.1	1,560.0					0.0	204.1	122.1	1,764.1	0.0	0.0
15.00		119.7	1,530.2					0.0	204.1	119.7	1,734.3	0.0	0.0
20.00		117.4	1,500.5					0.0	204.1	117.4	1,704.5	0.0	0.0
25.00		115.1	1,470.7					0.0	204.1	115.1	1,674.8	0.0	0.0
30.00		114.1	1,440.9					0.0	204.1	114.1	1,645.0	0.0	0.0
35.00		115.4	1,411.2					0.0	204.1	115.4	1,615.2	0.0	0.0
40.00		102.5	1,381.4					0.0	204.1	102.5	1,585.4	0.0	0.0
43.75	Bot - Section 2	59.3	1,016.5					0.0	153.0	59.3	1,169.5	0.0	0.0
45.00		75.5	626.5					0.0	51.0	75.5	677.5	0.0	0.0
50.00		72.6	2,471.3					0.0	204.1	72.6	2,675.4	0.0	0.0
51.00	Top - Section 1	60.8	487.6					0.0	40.8	60.8	528.4	0.0	0.0
55.00		109.7	897.1					0.0	163.2	109.7	1,060.4	0.0	0.0
60.00		122.1	1,098.4					0.0	204.1	122.1	1,302.5	0.0	0.0
65.00		122.0	1,072.9					0.0	204.1	122.0	1,277.0	0.0	0.0
70.00		97.4	1,047.4					0.0	204.1	97.4	1,251.5	0.0	0.0
73.00	Appertunance(s)	60.7	616.2	8.7	0.0	0.0	10.0	0.0	122.4	69.4	748.6	0.0	0.0
75.00		84.6	405.7					0.0	81.3	84.6	487.0	0.0	0.0
80.00		120.2	996.4					0.0	203.3	120.2	1,199.7	0.0	0.0
85.00		104.4	970.9					0.0	203.3	104.4	1,174.2	0.0	0.0
88.75	Bot - Section 3	59.5	711.4					0.0	152.5	59.5	863.9	0.0	0.0
90.00		71.6	471.7					0.0	50.8	71.6	522.5	0.0	0.0
94.75	Top - Section 2	59.6	1,763.3					0.0	193.1	59.6	1,956.4	0.0	0.0
95.00		61.8	46.1					0.0	10.2	61.8	56.3	0.0	0.0
100.00		116.9	909.5					0.0	203.3	116.9	1,112.8	0.0	0.0
105.00		115.2	884.0					0.0	203.3	115.2	1,087.3	0.0	0.0
110.00	Appertunance(s)	113.3	858.5	413.8	0.0	0.0	986.5	0.0	203.3	527.2	2,048.3	0.0	0.0
115.00		111.3	832.9					0.0	190.1	111.3	1,023.0	0.0	0.0
120.00		109.2	807.4					0.0	190.1	109.2	997.5	0.0	0.0
125.00		96.5	781.9					0.0	190.1	96.5	972.0	0.0	0.0
129.00	Bot - Section 4	53.1	607.1					0.0	152.1	53.1	759.2	0.0	0.0
130.00		50.1	250.4					0.0	38.0	50.1	288.4	0.0	0.0
133.75	Top - Section 3	52.4	923.9					0.0	142.6	52.4	1,066.5	0.0	0.0
135.00		64.2	122.3					0.0	47.5	64.2	169.9	0.0	0.0
140.00		101.1	478.7					0.0	190.1	101.1	668.8	0.0	0.0
145.00	Appertunance(s)	98.4	461.7	541.9	0.0	936.7	1,699.2	0.0	190.1	640.3	2,351.0	0.0	0.0
150.00		95.7	444.6					0.0	140.9	95.7	585.5	0.0	0.0
155.00		74.7	427.6					0.0	140.9	74.7	568.5	0.0	0.0
158.00	Appertunance(s)	45.7	248.4	533.6	0.0	0.0	1,941.0	0.0	84.5	579.3	2,274.0	0.0	0.0
160.00		62.3	162.2					0.0	50.4	62.3	212.6	0.0	0.0
165.00		70.0	393.6					0.0	125.9	70.0	519.5	0.0	0.0
168.00	Appertunance(s)	42.7	228.0	529.9	0.0	0.0	738.5	0.0	75.5	572.6	1,042.0	0.0	0.0
170.00		58.0	148.6					0.0	28.2	58.0	176.8	0.0	0.0
175.00		65.0	359.6					0.0	70.5	65.0	430.0	0.0	0.0
178.00	Appertunance(s)	23.9	207.6	1,443.1	0.0	1,723.5	2,978.8	0.0	42.3	1,467.0	3,228.7	0.0	0.0

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 Iterations

Gust Response Factor 1.10 Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Totals:	7,425.62	52,049.99	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 22 Iterations

Gust Response Factor 1.10 Wind Importance Factor : 1.00
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-52.05	-7.38	0.00	-915.91	0.00	915.91	5,997.45	2,998.72	16,762.15	8,393.53	0.00	0.00	0.118
5.00	-50.25	-7.27	0.00	-879.02	0.00	879.02	5,935.94	2,967.97	16,280.50	8,152.35	0.01	-0.02	0.116
10.00	-48.49	-7.17	0.00	-842.65	0.00	842.65	5,872.56	2,936.28	15,800.21	7,911.85	0.05	-0.05	0.115
15.00	-46.75	-7.07	0.00	-806.80	0.00	806.80	5,807.29	2,903.65	15,321.57	7,672.17	0.11	-0.07	0.113
20.00	-45.04	-6.97	0.00	-771.46	0.00	771.46	5,740.14	2,870.07	14,844.87	7,433.47	0.20	-0.09	0.112
25.00	-43.36	-6.87	0.00	-736.62	0.00	736.62	5,671.12	2,835.56	14,370.42	7,195.89	0.31	-0.12	0.110
30.00	-41.72	-6.77	0.00	-702.28	0.00	702.28	5,600.21	2,800.10	13,898.50	6,959.58	0.45	-0.14	0.108
35.00	-40.10	-6.67	0.00	-668.44	0.00	668.44	5,527.41	2,763.71	13,429.42	6,724.69	0.62	-0.17	0.107
40.00	-38.51	-6.57	0.00	-635.10	0.00	635.10	5,452.74	2,726.37	12,963.45	6,491.36	0.81	-0.20	0.105
43.75	-37.34	-6.52	0.00	-610.45	0.00	610.45	5,395.50	2,697.75	12,616.21	6,317.48	0.97	-0.21	0.104
45.00	-36.66	-6.45	0.00	-602.30	0.00	602.30	5,376.19	2,688.09	12,500.91	6,259.75	1.03	-0.22	0.103
50.00	-33.98	-6.38	0.00	-570.04	0.00	570.04	5,297.75	2,648.88	12,042.08	6,029.99	1.27	-0.25	0.101
51.00	-33.45	-6.32	0.00	-563.66	0.00	563.66	4,306.76	2,153.38	9,900.44	4,957.58	1.32	-0.25	0.121
55.00	-32.39	-6.22	0.00	-538.37	0.00	538.37	4,261.83	2,130.92	9,619.25	4,816.78	1.55	-0.27	0.119
60.00	-31.09	-6.11	0.00	-507.26	0.00	507.26	4,203.99	2,101.99	9,269.32	4,641.55	1.85	-0.30	0.117
65.00	-29.81	-6.00	0.00	-476.71	0.00	476.71	4,144.26	2,072.13	8,921.36	4,467.31	2.18	-0.33	0.114
70.00	-28.55	-5.90	0.00	-446.73	0.00	446.73	4,082.65	2,041.33	8,575.69	4,294.22	2.55	-0.37	0.111
73.00	-27.80	-5.84	0.00	-429.02	0.00	429.02	4,044.78	2,022.39	8,369.51	4,190.98	2.79	-0.38	0.109
75.00	-27.32	-5.76	0.00	-417.34	0.00	417.34	4,019.16	2,009.58	8,232.60	4,122.42	2.95	-0.40	0.108
80.00	-26.11	-5.65	0.00	-388.54	0.00	388.54	3,953.79	1,976.89	7,892.38	3,952.06	3.38	-0.43	0.105
85.00	-24.94	-5.54	0.00	-360.32	0.00	360.32	3,886.54	1,943.27	7,555.33	3,783.28	3.85	-0.46	0.102
88.75	-24.07	-5.48	0.00	-339.53	0.00	339.53	3,834.86	1,917.43	7,304.79	3,657.82	4.22	-0.48	0.099
90.00	-23.55	-5.42	0.00	-332.68	0.00	332.68	3,817.40	1,908.70	7,221.73	3,616.23	4.34	-0.49	0.098
94.75	-21.59	-5.34	0.00	-306.96	0.00	306.96	3,792.42	1,896.21	7,104.25	3,557.41	4.85	-0.52	0.092
95.00	-21.54	-5.29	0.00	-305.62	0.00	305.62	3,788.88	1,894.44	7,087.74	3,549.14	4.87	-0.52	0.092
100.00	-20.42	-5.17	0.00	-279.18	0.00	279.18	3,717.10	1,858.55	6,759.50	3,384.77	5.43	-0.55	0.088
105.00	-19.33	-5.05	0.00	-253.33	0.00	253.33	3,643.45	1,821.72	6,435.43	3,222.50	6.03	-0.58	0.084
110.00	-17.29	-4.51	0.00	-228.06	0.00	228.06	3,567.91	1,783.95	6,115.83	3,062.46	6.65	-0.61	0.079
115.00	-16.26	-4.40	0.00	-205.48	0.00	205.48	3,490.48	1,745.24	5,800.98	2,904.80	7.30	-0.64	0.075
120.00	-15.27	-4.29	0.00	-183.48	0.00	183.48	3,411.18	1,705.59	5,491.19	2,749.67	7.98	-0.66	0.071
125.00	-14.29	-4.19	0.00	-162.05	0.00	162.05	3,330.00	1,665.00	5,186.74	2,597.22	8.69	-0.69	0.067
129.00	-13.53	-4.13	0.00	-145.31	0.00	145.31	3,263.70	1,631.85	4,947.23	2,477.29	9.28	-0.71	0.063
130.00	-13.24	-4.08	0.00	-141.18	0.00	141.18	3,246.93	1,623.47	4,887.93	2,447.60	9.43	-0.72	0.062
133.75	-12.18	-4.01	0.00	-125.90	0.00	125.90	1,888.69	944.35	2,827.82	1,416.01	10.00	-0.74	0.095
135.00	-12.01	-3.95	0.00	-120.88	0.00	120.88	1,879.08	939.54	2,788.91	1,396.53	10.19	-0.74	0.093
140.00	-11.34	-3.85	0.00	-101.13	0.00	101.13	1,839.46	919.73	2,634.12	1,319.02	10.99	-0.78	0.083
145.00	-8.99	-3.18	0.00	-80.97	0.00	80.97	1,797.97	898.98	2,480.87	1,242.28	11.82	-0.81	0.070
150.00	-8.41	-3.08	0.00	-65.07	0.00	65.07	1,754.58	877.29	2,329.46	1,166.46	12.68	-0.83	0.061
155.00	-7.84	-3.00	0.00	-49.68	0.00	49.68	1,709.32	854.66	2,180.17	1,091.71	13.56	-0.86	0.050
158.00	-5.58	-2.38	0.00	-40.69	0.00	40.69	1,681.26	840.63	2,091.74	1,047.43	14.11	-0.87	0.042
160.00	-5.36	-2.32	0.00	-35.92	0.00	35.92	1,662.18	831.09	2,033.31	1,018.16	14.47	-0.88	0.039
165.00	-4.84	-2.24	0.00	-24.32	0.00	24.32	1,613.16	806.58	1,889.16	945.98	15.40	-0.90	0.029
168.00	-3.81	-1.66	0.00	-17.59	0.00	17.59	1,582.84	791.42	1,804.10	903.39	15.97	-0.90	0.022
170.00	-3.64	-1.59	0.00	-14.28	0.00	14.28	1,562.25	781.13	1,748.02	875.31	16.35	-0.91	0.019
175.00	-3.21	-1.52	0.00	-6.31	0.00	6.31	1,509.46	754.73	1,610.20	806.29	17.30	-0.91	0.010
178.00	0.00	-1.47	0.00	-1.74	0.00	1.74	1,476.89	738.44	1,529.21	765.74	17.88	-0.92	0.002

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.17	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10	
Seismic Response Coefficient (C_s):	0.03	
Upper Limit C_s	0.03	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	2.13	
Redundancy Factor (p):	1.30	
Seismic Force Distribution Exponent (k):	1.82	
Total Unfactored Dead Load:	52.05	k
Seismic Base Shear (E):	2.13	k

Equivalent Modal Forces Analysis

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.13
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2Sds) * DL + E ELFM **Seismic Equivalent Lateral Forces Method**

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
45	176.50	250	1.858	1.817	1.081	0.336	73	216
44	172.50	430	1.775	1.427	0.935	0.286	107	371
43	169.00	177	1.704	1.136	0.820	0.246	38	153
42	166.50	304	1.654	0.954	0.745	0.219	58	262
41	162.50	520	1.575	0.704	0.637	0.179	80	448
40	159.00	213	1.508	0.521	0.552	0.146	27	183
39	156.50	333	1.461	0.410	0.498	0.125	36	287
38	152.50	569	1.387	0.260	0.419	0.093	46	491
37	147.50	586	1.298	0.117	0.334	0.059	30	505
36	142.50	652	1.211	0.016	0.263	0.031	17	562
35	137.50	669	1.128	-0.053	0.204	0.007	4	577
34	134.38	170	1.077	-0.082	0.173	-0.005	-1	147
33	131.88	1,066	1.037	-0.099	0.151	-0.013	-12	920
32	129.50	288	1.000	-0.110	0.132	-0.019	-5	249
31	127.00	759	0.962	-0.117	0.113	-0.024	-16	655
30	122.50	972	0.895	-0.122	0.085	-0.030	-26	839
29	117.50	998	0.824	-0.116	0.061	-0.033	-28	861
28	112.50	1,023	0.755	-0.102	0.042	-0.030	-27	883
27	107.50	1,062	0.689	-0.084	0.028	-0.024	-22	916
26	102.50	1,087	0.627	-0.063	0.018	-0.014	-13	938
25	97.50	1,113	0.567	-0.041	0.011	-0.003	-3	960
24	94.88	56	0.537	-0.030	0.009	0.003	0	49
23	92.38	1,956	0.509	-0.019	0.007	0.009	16	1,688
22	89.38	523	0.476	-0.008	0.006	0.016	7	451
21	86.88	864	0.450	0.002	0.006	0.021	16	745
20	82.50	1,174	0.406	0.016	0.006	0.030	30	1,013
19	77.50	1,200	0.358	0.031	0.008	0.037	38	1,035
18	74.00	487	0.327	0.039	0.010	0.041	17	420
17	71.50	739	0.305	0.044	0.012	0.043	27	637
16	67.50	1,251	0.272	0.051	0.015	0.045	49	1,080
15	62.50	1,277	0.233	0.058	0.019	0.047	52	1,102
14	57.50	1,302	0.197	0.063	0.024	0.047	53	1,124
13	53.00	1,060	0.168	0.066	0.028	0.047	43	915
12	50.50	528	0.152	0.068	0.030	0.047	21	456

11	47.50	2,675	0.135	0.069	0.032	0.046	107	2,309
10	44.38	677	0.117	0.070	0.035	0.046	27	585
9	41.88	1,170	0.105	0.071	0.037	0.045	46	1,009
8	37.50	1,585	0.084	0.071	0.039	0.044	61	1,368
7	32.50	1,615	0.063	0.072	0.041	0.043	60	1,394
6	27.50	1,645	0.045	0.071	0.042	0.042	60	1,419
5	22.50	1,675	0.030	0.068	0.041	0.040	58	1,445
4	17.50	1,705	0.018	0.063	0.037	0.037	55	1,471
3	12.50	1,734	0.009	0.054	0.031	0.033	49	1,496
2	7.50	1,764	0.003	0.039	0.022	0.025	38	1,522
1	2.50	1,794	0.000	0.016	0.008	0.011	17	1,548
Yagi	181.00	2	1.954	2.336	1.266	0.396	1	1
RFS FD9R6004/2C-3L	178.00	16	1.890	1.980	1.140	0.356	5	13
5' Omni	178.00	10	1.890	1.980	1.140	0.356	3	9
Alcatel-Lucent RRH 2	178.00	119	1.890	1.980	1.140	0.356	37	103
Alcatel-Lucent RRH2X	178.00	119	1.890	1.980	1.140	0.356	37	103
2' x 4' Rectangular	178.00	40	1.890	1.980	1.140	0.356	12	35
RFS DB-T1-6Z-8AB-0Z	178.00	88	1.890	1.980	1.140	0.356	27	76
18' Dipole	178.00	110	1.890	1.980	1.140	0.356	34	95
Commscope LNX-6514DS	178.00	233	1.890	1.980	1.140	0.356	72	201
Commscope HBXX-6517D	178.00	245	1.890	1.980	1.140	0.356	75	211
Flat Platform w/ Han	178.00	2,000	1.890	1.980	1.140	0.356	616	1,726
Powerwave Allgon LGP	168.00	85	1.684	1.061	0.790	0.235	17	73
Raycap DC6-48-60-18-	168.00	20	1.684	1.061	0.790	0.235	4	17
Ericsson RRU11	168.00	383	1.684	1.061	0.790	0.235	78	331
Powerwave Allgon 777	168.00	105	1.684	1.061	0.790	0.235	21	91
KMW AM-X-CD-16-65-00	168.00	146	1.684	1.061	0.790	0.235	30	126
RRH	158.00	270	1.489	0.475	0.530	0.137	32	233
RFS APXVSPP18-C-A20	158.00	171	1.489	0.475	0.530	0.137	20	148
Round Low Profile Pl	158.00	1,500	1.489	0.475	0.530	0.137	179	1,294
Andrew ATSBT-BOTTOM	145.00	5	1.254	0.062	0.297	0.044	0	5
RFS APX18-209014-CT5	145.00	43	1.254	0.062	0.297	0.044	2	37
Commscope LNX-6515DS	145.00	151	1.254	0.062	0.297	0.044	6	130
Round Low Profile Pl	145.00	1,500	1.254	0.062	0.297	0.044	57	1,294
Yagi	110.00	2	0.722	-0.093	0.034	-0.027	0	1
5' Omni	110.00	30	0.722	-0.093	0.034	-0.027	-1	26
2' x 4' Rectangular	110.00	40	0.722	-0.093	0.034	-0.027	-1	35
18' Dipole	110.00	165	0.722	-0.093	0.034	-0.027	-4	142
Flat T-Arm	110.00	750	0.722	-0.093	0.034	-0.027	-18	647
GPS	73.00	10	0.318	0.041	0.011	0.042	0	9
		52,051	72.676	36.108	27.422	7.999	2,656	44,914

Load Case (1.2 + 0.2Sds) * DL + E EMAM **Seismic Equivalent Modal Analysis Method**

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
45	176.50	250	1.858	1.817	1.081	0.336	73	216
44	172.50	430	1.775	1.427	0.935	0.286	107	371
43	169.00	177	1.704	1.136	0.820	0.246	38	153
42	166.50	304	1.654	0.954	0.745	0.219	58	262
41	162.50	520	1.575	0.704	0.637	0.179	80	448
40	159.00	213	1.508	0.521	0.552	0.146	27	183
39	156.50	333	1.461	0.410	0.498	0.125	36	287
38	152.50	569	1.387	0.260	0.419	0.093	46	491
37	147.50	586	1.298	0.117	0.334	0.059	30	505
36	142.50	652	1.211	0.016	0.263	0.031	17	562
35	137.50	669	1.128	-0.053	0.204	0.007	4	577
34	134.38	170	1.077	-0.082	0.173	-0.005	-1	147
33	131.88	1,066	1.037	-0.099	0.151	-0.013	-12	920

32	129.50	288	1.000	-0.110	0.132	-0.019	-5	249
31	127.00	759	0.962	-0.117	0.113	-0.024	-16	655
30	122.50	972	0.895	-0.122	0.085	-0.030	-26	839
29	117.50	998	0.824	-0.116	0.061	-0.033	-28	861
28	112.50	1,023	0.755	-0.102	0.042	-0.030	-27	883
27	107.50	1,062	0.689	-0.084	0.028	-0.024	-22	916
26	102.50	1,087	0.627	-0.063	0.018	-0.014	-13	938
25	97.50	1,113	0.567	-0.041	0.011	-0.003	-3	960
24	94.88	56	0.537	-0.030	0.009	0.003	0	49
23	92.38	1,956	0.509	-0.019	0.007	0.009	16	1,688
22	89.38	523	0.476	-0.008	0.006	0.016	7	451
21	86.88	864	0.450	0.002	0.006	0.021	16	745
20	82.50	1,174	0.406	0.016	0.006	0.030	30	1,013
19	77.50	1,200	0.358	0.031	0.008	0.037	38	1,035
18	74.00	487	0.327	0.039	0.010	0.041	17	420
17	71.50	739	0.305	0.044	0.012	0.043	27	637
16	67.50	1,251	0.272	0.051	0.015	0.045	49	1,080
15	62.50	1,277	0.233	0.058	0.019	0.047	52	1,102
14	57.50	1,302	0.197	0.063	0.024	0.047	53	1,124
13	53.00	1,060	0.168	0.066	0.028	0.047	43	915
12	50.50	528	0.152	0.068	0.030	0.047	21	456
11	47.50	2,675	0.135	0.069	0.032	0.046	107	2,309
10	44.38	677	0.117	0.070	0.035	0.046	27	585
9	41.88	1,170	0.105	0.071	0.037	0.045	46	1,009
8	37.50	1,585	0.084	0.071	0.039	0.044	61	1,368
7	32.50	1,615	0.063	0.072	0.041	0.043	60	1,394
6	27.50	1,645	0.045	0.071	0.042	0.042	60	1,419
5	22.50	1,675	0.030	0.068	0.041	0.040	58	1,445
4	17.50	1,705	0.018	0.063	0.037	0.037	55	1,471
3	12.50	1,734	0.009	0.054	0.031	0.033	49	1,496
2	7.50	1,764	0.003	0.039	0.022	0.025	38	1,522
1	2.50	1,794	0.000	0.016	0.008	0.011	17	1,548
Yagi	181.00	2	1.954	2.336	1.266	0.396	1	1
RFS FD9R6004/2C-3L	178.00	16	1.890	1.980	1.140	0.356	5	13
5' Omni	178.00	10	1.890	1.980	1.140	0.356	3	9
Alcatel-Lucent RRH 2	178.00	119	1.890	1.980	1.140	0.356	37	103
Alcatel-Lucent RRH2X	178.00	119	1.890	1.980	1.140	0.356	37	103
2' x 4' Rectangular	178.00	40	1.890	1.980	1.140	0.356	12	35
RFS DB-T1-6Z-8AB-0Z	178.00	88	1.890	1.980	1.140	0.356	27	76
18' Dipole	178.00	110	1.890	1.980	1.140	0.356	34	95
Commscope LNX-6514DS	178.00	233	1.890	1.980	1.140	0.356	72	201
Commscope HBXX-6517D	178.00	245	1.890	1.980	1.140	0.356	75	211
Flat Platform w/ Han	178.00	2,000	1.890	1.980	1.140	0.356	616	1,726
Powerwave Allgon LGP	168.00	85	1.684	1.061	0.790	0.235	17	73
Raycap DC6-48-60-18-	168.00	20	1.684	1.061	0.790	0.235	4	17
Ericsson RRU11	168.00	383	1.684	1.061	0.790	0.235	78	331
Powerwave Allgon 777	168.00	105	1.684	1.061	0.790	0.235	21	91
KMW AM-X-CD-16-65-00	168.00	146	1.684	1.061	0.790	0.235	30	126
RRH	158.00	270	1.489	0.475	0.530	0.137	32	233
RFS APXVSPP18-C-A20	158.00	171	1.489	0.475	0.530	0.137	20	148
Round Low Profile Pl	158.00	1,500	1.489	0.475	0.530	0.137	179	1,294
Andrew ATSBT-BOTTOM	145.00	5	1.254	0.062	0.297	0.044	0	5
RFS APX18-209014-CT5	145.00	43	1.254	0.062	0.297	0.044	2	37
Commscope LNX-6515DS	145.00	151	1.254	0.062	0.297	0.044	6	130
Round Low Profile Pl	145.00	1,500	1.254	0.062	0.297	0.044	57	1,294
Yagi	110.00	2	0.722	-0.093	0.034	-0.027	0	1
5' Omni	110.00	30	0.722	-0.093	0.034	-0.027	-1	26
2' x 4' Rectangular	110.00	40	0.722	-0.093	0.034	-0.027	-1	35
18' Dipole	110.00	165	0.722	-0.093	0.034	-0.027	-4	142
Flat T-Arm	110.00	750	0.722	-0.093	0.034	-0.027	-18	647
GPS	73.00	10	0.318	0.041	0.011	0.042	0	9
		52,051	72.676	36.108	27.422	7.999	2,656	44,914

Site Number: 376046 **Code:** ANSI/TIA-222-G

Site Name: Mansfield Center 1 CT, CT **Engineering Number:** 63859921 **10/20/2015 1:10:02 PM**

Customer: T-MOBILE

Load Case (0.9 - 0.2Sds) * DL + E ELFM **Seismic (Reduced DL) Equivalent Lateral Forces Method**

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
45	176.50	250	1.858	1.817	1.081	0.336	73	216
44	172.50	430	1.775	1.427	0.935	0.286	107	371
43	169.00	177	1.704	1.136	0.820	0.246	38	153
42	166.50	304	1.654	0.954	0.745	0.219	58	262
41	162.50	520	1.575	0.704	0.637	0.179	80	448
40	159.00	213	1.508	0.521	0.552	0.146	27	183
39	156.50	333	1.461	0.410	0.498	0.125	36	287
38	152.50	569	1.387	0.260	0.419	0.093	46	491
37	147.50	586	1.298	0.117	0.334	0.059	30	505
36	142.50	652	1.211	0.016	0.263	0.031	17	562
35	137.50	669	1.128	-0.053	0.204	0.007	4	577
34	134.38	170	1.077	-0.082	0.173	-0.005	-1	147
33	131.88	1,066	1.037	-0.099	0.151	-0.013	-12	920
32	129.50	288	1.000	-0.110	0.132	-0.019	-5	249
31	127.00	759	0.962	-0.117	0.113	-0.024	-16	655
30	122.50	972	0.895	-0.122	0.085	-0.030	-26	839
29	117.50	998	0.824	-0.116	0.061	-0.033	-28	861
28	112.50	1,023	0.755	-0.102	0.042	-0.030	-27	883
27	107.50	1,062	0.689	-0.084	0.028	-0.024	-22	916
26	102.50	1,087	0.627	-0.063	0.018	-0.014	-13	938
25	97.50	1,113	0.567	-0.041	0.011	-0.003	-3	960
24	94.88	56	0.537	-0.030	0.009	0.003	0	49
23	92.38	1,956	0.509	-0.019	0.007	0.009	16	1,688
22	89.38	523	0.476	-0.008	0.006	0.016	7	451
21	86.88	864	0.450	0.002	0.006	0.021	16	745
20	82.50	1,174	0.406	0.016	0.006	0.030	30	1,013
19	77.50	1,200	0.358	0.031	0.008	0.037	38	1,035
18	74.00	487	0.327	0.039	0.010	0.041	17	420
17	71.50	739	0.305	0.044	0.012	0.043	27	637
16	67.50	1,251	0.272	0.051	0.015	0.045	49	1,080
15	62.50	1,277	0.233	0.058	0.019	0.047	52	1,102
14	57.50	1,302	0.197	0.063	0.024	0.047	53	1,124
13	53.00	1,060	0.168	0.066	0.028	0.047	43	915
12	50.50	528	0.152	0.068	0.030	0.047	21	456
11	47.50	2,675	0.135	0.069	0.032	0.046	107	2,309
10	44.38	677	0.117	0.070	0.035	0.046	27	585
9	41.88	1,170	0.105	0.071	0.037	0.045	46	1,009
8	37.50	1,585	0.084	0.071	0.039	0.044	61	1,368
7	32.50	1,615	0.063	0.072	0.041	0.043	60	1,394
6	27.50	1,645	0.045	0.071	0.042	0.042	60	1,419
5	22.50	1,675	0.030	0.068	0.041	0.040	58	1,445
4	17.50	1,705	0.018	0.063	0.037	0.037	55	1,471
3	12.50	1,734	0.009	0.054	0.031	0.033	49	1,496
2	7.50	1,764	0.003	0.039	0.022	0.025	38	1,522
1	2.50	1,794	0.000	0.016	0.008	0.011	17	1,548
Yagi	181.00	2	1.954	2.336	1.266	0.396	1	1
RFS FD9R6004/2C-3L	178.00	16	1.890	1.980	1.140	0.356	5	13
5' Omni	178.00	10	1.890	1.980	1.140	0.356	3	9
Alcatel-Lucent RRH 2	178.00	119	1.890	1.980	1.140	0.356	37	103
Alcatel-Lucent RRH2X	178.00	119	1.890	1.980	1.140	0.356	37	103
2' x 4' Rectangular	178.00	40	1.890	1.980	1.140	0.356	12	35
RFS DB-T1-6Z-8AB-0Z	178.00	88	1.890	1.980	1.140	0.356	27	76
18' Dipole	178.00	110	1.890	1.980	1.140	0.356	34	95
Commscope LNX-6514DS	178.00	233	1.890	1.980	1.140	0.356	72	201
Commscope HBXX-6517D	178.00	245	1.890	1.980	1.140	0.356	75	211
Flat Platform w/ Han	178.00	2,000	1.890	1.980	1.140	0.356	616	1,726

Powerwave Allgon LGP	168.00	85	1.684	1.061	0.790	0.235	17	73
Raycap DC6-48-60-18-	168.00	20	1.684	1.061	0.790	0.235	4	17
Ericsson RRU11	168.00	383	1.684	1.061	0.790	0.235	78	331
Powerwave Allgon 777	168.00	105	1.684	1.061	0.790	0.235	21	91
KMW AM-X-CD-16-65-00	168.00	146	1.684	1.061	0.790	0.235	30	126
RRH	158.00	270	1.489	0.475	0.530	0.137	32	233
RFS APXVSPP18-C-A20	158.00	171	1.489	0.475	0.530	0.137	20	148
Round Low Profile Pl	158.00	1,500	1.489	0.475	0.530	0.137	179	1,294
Andrew ATSBT-BOTTOM	145.00	5	1.254	0.062	0.297	0.044	0	5
RFS APX18-209014-CT5	145.00	43	1.254	0.062	0.297	0.044	2	37
Commscope LNX-6515DS	145.00	151	1.254	0.062	0.297	0.044	6	130
Round Low Profile Pl	145.00	1,500	1.254	0.062	0.297	0.044	57	1,294
Yagi	110.00	2	0.722	-0.093	0.034	-0.027	0	1
5' Omni	110.00	30	0.722	-0.093	0.034	-0.027	-1	26
2' x 4' Rectangular	110.00	40	0.722	-0.093	0.034	-0.027	-1	35
18' Dipole	110.00	165	0.722	-0.093	0.034	-0.027	-4	142
Flat T-Arm	110.00	750	0.722	-0.093	0.034	-0.027	-18	647
GPS	73.00	10	0.318	0.041	0.011	0.042	0	9
		52,051	72.676	36.108	27.422	7.999	2,656	44,914

Load Case (0.9 - 0.2Sds) * DL + E EMAM **Seismic (Reduced DL) Equivalent Modal Analysis Method**

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
45	176.50	250	1.858	1.817	1.081	0.336	73	216
44	172.50	430	1.775	1.427	0.935	0.286	107	371
43	169.00	177	1.704	1.136	0.820	0.246	38	153
42	166.50	304	1.654	0.954	0.745	0.219	58	262
41	162.50	520	1.575	0.704	0.637	0.179	80	448
40	159.00	213	1.508	0.521	0.552	0.146	27	183
39	156.50	333	1.461	0.410	0.498	0.125	36	287
38	152.50	569	1.387	0.260	0.419	0.093	46	491
37	147.50	586	1.298	0.117	0.334	0.059	30	505
36	142.50	652	1.211	0.016	0.263	0.031	17	562
35	137.50	669	1.128	-0.053	0.204	0.007	4	577
34	134.38	170	1.077	-0.082	0.173	-0.005	-1	147
33	131.88	1,066	1.037	-0.099	0.151	-0.013	-12	920
32	129.50	288	1.000	-0.110	0.132	-0.019	-5	249
31	127.00	759	0.962	-0.117	0.113	-0.024	-16	655
30	122.50	972	0.895	-0.122	0.085	-0.030	-26	839
29	117.50	998	0.824	-0.116	0.061	-0.033	-28	861
28	112.50	1,023	0.755	-0.102	0.042	-0.030	-27	883
27	107.50	1,062	0.689	-0.084	0.028	-0.024	-22	916
26	102.50	1,087	0.627	-0.063	0.018	-0.014	-13	938
25	97.50	1,113	0.567	-0.041	0.011	-0.003	-3	960
24	94.88	56	0.537	-0.030	0.009	0.003	0	49
23	92.38	1,956	0.509	-0.019	0.007	0.009	16	1,688
22	89.38	523	0.476	-0.008	0.006	0.016	7	451
21	86.88	864	0.450	0.002	0.006	0.021	16	745
20	82.50	1,174	0.406	0.016	0.006	0.030	30	1,013
19	77.50	1,200	0.358	0.031	0.008	0.037	38	1,035
18	74.00	487	0.327	0.039	0.010	0.041	17	420
17	71.50	739	0.305	0.044	0.012	0.043	27	637
16	67.50	1,251	0.272	0.051	0.015	0.045	49	1,080
15	62.50	1,277	0.233	0.058	0.019	0.047	52	1,102
14	57.50	1,302	0.197	0.063	0.024	0.047	53	1,124
13	53.00	1,060	0.168	0.066	0.028	0.047	43	915
12	50.50	528	0.152	0.068	0.030	0.047	21	456
11	47.50	2,675	0.135	0.069	0.032	0.046	107	2,309

10	44.38	677	0.117	0.070	0.035	0.046	27	585
9	41.88	1,170	0.105	0.071	0.037	0.045	46	1,009
8	37.50	1,585	0.084	0.071	0.039	0.044	61	1,368
7	32.50	1,615	0.063	0.072	0.041	0.043	60	1,394
6	27.50	1,645	0.045	0.071	0.042	0.042	60	1,419
5	22.50	1,675	0.030	0.068	0.041	0.040	58	1,445
4	17.50	1,705	0.018	0.063	0.037	0.037	55	1,471
3	12.50	1,734	0.009	0.054	0.031	0.033	49	1,496
2	7.50	1,764	0.003	0.039	0.022	0.025	38	1,522
1	2.50	1,794	0.000	0.016	0.008	0.011	17	1,548
Yagi	181.00	2	1.954	2.336	1.266	0.396	1	1
RFS FD9R6004/2C-3L	178.00	16	1.890	1.980	1.140	0.356	5	13
5' Omni	178.00	10	1.890	1.980	1.140	0.356	3	9
Alcatel-Lucent RRH 2	178.00	119	1.890	1.980	1.140	0.356	37	103
Alcatel-Lucent RRH2X	178.00	119	1.890	1.980	1.140	0.356	37	103
2' x 4' Rectangular	178.00	40	1.890	1.980	1.140	0.356	12	35
RFS DB-T1-6Z-8AB-0Z	178.00	88	1.890	1.980	1.140	0.356	27	76
18' Dipole	178.00	110	1.890	1.980	1.140	0.356	34	95
Commscope LNX-6514DS	178.00	233	1.890	1.980	1.140	0.356	72	201
Commscope HBXX-6517D	178.00	245	1.890	1.980	1.140	0.356	75	211
Flat Platform w/ Han	178.00	2,000	1.890	1.980	1.140	0.356	616	1,726
Powerwave Allgon LGP	168.00	85	1.684	1.061	0.790	0.235	17	73
Raycap DC6-48-60-18-	168.00	20	1.684	1.061	0.790	0.235	4	17
Ericsson RRU11	168.00	383	1.684	1.061	0.790	0.235	78	331
Powerwave Allgon 777	168.00	105	1.684	1.061	0.790	0.235	21	91
KMW AM-X-CD-16-65-00	168.00	146	1.684	1.061	0.790	0.235	30	126
RRH	158.00	270	1.489	0.475	0.530	0.137	32	233
RFS APXVSPP18-C-A20	158.00	171	1.489	0.475	0.530	0.137	20	148
Round Low Profile Pl	158.00	1,500	1.489	0.475	0.530	0.137	179	1,294
Andrew ATSBT-BOTTOM	145.00	5	1.254	0.062	0.297	0.044	0	5
RFS APX18-209014-CT5	145.00	43	1.254	0.062	0.297	0.044	2	37
Commscope LNX-6515DS	145.00	151	1.254	0.062	0.297	0.044	6	130
Round Low Profile Pl	145.00	1,500	1.254	0.062	0.297	0.044	57	1,294
Yagi	110.00	2	0.722	-0.093	0.034	-0.027	0	1
5' Omni	110.00	30	0.722	-0.093	0.034	-0.027	-1	26
2' x 4' Rectangular	110.00	40	0.722	-0.093	0.034	-0.027	-1	35
18' Dipole	110.00	165	0.722	-0.093	0.034	-0.027	-4	142
Flat T-Arm	110.00	750	0.722	-0.093	0.034	-0.027	-18	647
GPS	73.00	10	0.318	0.041	0.011	0.042	0	9
		52,051	72.676	36.108	27.422	7.999	2,656	44,914

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	32.80	0.00	62.43	0.00	0.00	4091.38	51.00	0.52
0.9D + 1.6W	32.79	0.00	46.82	0.00	0.00	4057.07	51.00	0.51
1.2D + 1.0Di + 1.0Wi	9.79	0.00	100.96	0.00	0.00	1225.93	51.00	0.17
(1.2 + 0.2Sds) * DL + E ELFM	2.14	0.00	62.17	0.00	0.00	292.34	51.00	0.05
(1.2 + 0.2Sds) * DL + E EMAM	2.64	0.00	62.17	0.00	0.00	350.71	133.75	0.06
(0.9 - 0.2Sds) * DL + E ELFM	2.13	0.00	43.36	0.00	0.00	289.45	51.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.64	0.00	43.36	0.00	0.00	346.95	133.75	0.05
1.0D + 1.0W	7.38	0.00	52.05	0.00	0.00	915.91	51.00	0.12

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
6,250.00	53.00	48.00	4,091.38	100.96	32.80	48.49

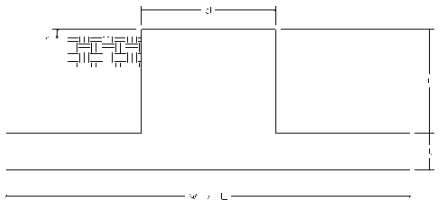
Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
55.0	3.000	75.000	Clipped	4	15.00	9.040	427.36	1006.86	0.42

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
76.00	24	2.25" 18J	2.25	75.00	100.00	Clustered	6.00	45.0	111.87	260.00	0.44	103.46	260.00	0.41

Site Name:	Mansfield Center 1 CT, CT	*Program Last Updated:*	*5/13/2014*
Site Number:	376046		
Engineering Number:	63859921		
Engineer:	J.Abbott		
Date:	10/20/15		
Tower Type:	MP		



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	101.0	k	Concrete Strength (f'_c):	3000	psi
Uplift/Leg:	0.0	k	Pad Tension Steel Depth:	44.00	in
Total Shear:	32.8	k	ϕ_{Shear}:	0.75	
Moment:	4091.4	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	50.0	k	$\phi_{Compression:}$	0.65	
Depth to Base of Foundation (l + t - h):	4.00	ft	β:	0.85	
Diameter of Pier (d):	0.00	ft	Bottom Pad Rebar Size #:	10	
Height of Pier above Ground (h):	0.00		# of Bottom Pad Rebar:	27	
Width of Pad (W):	30.50	ft	Pad Bottom Steel Area:	34.29	in^2
Length of Pad (L):	30.50	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	4.00	ft	Top Pad Rebar Size #:	10	
Tower Leg Center to Center:	0.00	ft	# of Top Pad Rebar:	27	
Number of Tower Legs:	1.0	(1 if MP or GT)	Pad Top Steel Area:	34.29	in^2
Tower Center from Mat Center:	0.00	ft			
Depth Below Ground Surface to Water Table:	99.00	ft			
Unit Weight of Concrete:	150.0	pcf			
Unit Weight of Soil Above Water Table:	120.0	pcf			
Unit Weight of Water:	62.4	pcf			
Unit Weight of Soil Below Water Table:	65.0	pcf			
Friction Angle of Uplift:	0.0	Degrees			
Ultimate Coefficient of Shear Friction:	0.35				
Ultimate Compressive Bearing Pressure:	20000.0	psf			
Ultimate Passive Pressure on Pad Face:	0.0	psf			
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9				
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	4222.6	k-ft
OTM Resistance:	8232.5	k-ft
Design OTM / OTM Resistance:	0.51	Result: OK

Soil Bearing Pressure Usage

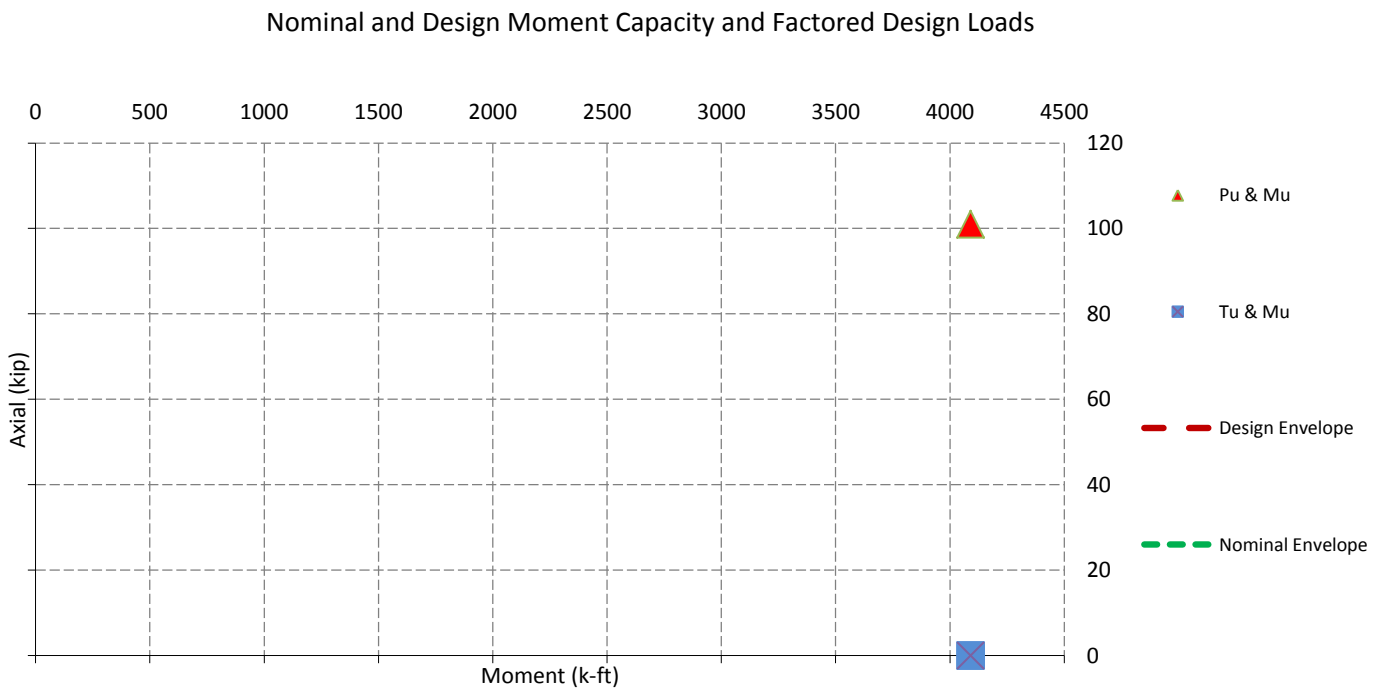
Net Bearing Pressure:	1512	psf
Factored Nominal Bearing Pressure:	15000	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.10	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety

Total Factored Sliding Resistance:	157.5	k
Sliding Design / Sliding Resistance:	0.21	Result: OK

One Way Shear, Flexual Capacity, and Punching Shear

Factored One Way Shear (V_u):	283.0	k
One Way Shear Capacity (ϕV_c):	1323.1	k - ACI11.3.1.1
V_u / ϕV_c:	0.21	Result: OK
Load Direction Controling Shear Capacity:	Parallel to Pad Edge	
Lower Steel Pad Factored Moment (M_u):	2984.1	k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	6644.9	k-ft - ACI10.3
M_u / ϕM_n:	0.45	Result: OK
Load Direction Controling Flexural Capacity:	Parallel to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	1794.8	k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	6644.9	k-ft
M_u / ϕM_n:	0.27	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0021	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0021	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	14	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	14	in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	96.0	k
Nominal Punching Shear Capacity ($\phi_c V_n$):	999.4	k - ACI11.12.2.1
V_u / ϕV_c:	0.10	Result: OK



Sheldon F

From: Ashley Paquette
Sent: Wednesday, November 18, 2015 4:21 PM
To: Sheldon F; Deborah Chase; Victoria Masse(Victoria Name); Rich Raupach
Subject: RE: Lease Package: T-MOBILE @ MANSFIELD CENTER 1 CT, 376046 / Customer #CTHA211A (638599)

Hi Sheldon,

Hi Sheldon,

An Opinion was run for the revisions to the application. The opinion requires no fee; however there is also no deliverable (i.e. no physical report with calculations), but the correct load for the current equipment configuration is taken into account when reviewed by Engineering. Screenshot below of ATC internal tracker to show you that the Opinion was completed.

Engineering Order:

	#	Engineering Service	Completed Date	Delivered Date	Billed Date	Status of Project	Ordered Date	PO Received Date	Engineering #	Passed / Failed	Used Red
Edit	1	Structural	10/20/2015	10/20/2015	10/28/2015	Billed	10/8/2015		63859921	Passed	No
Edit	2	Opinion	11/17/2015	11/17/2015		Delivered	11/16/2015		63859902	Passed	No

Please let me know if you have any questions!

Ashley Paquette
Account Project Manager
American Tower Corporation
10 Presidential Way
Woburn, MA 01801
781-926-7079 (Office)
ashley.paquette@americantower.com

Find, Apply and Track Online with ON AIR Access

From: Sheldon F [mailto:sheldon@northeastsitesolutions.com]
Sent: Wednesday, November 18, 2015 4:09 PM
To: Ashley Paquette; Deborah Chase; Victoria Masse(Victoria Name); Rich Raupach
Subject: RE: Lease Package: T-MOBILE @ MANSFIELD CENTER 1 CT, 376046 / Customer #CTHA211A (638599)

Thank you. We have a revised structural pending.

Deb: please actualize “SLA Executable Received”.

Thank you.

Sheldon Freincle
Project Manager
(201) 776-8521

From: Ashley Paquette [mailto:ashley.paquette@americantower.com]
Sent: Wednesday, November 18, 2015 4:06 PM
To: Sheldon F <sheldon@northeastsitesolutions.com>
Subject: Lease Package: T-MOBILE @ MANSFIELD CENTER 1 CT, 376046 / Customer #CTHA211A (638599)

Hi Sheldon,

Please see attached for the lease draft and exhibit application.

Please let me know if you have any questions!

Ashley Paquette
Account Project Manager
American Tower Corporation
10 Presidential Way
Woburn, MA 01801
781-926-7079 (Office)
ashley.paquette@americantower.com

Find, Apply and Track Online with ON AIR Access

Exhibit D

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

T-Mobile Existing Facility

Site ID: CTHA211A

CTHA211/ TCP Communication
230 Clover Mill Road
Mansfield, CT 06268

October 23, 2015

EBI Project Number: 6215005342

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	5.60 %

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

EBI Consulting
environmental | engineering | due diligence

October 23, 2015

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

Emissions Analysis for Site: **CTHA211A – CTHA211/ TCP Communication**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **230 Clover Mill Road, Mansfield, 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) band 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 **230 Clover Mill Road, Mansfield, 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 GSM 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 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.

3) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

5) Since the radios are ground mounted there are additional cabling losses accounted for. For each RF path the following losses were calculated. 1.01 dB of additional cable loss at 700 MHz and 1.85 dB of additional cable loss at 1900 MHz. This is based on manufacturers Specifications for 180 feet of 1-5/8" coax cable on each path.

6) 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.

7) For the following calculations the sample point was the top of a six 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.

8) The antennas used in this modeling are the **RFS APXV18-209014** for 1900 MHz (PCS) 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 **RFS APXV18-209014** has a maximum gain of **14.4 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. 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.

9) The antenna mounting height centerline of the proposed antennas is **148 feet** above ground level (AGL).

10) 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.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APXV18-209014	Make / Model:	RFS APXV18-209014	Make / Model:	RFS APXV18-209014
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	148	Height (AGL):	148	Height (AGL):	148
Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)
Channel Count	6	Channel Count	6	# PCS Channels:	6
Total TX Power:	240	Total TX Power:	240	# AWS Channels:	240
ERP (W):	4,317.29	ERP (W):	4,317.29	ERP (W):	4,317.29
Antenna A1 MPE%	0.77	Antenna B1 MPE%	0.77	Antenna C1 MPE%	0.77
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
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):	148	Height (AGL):	148	Height (AGL):	148
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	685.68	ERP (W):	685.68	ERP (W):	685.68
Antenna A2 MPE%	0.26	Antenna B2 MPE%	0.26	Antenna C2 MPE%	0.26

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**1.03 %**
Fire Svcs & EMS	1.13 %
Emergency Mgmt	0.25 %
Public Works	0.25 %
AT&T	1.14 %
Sprint	0.30 %
Verizon Wireless	1.50 %
Site Total MPE %:	**5.60 %**

T-Mobile Sector 1 Total:	1.03 %
T-Mobile Sector 2 Total:	1.03 %
T-Mobile Sector 3 Total:	1.03 %
Site Total:	5.60 %

T-Mobile _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) LTE	**2**	**1079.32**	**148**	**3.85**	**2100**	**1000**	**0.38 %**
T-Mobile 1900 MHz (PCS) GSM	**2**	**539.66**	**148**	**1.92**	**1900**	**1000**	**0.19 %**
T-Mobile 1900 MHz (PCS) UMTS	**2**	**539.66**	**148**	**1.92**	**2100**	**1000**	**0.19 %**
T-Mobile 700 MHz LTE	**1**	**685.68**	**148**	**1.22**	**700**	**467**	**0.26 %**
						Total:	**1.03%**

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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 1:	1.03 %
Sector 2:	1.03 %
Sector 3 :	1.03 %
T-Mobile Per Sector Maximum:	1.03 %
Site Total:	5.60 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **5.60%** 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.

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803