

#### JULIE D. KOHLER

PLEASE REPLY TO: Bridgeport
WRITER'S DIRECT DIAL: (203) 337-4157
E-Mail Address: jkohler@cohenandwolf.com

May 6, 2015

Attorney Melanie Bachman Acting Executive Director Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

Re: Notice of Exempt Modification

Town of New Fairfield/T-Mobile equipment upgrade

Site ID CT11797A

302 Ball Pond Road, New Fairfield CT

Dear Attorney Bachman:

This office represents T-Mobile Northeast LLC ("T-Mobile") and has been retained to file exempt modification filings with the Connecticut Siting Council on its behalf.

In this case, the Town of New Fairfield ("Town") owns the existing telecommunications tower and related facility at 302 Ball Pond Road, New Fairfield Connecticut (latitude 41.464761/ longitude -73.49666). T-Mobile intends to add three (3) antennas and related equipment at this existing telecommunications facility in New Fairfield ("New Fairfield Facility"). Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to First Selectman Michael C. Tetreau, Town of New Fairfield. The Town is also the property owner.

The existing New Fairfield Facility consists of a 175 foot tall monopole tower. T-Mobile plans to replace add three (3) antennas and three (3) RRU (remote radio units) at a centerline of 145 feet. (See the plans revised to April 29, 2015 attached hereto as Exhibit A). With modifications, the existing Facility is structurally capable of supporting T-Mobile's proposed modifications, as indicated in the Structural Analysis Report dated April 24, 2015 and attached hereto as Exhibit B.

The planned modifications to the New Fairfield Facility fall squarely within those

<sup>&</sup>lt;sup>1</sup> The Connecticut Siting Council database does not contain any Dockets or Petitions relative to this Facility however there are notices of intent, the most recent being EM-SPRINT-091-141203, EM-T-MOBILE-091-130531A, and EM-VER-091-121206.



CC:

May 6, 2015 Site ID CT11797A Page 2

activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

- 1. The proposed modification will not increase the height of the tower. T-Mobile's replacement antennas will be installed at the 145 foot level. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.
- 2. T-Mobile does not propose to make any changes to the existing compound area and therefore the proposed modification will not require an extension of the site boundaries.
- 3 . The proposed modification to the Facility will not increase the noise levels at the existing facility by six decibels or more.
- 4. The operation of the additional antennas will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a Radio Frequency Emissions Analysis Report prepared by EBI dated April 20, 2015 T-Mobile's operations would add 6.25% of the FCC Standard. Therefore, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 64.53% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

For the foregoing reasons, T-Mobile respectfully submits that the proposed additional antennas and equipment at the New Fairfield Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Upon acknowledgement by the Council of this proposed exempt modification, T-Mobile shall commence construction approximately sixty days from the date of the Council's notice of acknowledgement.

Sincerely,

Julie D. Kohler, Esq.

Town of New Fairfield, First Selectman Michael C. Tetreau Sheldon Freincle, NSS

# **EXHIBIT A**

# - Mobile-

# **T-MOBILE NORTHEAST LLC**

SITE #: CT11797A

SUBMITTALS
DESCRIPTION
ISSUED FOR REVIEW
REVISION
FINAL CD

T-MOBILE NORTHEAST, LLC
35 GRIPFIN ROAD SOUTH
BLOOMFIELD, CT 66002
OPTICE: (860) 692-7159
FAX:(860) 692-7159

T · Mobile ·

SITE NAME: CT797/NEW FAIRFIELD MP

SITE ADDRESS:

302 BALL POND ROAD

WIRELESS BROADBAND FACILITY NEW FAIRFIELD, CT 06812

CONSTRUCTION DRAWINGS

(702Cu CONFIGURATION)

MAP

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.

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.

SITE NUMBER:

SITE INFORMATION

PROJECT

SUB-CONTRACTORS

CHECKED BY: PROJECT NO: DRAWN BY:

MS

RFE MAN.
ZONING OPS CONSTR.
CONSTR.

- 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. 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.
- 3. THE CONITACTOR 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 CONITACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONITACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- . 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 DESCRIBED HEREIN.
- 5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILLARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

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

CALL 800 922 4455, OR 811 WWW.CBYD.COM DO NOT SCALE DRAWINGS

- 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.
- . THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/YENDOR'S SPECIFICATIONS UNILESS NOTHED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- 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.

COLOR CODE FOR UTILITY LOCATIONS

SURVEY - GREEN
SURVEY - PINK
PROPOSED EXCAVATION - WHITE
RECLAIMED WATER - PURPLE

SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS. CALL THREE WORKING DAYS PRIOR TO DIGGING

> 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. 13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS. 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 REMANING ON PROPERTY, PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. 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.

# CODE COMPLIANCE

2005 CONNECTICUT BUILDING CODE WITH 2013 AMENDMENT 2011 NATIONAL ELECTRICAL CODE CONNECTICUT STATE BUILDING CODE

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.

18. REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "POST-MOD TOWER ANALYSIS REPORT" PREPARED BY INFINIGY & DESIGN BUILD DELIVER "T-MOBILE SITE ID CT11797A" DATED APRIL 24, 2015 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.

THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.

TOWN OF NEW FAIRFIELD

4. BRUISH HILL ROAD

NEW FAIRFIELD, CT 06812

ATIN: SUSAN CHAPMAN, FIRST SELECTMAN

203-312-5600 N 41.46476" / W 73.49666" TOWN OF NEW FAIRFIELD PROJECT MANAGER APPLICANT: LISA LIN ALLEN
NORTHEAST SITE SOLUTIONS
54 MAIN STREET
STURBRIDGE, MA 01566
(508) 434–5237 T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 (860) 692-7100

PROPERTY OWNER:

E-2 GROUNDING DETAILS	N-1 GENERAL AND ELECTRICAL NOTES  A-1 SITE PLAN AND ELEVATION  A-2 ANTENNA PLAN AND DETAILS  E-1 GROUNDING AND POWER ONE LINE DIAGRAM	SHEET DESCR	SHEET	ARCHITECT/ENGINEER: ATLA 1344 NEW (617
WER ONE LINE DIAGRAM	RICAL NOTES  ATION  DETAILS  DETAILS	DESCRIPTION	INDEX	ATLANIS GROUP INC. 1340 CENTRE STREET SUITE 212 NEWTON CENTER, MA 02459 (617) 965-0789

	SUITE 212 02459	
SITE NAME	DESIGN, PROPERTY AND COPYRIGH WORK OF T-MOBILE. ANY DUPLICATION USE WITHOUT EXPRESS WRITH CONSENT IS STRICTLY PROHIBITION.	I HIS DOCUMEN IS THE CREATE

PROFESSIONAL SEAL

SITE NAME	120	
CONSENT IS STRICTLY PROHIBITED		
OR USE WITHOUT EXPRESS WRITTE		
WORK OF T-MOBILE. ANY DUPLICATION	_	
DESIGN, PROPERTY AND COPYRIGHTI	_	

						_		
302 BALL POND ROAD	SITE ADDRESS	CT797/NEW FAIRFIELD MP	SITE NAME	CT11797A	SITE NAME		CONSENT IS STRICTLY PROHIBITED.	OR USE WITHOUT EXPRESS WRITTEN

NEW FAIRFIELD, CT

06812

T NUMBER
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TITLE SHEET

SHEET TITLE

WORK INCLIDED

1. INCLIDE 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 PATICHING OF EXISTING OR NEMLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK OF THIS CONTRACT. FOR SLAB PENETRATIONS THREWORK OF THIS CONTRACT. FOR SLAB PENETRATION PRIOR TO PERFORMING WORK.

COORDINATE ALL X-RAY WORK WITH BULLDING ENGINEER.

E. PROVIDE HAWEERS, SUPPORTS, FONDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED ON INSTALLED UNDER THE WORK OF HIS CONTRACT, PROVIDE COUNTER LASSINIC, SLEEVES AND SEALS FOR FLOOR AND WALL PENETRATIONS.

F. MANITAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING PRECIDED BY THE AUSTONAL THE WORK OF THE WORK INCLUDING PROVIDED THE PROGRESS OF THE WORK INCLUDING PROVIDED THE PROGRESS OF THE WORK INCLUDING PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPORES.

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 OF INSTALL ALL PARMINGS 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 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.

LECTRICAL CODE (NEC) AND LOCAL AND STATE ELECTRICAL CODES.

2. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY, REFER TO THE BUILDING.

1. THE BUILDING.

3. LOAD CALLIATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING.

3. LOAD CALLIATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING.

3. LOAD CALLIATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING.

3. LOAD CALLIATIONS ARE BASED ON EXISTING BUILDING INFORMATION FOR STORMAN TO PURCHASING OF SPECIFIED EQUIPMENT FOR TO HAVE DRAWINGS.

4. ENSTING BUILDING EQUIPMENT IS NOTIED ON THE DRAWINGS.

5. ENERGY.

5. ENERGY.

5. ENERGY.

6. ENERGY.

6. ENERGY.

6. SCHECAL

6. AMANDATIONS AND BEFORE SUBMITTING THE PROPOSAL MAKE A MANDATION SITE VISIT TO ASCEPTAND WITH SHADED LINES. AND HETORE SUBMITTING THE PROPOSAL MAKE A MANDATION SITE VISIT TO ASCEPTAND WITH SHADEN STORMAN TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILLIRE TO NOTIFY THE OWNER, IN WRITING, OF ANY DISCREPANCIES THAT MAY HAVE BEEN MOTED BETWEEN THE ENSTING CONDITIONS AND TREPCIPICATIONS.

B. VERIFY ALL MESCUREMENTS AT THE SITE AND BE
RESPONSIBLE FOR CORRECTINESS OF SAME.

6. QUALITY, WORKHAMSHIP, MATERIALS AND SCHETY
A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC
A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC
A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC
A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC
AMAURFACTURER BY THOSE REGULARLY ENCAGED IN THE
PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS
AND EQUIPMENT. WHERE U., OR OTHER AGENCY, HAS
ESTABLISHED STANDARD ITEMS OF EQUIPMENT AND THE
SPECIFIC NAMES MENTIONED HEREIN ARE INTENDED FOR THE
PROPER EUNCTIONING OF THE WORK, INSTALL MATERIALS AND
EQUIPMENT TO PRESENT A NEAT APPEARANCE WHEN
COMPLETED AND IN ACCORDANCE WITH THE APPROVED
RECOMMERIOATIONS OF THE MAUPLACTURER AND IN
ACCORDANCE WITH CONTRACT DOCUMENTS.
C. PROVIDE LABOR, MATERIALS, APPARATIUS AND APPLIANCES
ESSENTIAL TO THE EUNCTIONING OF THE SYSTEMS DESCRIBED
OR INDICATED HEREIN, OR WHICH MAY BE REASONABLY
IMPLIED AS ESSENTAL WHENEVER MENTIONED IN THE
CONTRACT DOCUMENT OR NOT.

1. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR
EXPLANATION THERED:
SO WORK INTENDED OR IN EVENT OF NEED FOR
EXPLANATION THEREDS.
E. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR
PECRIFIED ARE MINIMUM STANDARD ACCEPTIBLE. THE RIGHT
TO JUDGE THE QUALITY OF EQUIPMENT THAT DEVARTES FROM
THE CONTRACT DOCUMENT REMAINS SOLELY WITH
ARCHITECT/ENGINEER, CONTRACT DOCUMENT OR NOT.

ARCHITECT/ENGINEER. CONTRACT DOCUMENT OR NOT. GUARANTEE

1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE TEAR 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 WORKMANISHIP 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
1. CAREFULLY LAY OUT ALL WORK IN ADVANCE TO AVOID
1. CARESULTY LAY OUT ALL WORK IN ADVANCE TO AVOID
1. CARESULT LAY LAY CALL WORK IS CEILINGS OR OTHER SURFACES.
1. FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES.
1. FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACE.
1. FLOORS AT IN ADDITIONAL COST TO THE OWNER, RENDER PULL COOPERATION TO OTHER TRADES WHERE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO WORK OF OTHER TRADES.
1. SENSTALLED BEFORE COORDINATION WITH OTHER TRADES, OR CAUSES INTERTERINGE, MAKE CHANGES NECESSARY TO CORRECT CONDITIONS WITHOUT EXTRA CHARGE.

SUBMITTALS

1. AS-BUILT DRAWINGS:
A JUPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
2. SERVICE MANUALS:
A JUPON 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. BETORE ENERGZINIC ANY ELECTRICAL INSTALLATION, INSPECT
EACH UNIT IN DETAIL TIGHTEN ALL BOLTS AND CONNECTIONS
(TORQUIS-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 SATISFACTIONICY 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 CLITOFF 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 BRANKH ORCUMING 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. THHIN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL VERFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MIN 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

I'HL OWNEK HOK VERIFICATION PRIOR TO THE PROJECT COMPETION.

RACEWAYS

1. ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:

A EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE UN SCH 40 PMC.

B. EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED RIGID STEEL (RGS).

C. ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE BAT.

D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.

D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT TO BE LABELS TO—MOBILE." OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.

FINAL CONNECTIONS TO MOTORS AND PREATING EQUIPMENT TO BE INSTALLED IN CELLINGS.

G. MINIMUM SIZE CONDUIT TO BE X." TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWNICS.

H. FINAL CONNECTIONS TO MOTORS AND PREATING EQUIPMENT TO BE INSTALLED IN UDUID—TIGHT FLEXIBLE METAL CONDUIT.

CONDUIT TO BE RUN CONCEALED IN CELLINGS, FINISHED AREAS OR DRYMALL PARTITIONS, UNLESS OTHERWISE NOTED.

J. THE ROUTING OF CONDUITS INDICATED ON THE DRAWNICS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.

ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STEEL COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

EWAYS CONIT'D

L PENETRIONS OF WALLS, FLOORS AND ROOFS, FOR THE
L PENETRIONS 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 FENETRATIONS THROUGH FIRE OR SMOKE
PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR

PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR

CELING.

A. PROVIDE ALL CONDUT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.

N. CONDUTT O BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-O', OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL IDERCTIONS.

D. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES MOTO/GR OUTLET BOXES NOT USED IN EXPOSED AREAS, PROVIDE ALL OTHER HUNSED BOXES WITH STANDARD STEEL COVER PLATES.

P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

NURES AND CABLES

1. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VENDOR FOR EXACT EQUIPMENT OF EXACT EXACT EXPENDED WITH INSULATED GROUND CONDUCTOR.

3. ALL WIRE AND CABLE TO BE ROOVOLT, COPPER, WITH THWIN/THAN INSULATION, EXCEPT AS NOTED.

4. WIRE FOR POWER AND LIGHTING WILL NOT BE LESS THAN NO. 14AWG, FLEXIBLE IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING IN CONSIST OF MULTI-CONDUCTOR CABLES. CONTROL WIRING FOR ZOA, TOWN IN CASHES WHEREVER POSSISTE. CABLES TO BE PROVIDED WITH AN OVERALL FLAWE-FERADAMY. EXTRUDED JACKET AND BATED.

6. WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND INTO CONDUIT IS CONSIDERED USED NO. 10 TO TO SEE RE-PULLED.

7. HOME RUNS AND BRANCH CIRCUIT WIRING FOR ZOA, 120V CHOUTS:

10 TO 150

10 TO 150

10 TO 50

10 TO 150

10

A. GENERAL ELECTRIC COMPANY

B. SQUARE-D

5. PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.
INSTALLATION

1. INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWNOSS.

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. FUNNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:

A. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60A, USED FOR NITIAL 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:

ARCHITECTURAL

INTENT

1. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS
1. THESE SPECIFICATIONS AND DESCRIBE THE WORK TO BE DONE AND ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.

2. THE DAWNINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANTORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON OR SPECIFIED ON OR SPECIFIED IN BOTH

3. THE INTENTON OF THE DOCUMENTS IS TO INCLUDE ALL JABOR AND MATERIALS REASONABLY MICCESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN 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 DEPAYTIONS 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.

RE: 2/A-3

- DRAWING DETAIL NUMBER EXISTING N.I.C.

-SHEET NUMBER OF DETAIL

DETAIL REFERENCE

AEY

G

38

REFER TO

SUBMITTALS

REVISION

T-MOBILE NORTHEAST, LLC 35 GRIFFIN ROAD SOUTH

T · Mobile

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.

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.

3. INTERIOR
A. NISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL
TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER
FOREIGN MATTER FROM WALLS, FLOOR, AND CELING.
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 INTERELATED. 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 OUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE TIEMS, 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.

CONFLICTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MESSUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTIVAL 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 COMPENSION 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 DIFFICULITIES OR CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONTRACTOR TO THE WORK ON THE DESCRIPTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PREPARADED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PRAFT OF THE CONTRACTOR TO THE DISTALL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK. 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. LEAVE THEIR WORK CLEAN AND READY TO USE.

2. EXITENOR
2. EXITENOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER POREIGN 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. 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 COMPLANCE" 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 FROJECT MANAGER WILL DEVELOP A MASTER
SCHEDULE FOR THE FROJECT MANAGER WILL DEVELOP A MASTER
SCHEDULE, FOR THE SCHEDULE, INDICATING A TIME BAR FOR
FACH MAJOR CATEGORY OR UNIT OF WORK, TO BE PERFORMED
AT THE SITE, PROPERLY SEQUENCED AND COORDINATED WITH
OTHER BLEMENTS OF WORK AND SHOWING COMPLETION OF THE
WORK SUFFICIENTLY IN ADVANCE OF THE WORK.

3. PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL
SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS
WOLLD INCLUDE BUT NOT LIMITED TO, THE OWNER SHALL
SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS
WOLLD INCLUDE BUT ONT LIMITED TO, THE OWNER SHALL
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WOLLD INCLUDE BUT ONT LIMITED TO, THE OWNER SHALL
SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS
WOLLD INCLUDE BUT ONT LIMITED TO, THE OWNER PROJECT
MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL
SLIEGONTRACTED.)
SLIEGONTRACTED. 1. CONTRACTOR AT THEIR OWN EXPENSE SHALL CARRY AND MAINTAIN, FOR THE DURATION OF THE PROJECT, ALL INSURANCE, AS REQUIRED AND USTED, AND SHALL NOT COMMENCE WITH THEIR WORK UNILL 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 3. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE. SUBCONTRACTED).

4. CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTRUCT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WRELESS SERVICE BE ARRANED.

5. DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT IMPLOYEES 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 INVENTIORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO STAFT OF CONSTRUCTION.
8. NOTIFY THE OWNER/PROLECT MANORER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONOREITE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS. INSURANCE AND BONDS
1. CONTRACTOR, AT TH
MAINTAIN, FOR THE I
INSURANCE, AS REQUESTED THE INSURANCE WITH THE SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES. WIJST PROVIDE PROOF OF INSURANCE.

ABBREVIATIONS MECHANICAL MICROWAYE DISH MANUFACTURER MASTER GROUND BAR MINIMUM EQUAL
EQUIPMENT
EQUIPMENT GROUND BAR
EXISTING ADJUSTABLE ABOVE GROUND LINE AND INISHED FLOOR PASE TRANSMISSION STATION RABINET ALVANIZED ENERAL CONTRACTOR

> CHECKED BY STAXOS SEIN IN OF CONNECTO SUT ★ VO

RFE RF MAN.
ZONING
OPS
CONSTR.
SITE AC.

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NO.

CT11797A MB

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PROFESSIONAL SEAL SED ARCHIT

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SITE NAME CT11797A

302 BALL POND ROAD NEW FAIRFIELD ,CT 06812 CT797/NEW FAIRFIELD MP SITE ADDRESS

SITE NAME

SHEEL LILE

GENERAL AND ELECTRICAL NOTES

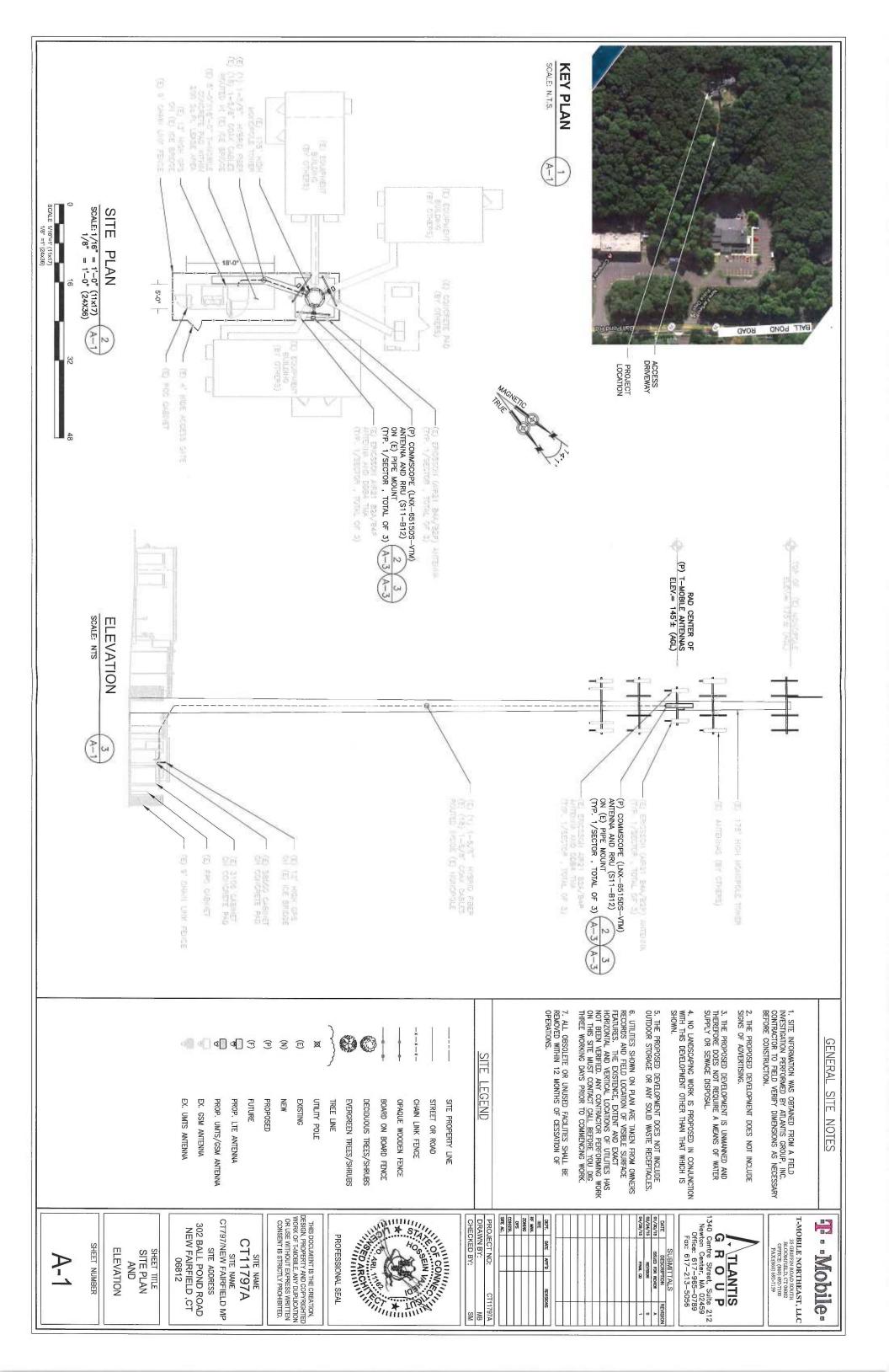
PROPOSED
PERSONAL COMMUNICATION SYSTEM
POWER PROTECTION CABINET
SQUARE FOOT
SHEET

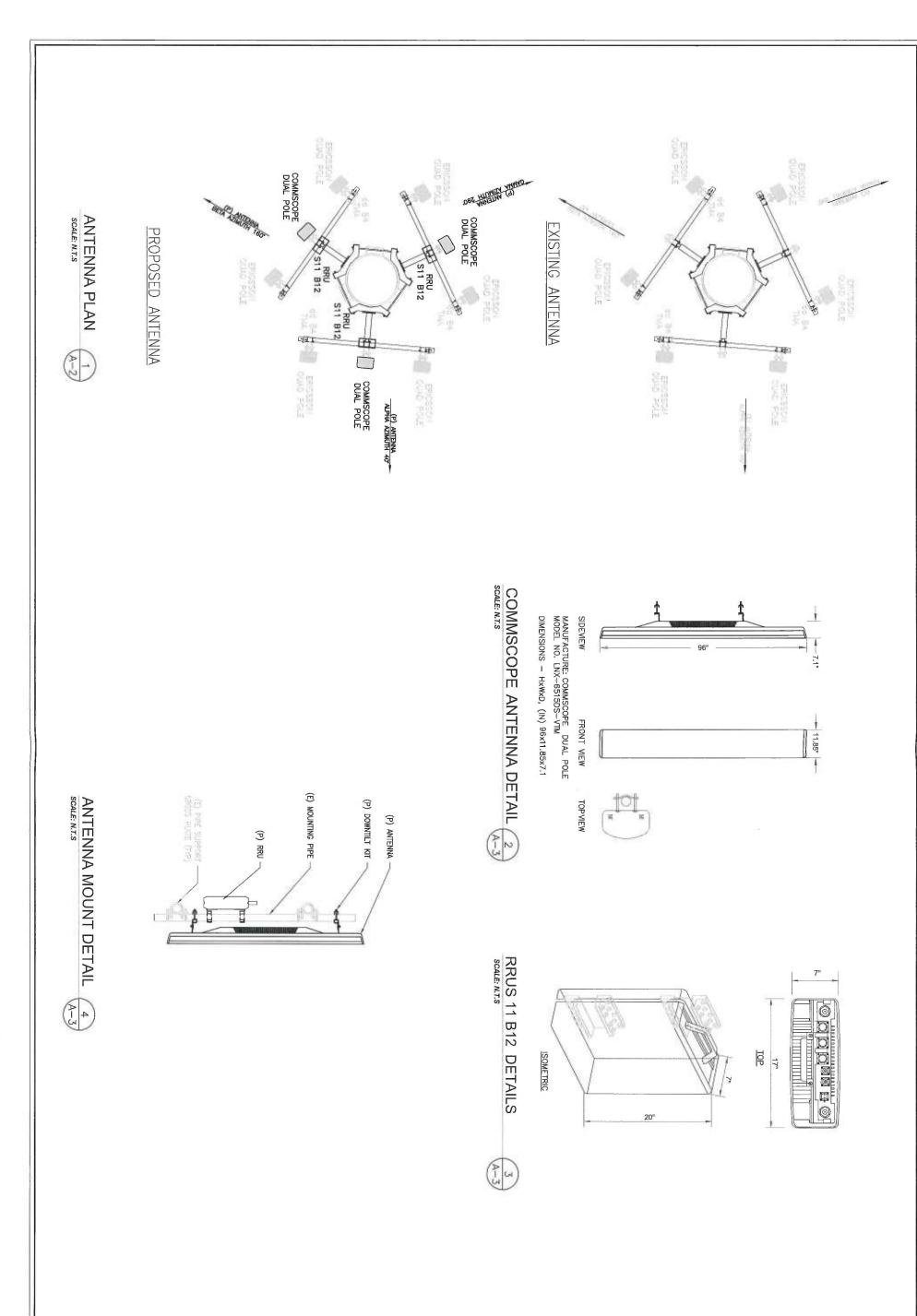
NEW
NOT IN CONTRACT
NOT TO SCALE
ON CENTER
OPPOSITE

TYPICAL
VERIFY IN FIELD
UNLESS OTHERWISE NOTED
WELDED WIRE FABRIC
WITH

STAINLESS STEEL
STEEL
TOP OF CONCRETE
TOP OF MASONRY

NUMBER





**A-2** 

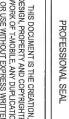
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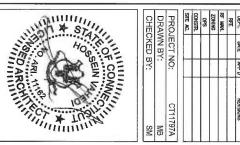
SHEET TITLE ANTENNA PLAN DETAILS AND

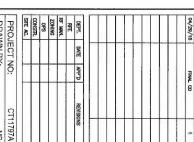
SITE ADDRESS
302 BALL POND ROAD
NEW FAIRFIELD ,CT
06812

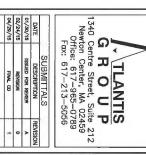
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CT11797A
SITE NAME
CT797/NEW FAIRFIELD MP

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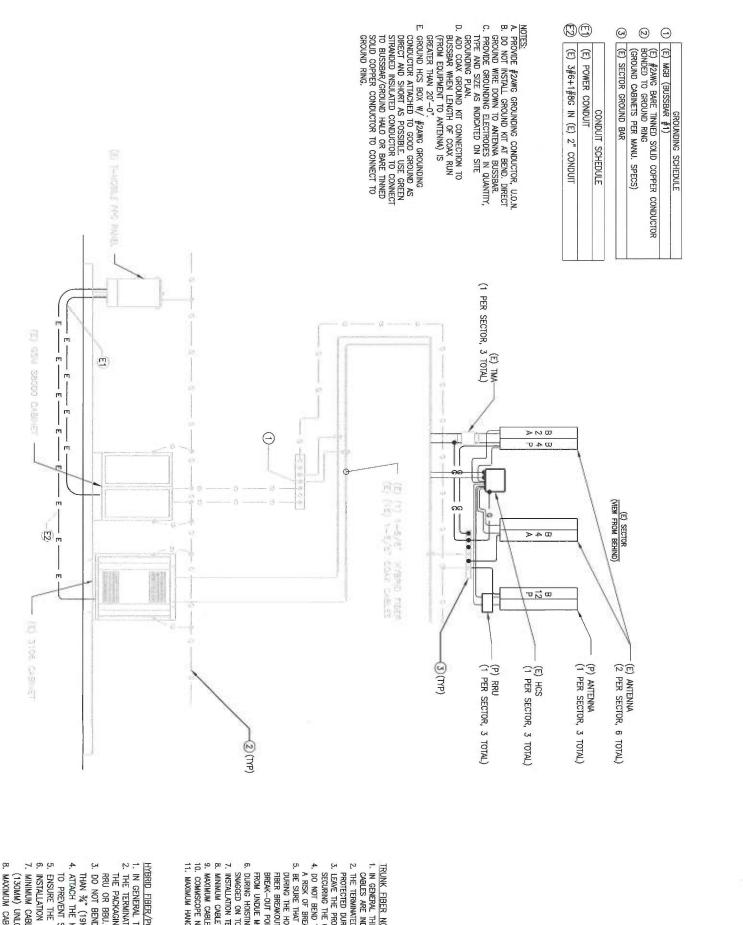


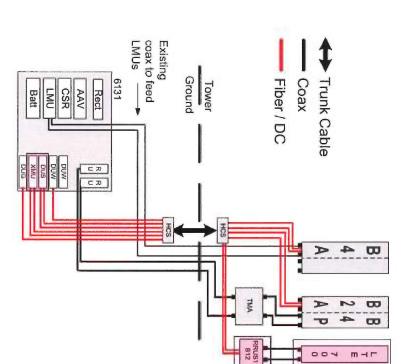






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35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 66902
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FAX:(860) 692-7159 T - Mobile-





- 1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO 1/6" COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL CABLES ARE INDIVIDUALLY SERVALLY SERVALLED, BE SURE TO WRITE DOWN THE CABLE SERVAL 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 OVER BOX.

  4. DO NOT BEND THE FIBER BLUSS (IN THE CANGE FURCATION TUBES) TIGHTER THAN 1/4" (19MM) BEND RADIUS, ELSE THERE IS A RISK OF BREAKING THE CASE UP ENDS AND FIBER CONNECTORS ARE NOT DAMAGED BY ATTACHMENT OF A HOISTING GRIP OR DURING THE HOSTING PROCESS. ATTACH A HOISTING GRIP ON THE JUSTIC OLDEL NO LESS THAN 6 INCHES BELOW THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER THIS CABLE OUTER JACKET). PREVENT THE FIBER THIS CABLE FOR THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.

  5. DURING HOISTING ENSURE THAT THERE IS A FIRE PATH AND THAT THE CABLE, AND TESTECHALLY THE FIBER ENDS, WILL NOT BE SNACGED ON TOWER MEMBERS OR OTHER OBSTACLES.

  7. NISTALLATION TEMPERATURE RAYGE IS -22F TO 158F (-30C TO +70C).

  8. MINIMUM CABLE TRINSILE LOAD IS 3560 N (6500 LB) SHORT TERM (DURING INSTALLATION) AND 11.1" (280MM) UNLOADED.

  10. COMMISCOPE NON LAGE UP GRIP RECOMMENDED FOR MONOPOLE INSTALLATIONS.

# HYBRID FIBER/POWER JUMPER NOTES:

- 1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO A ¾" 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 THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND THE PROPERTY OF BREAKING 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.

  7. MINIMUM CABLE BEND RADII ARE 10.3 INCH (265MM) LOADED (WITH TENSION ON THE CABLE) AND 5.2 INCH . CABLE. E PROTECTED DURING INSTALLATION. LEAVE TO CONNECT THE JUMPER BETWEEN OVP AND
- (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

### COAX/FIBER PLUMBI 702Cu CONFIGURAT <u>S</u> **NG DIAGRAM**

**GROUNDING DIAGRAM** 



CT797/NEW FAIRFIELD MP SITE ADDRESS

SHEET TITLE GROUNDING DIAGRAM AND POWER ONE INE DIAGRAM

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35 GRIEFIN ROAD SOUTH
BLOOMFIELD, CT 66002
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PROJECT NO: Valo, FINAL CD CT11797A MB SM

STATE OF CONVENIENCE PROFESSIONAL SEAL

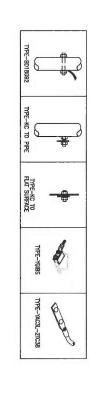
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SITE NAME CT11797A

SITE NAME

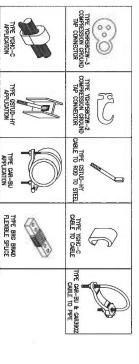
302 BALL POND ROAD NEW FAIRFIELD ,CT 06812

SHEET NUMBER

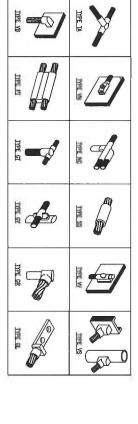


# **BURNDY GROUNDING DETAILS**

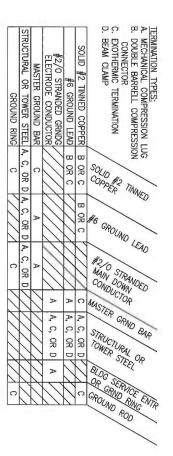
E-2



# **BURNDY GROUNDING PRODUCTS**

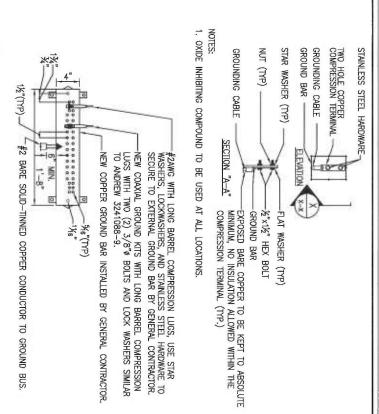


# CADWELD GROUNDING CONNECTION PRODUCTS SCALE: N.T.S



GROUNDING TERMINATION MATRIX





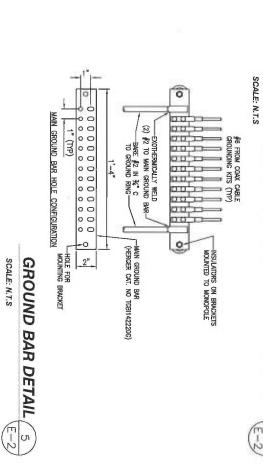
TIONS DETAIL

PROJECT NO: DRAWN BY:

MB SM

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  $\chi_6^*$ .

TYPICAL GROUND BAR CONNEC





1" MIN.

LOCK WASHER

S.S. NUT

LUG NOTES:

1. ALL HARDWARE IS 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS.

2. ALL HARDWARE SHALL BE S.S. %"
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.

S.S. BOLT S.S. FLAT WASHER GROUND BAR

HEAT SHRINK

GROUN D BAR DETAIL

SCALE: N.T.S





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SITE NAME CT797/NEW FAIRFIELD MP SITE NAME CT11797A

302 BALL POND ROAD NEW FAIRFIELD ,CT 06812 SITE ADDRESS

SHEET NUMBER E-2

**GROUNDING DETAILS** 

SHEET TITLE

T - Mobile-

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BLOOMFIELD, CT 66002
OFFICE: (860) 692-7159
FAX:(860) 692-7159

SUBMITTALS
DESCRIPTION
ISSUED FOR REVIEW
REVISION
FINAL CD

#### NOTES:

STRUCTURAL ABBREVIATIONS

T - Mobile -

NSS NORTHEAST

(((+1))

INFINIGY8

1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205 OFFICE: (518) 690-0790 FAX: (518) 690-0793

ZERO TO INFINIGY the solutions are endless

SUBMITTALS
DESCRIPTION
REVIEW

REVISION

- THE MODIFICATIONS OUTLINED IN THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH ANSI/TIA-222-6 AND ACI 355 2 CODES.
- ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
- îч ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
- THE CONTRACTOR SHOULD NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS.
- ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER TIA-1019-A-2011, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
- CONTRACTORS PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.
- ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

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# STEEL CONSTRUCTION:

- STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
- ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
- ALL WELDING SHALL BE DONE USING EBOXX ELECTRODES.
- ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION
- BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.

#### CONCRETE:

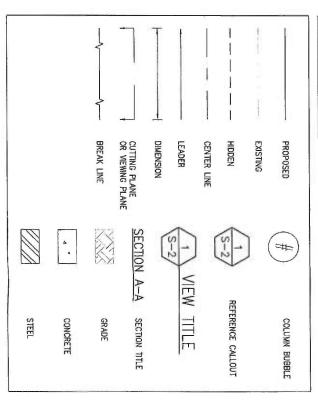
CONCRETE TO BE 4000 PSI © 28 DAYS, REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS, CONCRETE INSTALLATION TO CONFORM TO ACI—318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS, A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.

## PLUMB & TENSION:

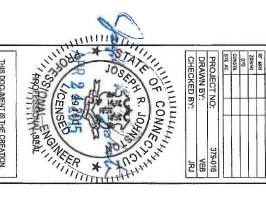
- PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED THESE DRAWINGS.
- RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
- PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS (EX. DO NOT EXCEED .6" FOR 20' OF VERTICAL DISTANCE)
- THE TWIST BETWEEN ANY TWO ELEVATIONS SHALL NOT EXCEED .5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.
- SEE "GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS" SHEET FOR ACCEPTABLE GUY WIRE TERMINATION EXTENSION, IF REQUIRED.

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# STRUCTURAL SYMBOLS



#### CONC CONT CONT'D GA GALV GRND GR GRND GRTG HD HEX HORIZ HPY HVY do DIST INCH, INCHES INCLUDE, INCLUDING INFORMATION INITIAL TENSION GAUGE GALVANIZED GRADE GROUND, GR FABRICATE FINISHED FOUNDATION FAR SIDE FEET FOOTING EACH FACE EXTRA HIGH ELEVATION EMBEDDED, CONTINUOUS CONTINUED CENTERED CONCRETE BEAM BOTTOM BASE PL ANCHOR BOLT ALTERNATE APPROXIMATE HEAVY DUTY HEXAGON(AL) HORIZONTAL HIGH POINT HEAVY DUTY EQUIPMENT EACH SIDE ESTIMATED EACH WAY DIAGONAL DIAGONAL DIMENSION DISTANCE DOWN DITTO BEARING INSIDE DIAMETER EXTERIOR ENGINEER KIP (1000 LBS) GRADE EMBEDMENT STRENGTH REQUER REPORT £25 E OPNG MATERIAL MAXIMUM MECHANICAL MINIMUM MISCELLANEOUS NOT APPLICABLE NECESSARY NEAR FACE NOT IN CONTRACT NUMBER NOT TO SCALE ON CENTER OUTSIDE DAMETER OUTSIDE FACE OPPOSITE OPPOSITE OPPOSITE OTHERWISE SPECIFIED QUALITY CONTROL QUALITY RADIUS REINFORCEMENT, REINFORCING RECURED REVISION SCHEDULE SPACED, SPACES, SPACING SPECIFICATION SQUARE FEET STANDARD STRUTURAL SUBSTITUTE TOP & BOTTOM TOP OF THREAD, THREADED THICK TYPICAL UNLESS NOTED OTHERWISE VERTICAL WITH WITHOUT WORKING POINT PIECES PERINETER PERPENDICULAR PLATE, PROPERTY LINE POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POINT ANGLE LENGTH OF CHORD LONG, LENGTH LONG LEG HORIZONITAL LONG LEG VERTICAL LOCATE, LOCATION LOW POINT



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YIELD STRENGTH

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NAME

CT11797A 32 BALL POND RD (RTE 39) NEW FAIRFIELD, CT NOTES SHEET TITLE

SHEET NUMBER

S1
OF 2 SHEETS

SHEET

DESIGN BASED ON REQUIREMENTS FROM FAILING STRUCTURAL AWALYSIS BY INFINIGY JOB #379-015, DATED APRIL 24, 2015

ELEV 175.0'

ELEV 85.0'

ELEV 130.0'

-PROPOSED 1 3/4" WILLIAMS MMFX 150 KSI THREADED BAR, 2" OD MONOPOLE REINFORCEMENT

EXISTING GRADE = 0.0'

之人口, 人类为外心

ELEV 41.0'

OTATE CONMO PROJECT NO: DRAWN BY: CHECKED BY:

DEPT DATE
RF MAN.

ZONING
OPS
CONSTR.
STE AC. 379-016 VEB JRJ

**INFINIGY**8 FROM ZERO TO INFINIGY the solutions are endless

1033 WATERVLET SHAKER ROAD ALBANY, NY 12205 OFFICE (518) 690-0790 FAX. (518) 690-0793

NSS MORTHEAST

T - Mobile-

SHEET S2 OF 2 SHEETS

SHEET NUMBER

ELEVATION

TOWER

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE. SITE NAME CT11797A 32 BALL POND RD (RTE 39) NEW FAIRFIELD, CT

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BORE 2 STATE OF THE STATE OF TH

2'-0" 3" (TYP) 15" (TYP) 35. 0 0 0 0 0 0 0 10 Cų 10 (2)—HSS3"x3"x3/8" TUBE A500 GR B, 46 KSI GALVANIZED  $\circ$ 0 0  $\bigcirc$  $\bigcirc$ 0 25 (16) LINDAPTER HB16 HOLLO-BOLTS GALVANIZED 1" DIA HOLE PER LINDAPTER SPECIFICATIONS 1/2" THICK PLATE SIZED TO FIT

PLAN VIEW (2)—HSS3"x3"x3/8" TUBE A500 GR B, 46 KSI GALVANIZED 1/2" THICK PLATE (8) LINDAPTER HB16 HOLLO-BOLTS (TYP)

TERMINATION BRACKET

ELEVATION VIEW

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PROJECT NO: DRAWN BY: CHECKED BY: 379-016 VEB JRJ

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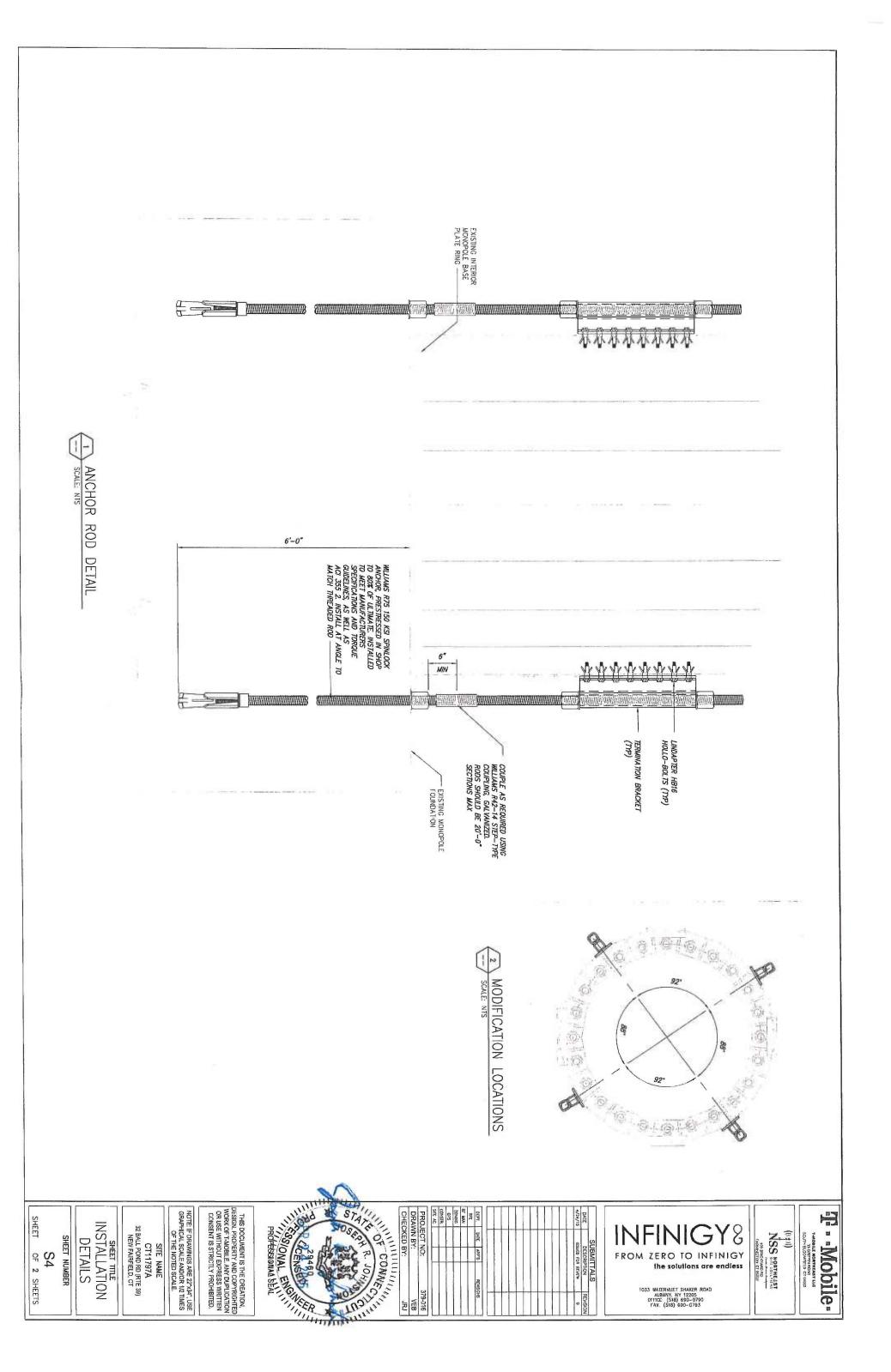
BRACKET DETAILS

SHEET NUMBER

REINFORCING

S3
OF 2 SHEETS

SHEET



# **EXHIBIT B**



1033 Watervliet Shaker Road | Albany, NY 12205 Phone: 518-690-0790 | Fax: 518-690-0793 www.infinigy.com

#### **Post-Mod Tower Analysis Report**

#### April 24, 2015

Site Name	CT11797A
Infinigy Job Number	379-016
Client	Northeast Site Solutions
Proposed Carrier	T-Mobile
Site Location	302 Ball Pond Road, New Fairfield, CT 06812 41° 27' 53.1" N NAD83 73° 29' 49.02" W NAD83
Structure Type	175' Monopole
Structural Usage Ratio	93.2%
Overall Result	Pass

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements with the modifications listed below installed. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.

- Considered the installation of (4) Williams R71 1-3/4" 150 KSI All-Thread-Bars with 30" connector spacing from 0'-5"
- Considered the installation of (4) Williams R7S 1-7/8" 150 KSI Spin-Lock anchors at the base of the pole



Joseph R. Johnston, P.E. Department Manager - Structural

#### Tower Analysis Report

#### April 24, 2013

#### **Contents**

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Supporting Documentation	3
Analysis Code Requirements	3
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Existing and Reserved Loading.	4
Proposed Loading	4
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Foundation Reactions.	5
Deflection, Twist, and Sway	5
Assumptions and Limitations	5
Calculations	Appended

#### April 24, 2013

#### **Introduction**

Infinigy Engineering has been requested to perform a post modification structural analysis on the existing 175' monopole. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. Proposed modifications have been designed by Infinigy Engineering as listed in this report. The tower was analyzed using tnxTower version 6.1.3.1 tower analysis software.

#### Supporting Documentation

Previous Analysis	AECOM Job #36931429.00001, dated March 6, 2015
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#### **Analysis Code Requirements**

Wind Speed	85 mph (Fastest-Mile)
Wind Speed w/ ice	75 mph (Fastest-Mile) w/ 1/2" ice
TIA Revision	ANSI/TIA/EIA-222-F
Adopted IBC	2003 IBC w/ 2005 CT Supplements & 2013 CT Amendments

#### Conclusion

Upon reviewing the results of this analysis, it is our opinion that the modified structure meets the specified TIA code requirements. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Joseph R. Johnston, P.E.

Department Manager - Structural | Infinigy
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jjohnston@infinigy.com | www.infinigy.com

#### April 24, 2013

#### **Existing and Reserved Loading**

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
	4	Celwave PD220		(4) 1 5/022	
175.0	1	1' Square Panel	Platform	(4) 1-5/8"	Town
	1	2' Dish w/ Radome	1	(2) 1/2"	
	2	EMS RR65-18-02DTR			
	1	EMS RR45-19-02DPL	1		
	1	RFS APXVSPP18-C-A20			
155.0	2	Powerwave P40-16-XLPP-RR	D1-46	(4) 1-1/4"	Q . ,
133.0	3	APXVTM14-G120	Platform	Hybrid	Sprint
	3	TDRRH8x20-25 RRH	1		
	3	ALU 1900 MHz RRH			
	3	ALU 800 MHz RRH			
	3	Ericsson AIR 21 B2A/B4P	(10) 1 5 (02)		
145.0	3	Ericsson AIR B4A/B2P	T-Arms	(18) 1-5/8"	T-Mobile
	3	TMA		(1) Hybrid	
	6	Powerwave 7770			
	3	Powerwave P65-17-XLH-RR		(10) 1 5/02	
	6	TMA	(12) 1-5/8"		
135.0	6	Diplexers	T-Arms	Optic	АТ&Т
	6	RCU Units			
	6	RRH Units	(2) DC Cables		
	1	Surge Suppressor Unit			
	6	Antel BXA-171085/12		(18) 1-5/8"	
125.0	6	Antel LPA-80080/6	Standoff (18) 1-5/8" (1) Hybrid		Verizon
	3	Antel BXA-70063/6			
	3	RRH Units			
	1,	Surge Suppressor Unit			
100.0	1	PD-220 Omni Antenna	Standoff	(1) 1-5/8"	TT 1
50.0	3	GPS Units	Standoff	(1) 1-5/8"	Unknown

#### **Proposed Loading**

I	Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
	145.0	3	Andrew LNX-6515DS-VTM			T Mabile
	145.0	3	Ericsson RRUS-11	]		T-Mobile

#### **Structure Usages**

Pole	93.2	Pass
Reinforcing	89.6	Pass
Anchor Bolts	73.9	Pass
Base Plate	76.2	Pass
RATING =	93.2	Pass

#### April 24, 2013

#### **Foundation Reactions**

Reaction Data	Design Reactions	Analysis Reactions	Result	
Moment (kip-ft)	N/A	4509.6	N/A	
Shear (kip)	N/A	37.5	N/A	
Axial (kip)	N/A	48.8	N/A	

<sup>-</sup>Tower base reactions are acceptable per rigorous structural analysis

#### Deflection, Twist, and Sway

Antenna Elevation (ft)	Deflection (in)	Twist (°)	Sway (°)
145.0	36.5	0.03	2.34

<sup>\*</sup>Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural deflection limit is 3% of structure height.

#### **Assumptions and Limitations**

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the tower structure only and does not reflect adequacy of any existing antenna mounts, mount connections, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.

<sup>\*</sup>Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural twist and sway limit is 4 degrees.

<sup>\*</sup>Per ANSI/TIA-222-G Section 2.8.3 deflection, Twist, and sway values were calculated using a basic 3-second gust wind speed of 60 mph.

<sup>\*</sup>It is the responsibility of the client to ensure their proposed and/or existing equipment will meet ANSI/TIA-222-G Annex D or other appropriate microwave signal degradation limits based on the provided values above.

#### 175.0 ft 18 0.2500 5.00 24,0000 34,6880 3535,1 130.0 ft 0.3130 33.0004 6512.8 85.0 ft ı. 18 0.3750 7.00 50.00 42.6595 54.5000 9761.9 41.0 ft 52.0923 11260.4 18 5.0 ft 5.00 A 0,0 ft 31070.1 Length (ft) Number of Sides Thickness (in) Socket Length (ft) Top Dia (in) Bot Dia (in) Grade € Tube Length (ft) Reinf Size Reinf Grade Weight (lb)

#### DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
PD220 (Municipal)	175	(2) RA21-7770.00 (ATI)	135
PD220 (Municipal)	175	(2) RA21-7770.00 (ATI)	135
PD220 (Municipal)	175	(2) LGP21401 (ATI)	135
PD220 (Municipal)	175	(2) LGP21401 (ATI)	135
1' Square Panel (Municipal)	175	(2) LGP21401 (ATI)	135
Pipe Low Profile Platform (Municipal)	175	TTA (ATL)	135
2.5' Dish w/ Radome (Municipal)	175	TTA (ATJ)	135
APXVTM14-C-120 (Sprint)	155	TTA (ATI)	135
APXVTM14-C-120 (Sprint)	155	Pipe T-Arm (ATI)	135
APXVSPP18-C-A20 (Sprint)	155	Pipe T-Arm (ATI)	135
P40-16-XLPP-RR-A (Sprint)	155	Pipe T-Arm (ATI)	135
P40-16-XLPP-RR-A (Sprint)	155	P45-17-XLH-RR (ATI)	135
RR65-18-DP (Sprint)	155	P45-17-XLH-RR (ATI)	135
RR65-18-DP (Sprint)	155	P45-17-XLH-RR (ATI)	135
RR65-18-DP (Sprint)	155	RRUS-11 (ATI)	135
TD-RRH8X20 (Sprint)	155	RRUS-11 (ATI)	135
TD-RRH8X20 (Sprint)	155	RRUS-11 (ATI)	135
TD-RRH8X20 (Sprint)	155	DC6-48-60-18-8F (ATL)	135
B00 MHz RRH (Sprint)	155	BXA-70063/6CF (Verizon)	125
800 MHz RRH (Sprint)	155	BXA-70063/6CF (Verizon)	125
800 MHz RRH (Sprint)	155	RRH2x40-07-U (Verizon)	125
1900MHz RRH (Sprint)	155	RRH2x40-07-U (Verizon)	125
1900MHz RRH (Sprint)	155	RRH2x40-07-U (Verizon)	125
1900MHz RRH (Sprint)	155	(2) Diplexer (Verizon)	125
Pipe Low Profile Platform (Municipal)	155	(2) Diplexer (Verizon)	125
APXVTM14-C-120 (Sprint)	155	(2) Diplexer (Verizon)	125
(2) AIR 21, 1.3 M, B2A B4P (T-Mobile)	144	RDC-4276-PF-48J (Verizon)	125
(2) AIR 21, 1.3 M, B2A B4P (T-Mobile)	144	Pipe T-Arm (Verizon)	125
TTA 18"x6"x6" (T-Mobile)	144	Pipe T-Arm (Verizon)	125
TTA 18"x6"x6" (T-Mobile)	144	Pipe T-Arm (Verizon)	125
TTA 18"x6"x6" (T-Mobile)	144	(2) LPA-80080/6CF (Verizon)	125
Pipe T-Arm (T-Mobile)	144	(2) LPA-80080/6CF (Verizon)	125
Pipe T-Arm (T-Mobile)	144	(2) LPA-80080/6CF (Verizon)	125
Pipe T-Arm (T-Mobile)	144	(2) BXA-171085/12CF (Verizon)	125
LNX-6515DS-VTM (T-Mobile)	144	(2) BXA-171085/12CF (Verizon)	125
LNX-6515DS-VTM (T-Mobile)	144	(2) BXA-171085/12CF (Verizon)	125
LNX-6515DS-VTM (T-Mobile)	144	BXA-70063/6CF (Verizon)	125
RRUS-11 (T-Mobile)	144	PD220 (Municipal)	100
RRUS-11 (T-Mobile)	144	Pipe Side Arm (Municipal)	100
RRUS-11 (T-Mobile)	144	GPS (Sprint)	85
(2) AIR 21, 1.3 M, B2A B4P (T-Mobile)	144	GPS (Sprint)	85
(2) RA21-7770.00 (ATI)	135	GPS (Sprint)	85

#### **MATERIAL STRENGTH**

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	Williams 150	120 ksi	150 ksi
			KSI		

#### **TOWER DESIGN NOTES**

- 1. Tower is located in Fairfield County, Connecticut.
- 2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
- 3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
- Deflections are based upon a 60 mph wind.
   BETA RELEASE FOR TESTING ONLY
   TOWER RATING: 93.2%

AXIAL

57208 lb MOMENT SHEAR 31571 lb 3909037 lb-ft TORQUE 13824 lb-ft 74 mph WIND - 0.5000 in ICE AXIAL 48800 lb SHEAR MOMENT 37545 lb 4509558 lb-ft

TORQUE 14394 lb-ft REACTIONS - 85 mph WIND

Infinigy Engineering	<sup>Job:</sup> 379-016	
1000 Valerviiet Charles Road		
Albany, NY 12205	<sup>Client:</sup> Northeast Site Solutions / T-Mobile Drawn by: Ja	ick Stockli App'd:
Phone: (518) 690-0790	Code: TIA/EIA-222-F Date: 04/24	/15 Scale: NTS
FAX:	Path:  N/Sortheyst Sile Solutions\titAbilitie/CT11797A\Situstural-Structural Documents\titCT11797A Med Design ed	Dwg No. E-1

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Client	Ned and O'le O Le Care (T.M.)	Designed by
	Northeast Site Solutions / T-Mobile	Jack Stockli

#### **Tower Input Data**

There is a pole section.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 74 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.333.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

#### **Options**

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification

√ Use Code Stress Ratios

- V Use Code Safety Factors Guys
  Escalate Ice
  Always Use Max Kz
- Use Special Wind Profile Include Bolts In Member Capacity
- ✓ Leg Bolts Are At Top Of Section
   ✓ Secondary Horizontal Braces Leg
   Use Diamond Inner Bracing (4 Sided)
   Add IBC .6D+W Combination

Distribute Leg Loads As Uniform Assume Legs Pinned

- √ Assume Rigid Index Plate
- √ Use Clear Spans For Wind Area
   √ Use Clear Spans For KL/r
- √ Retension Guys To Initial Tension Bypass Mast Stability Checks
- √ Use Azimuth Dish Coefficients
- √ Project Wind Area of Appurt.
- √ Autocalc Torque Arm Areas SR Members Have Cut Ends Sort Capacity Reports By Component
- √ Triangulate Diamond Inner Bracing
  Use TIA-222-G Tension Splice Capacity
  Exemption

Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules

- √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression
- √ All Leg Panels Have Same Allowable Offset Girt At Foundation Consider Feedline Torque Include Angle Block Shear Check Poles

Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets

#### **Tapered Pole Section Geometry**

Section	Elevation	Section Length	Splice Length	Number of	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
ft		ft	ft	ft Sides		in in		in	
L1	175.00-130.00	45.00	5.00	18	24.0000	34.6880	0.2500	1.0000	A572-65 (65 ksi)
L2	130.00-85.00	50.00	6.00	18	33.0004	44.6880	0.3130	1.2520	A572-65 (65 ksi)
L3	85.00-41.00	50.00	7.00	18	42.6595	54.5000	0.3750	1.5000	A572-65 (65 ksi)
L4	41.00-0.00	48.00		18	52.0923	64.5000	0.3750	1.5000	A572-65 (65 ksi)

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Client	Northeast Site Solutions / T-Mobile	Designed by Jack Stockli

#### **Tapered Pole Properties**

Section	Tip Dia. in	Area in²	I in⁴	r in	C in	I/C in³	J in⁴	It/Q in²	w in	w/t
L1	24.3702	18.8456	1342.9976	8.4313	12.1920	110.1540	2687.7623	9.4246	3.7840	15.136
	35.2231	27.3266	4094.4743	12.2255	17.6215	232.3567	8194.3362	13.6659	5.6651	22.66
L2	34.6963	32.4737	4383.6068	11.6040	16.7642	261.4858	8772.9818	16.2400	5.2572	16.796
	45.3774	44.0849	10967.4032	15.7531	22.7015	483.1135	21949.2375	22.0466	7.3142	23.368
L3	44.7604	50.3291	11368.9151	15.0110	21.6710	524.6137	22752.7897	25.1693	6.8481	18.262
	55.3408	64,4223	23843.4650	19.2144	27.6860	861.2102	47718.3038	32.2173	8.9320	23.819
L4	54.7333	61.5566	20800.9850	18.3597	26.4629	786.0432	41629.3406	30.7841	8.5082	22.689
	65.4950	76.3248	39651.3314	22,7644	32.7660	1210.1365	79354.8371	38.1696	10.6920	28.512

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A <sub>f</sub>	$Adjust. \ Factor \ A_{r}$	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
ft	ft <sup>2</sup>	in					in	in
L1				1	1	1		
175.00-130.00								
L2				1	1	1		
130.00-85.00								
L3 85.00-41.00				1	1	1		
L4 41.00-0.00				1	1	1		

#### Pole Reinforcing Data

Height Above Base ft	Segment Length ft	No. of Segments	Offset in	Grade	Туре	Size	Unbraced Length ft	K	Bolt Hole Dia. in	Bolts per Row	Shear Lag Factor U
0.00	5.00	4	6.0000	Williams 150 KSI (120 ksi)	Solid Round	Williams R71 1-3/4" 150 KSI All-Thread-Bar	2.50	1.00	0.0000	0	0.000

#### Feed Line/Linear Appurtenances - Entered As Area

Description	Face or	Allow Shield	Component Type	Placement	Total Number		$C_AA_A$	Weight
	Leg			ft			ft²/ft	plf
1/2	C	No	Inside Pole	175.00 - 8.00	2	No Ice	0.00	0.25
(Municipal)						1/2" Ice	0.00	0.25
1 5/8	C	No	Inside Pole	175.00 - 8.00	4	No Ice	0.00	1.04
(Municipal) ***						1/2" Ice	0.00	1.04
1/4" Hybriflex Cable	C	No	Inside Pole	155.00 - 8.00	4	No Ice	0.00	1.00
(Sprint) ***						1/2" Ice	0.00	1.00
1 5/8" Fiber	C	No	Inside Pole	145.00 - 8.00	1	No Ice	0.00	1.61
(T-Mobile)						1/2" Ice	0.00	1.61
1 5/8	C	No	Inside Pole	145.00 - 8.00	18	No Ice	0.00	1.04
(T-Mobile)						1/2" Ice	0.00	1.04

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Client	N 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Designed by
	Northeast Site Solutions / T-Mobile	Jack Stockli

Description	Face or	Allow Shield	Component Type	Placement	Total Number		$C_AA_A$	Weigh
	Leg		71	ft			ft²/ft	plf
1/2	С	No	Inside Pole	137.00 - 8.00	2	No Ice	0.00	0.25
(T-Mobile)						1/2" Ice	0.00	0.25
1 5/8	C	No	Inside Pole	137.00 - 8.00	13	No Ice	0.00	1.04
(T-Mobile) ***						1/2" Ice	0.00	1.04
1 5/8" Fiber	C	No	Inside Pole	125.00 - 8.00	1	No Ice	0.00	1.61
(Verizon)						1/2" Ice	0.00	1.61
1 5/8	C	No	Inside Pole	125.00 - 8.00	18	No Ice	0.00	1.04
(Verizon) ***						1/2" Ice	0.00	1.04
1 5/8	C	No	Inside Pole	100.00 - 8.00	1	No Ice	0.00	1.04
(Municipal) ***						1/2" Ice	0.00	1.04
1/2	C	No	Inside Pole	85.00 - 8.00	3	No Ice	0.00	0.25
(Municipal)						1/2" Ice	0.00	0.25

#### Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	$A_R$	$A_F$	$C_AA_A$ In Face	$C_AA_A$ Out Face	Weight
	ft		$ft^2$	$ft^2$	$ft^2$	$ft^2$	lb
L1	175.00-130.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	712.79
L2	130.00-85.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2764.25
L3	85.00-41.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2865.72
L4	41.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2149.29

#### Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or	Ice Thickness	$A_R$	$A_F$	C <sub>A</sub> A <sub>A</sub> In Face	$C_AA_A$ Out Face	Weight	
	ft	Leg	in	ft <sup>2</sup>	$ft^2$	ft²	$ft^2$	lb	
L1	175.00-130.00	A	0.500	0.000	0.000	0.000	0.000	0.00	
		В		0.000	0.000	0.000	0.000	0.00	
		C		0.000	0.000	0.000	0.000	712.79	
L2	130.00-85.00	A	0.500	0.000	0.000	0.000	0.000	0.00	
		В		0.000	0.000	0.000	0.000	0.00	
		C		0.000	0.000	0.000	0.000	2764.25	
L3	85.00-41.00	A	0.500	0.000	0.000	0.000	0.000	0.00	
		В		0.000	0.000	0.000	0.000	0.00	
		C		0.000	0.000	0.000	0.000	2865.72	
L4	41.00-0.00	A	0.500	0.000	0.000	0.000	0.000	0.00	
		В		0.000	0.000	0.000	0.000	0.00	
		C		0.000	0.000	0.000	0.000	2149.29	

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Project		Date
	CT11797A	17:54:55 04/24/15
Client	North City October (TM)	Designed by
	Northeast Site Solutions / T-Mobile	Jack Stockli

Discrete Tower Loads									
Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement		C <sub>A</sub> A <sub>A</sub> Front	C <sub>A</sub> A <sub>A</sub> Side	Weight
			Vert ft ft ft	o	ft		ft²	ft²	Ib
PD220 (Municipal)	A	From Leg	4.00 0.00 10.00	0.0000	175.00	No Ice 1/2" Ice	3.56 7.13	3.56 7.13	23.00 46.00
PD220 (Municipal)	В	From Leg	4.00 0.00 10.00	0.0000	175.00	No Ice 1/2" Ice	3.56 7.13	3.56 7.13	23.00 46.00
PD220 (Municipal)	С	From Leg	4.00 0.00 10.00	0.0000	175.00	No Ice 1/2" Ice	3.56 7.13	3.56 7.13	23.00 46.00
PD220 (Municipal)	С	From Leg	4.00 0.00 -10.00	0.0000	175.00	No Ice 1/2" Ice	3.56 7.13	3.56 7.13	23.00 46.00
1' Square Panel (Municipal)	С	From Leg	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice	1.05 1.21	1.08 1.27	20.61 30.47
Pipe Low Profile Platform (Municipal)	A	From Leg	4.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice	21.70 27.20	21.70 27.20	1500.00 1700.00
***			0,00						
APXVTM14-C-120 (Sprint)	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	6.53 6.96	3.38 3.72	52.90 90.49
APXVTM14-C-120 (Sprint)	В	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	6.53 6.96	3.38 3.72	52.90 90.49
APXVTM14-C-120 (Sprint)	C	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	6.53 6.96	3.38 3.72	52.90 90.49
APXVSPP18-C-A20 (Sprint)	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	8.26 8.81	5.28 5.74	57.00 106.52
P40-16-XLPP-RR-A (Sprint)	В	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	10.50 10.98	3.52 3.87	53.00 106.23
P40-16-XLPP-RR-A (Sprint)	С	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	10.50 10.98	3.52 3.87	53.00 106.23
RR65-18-DP (Sprint)	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	10.16 10.85	4.28 5.35	34.00 77.74
RR65-18-DP (Sprint)	В	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	10.16 10.85	4.28 5.35	34.00 77.74
RR65-18-DP (Sprint)	С	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	10.16 10.85	4.28 5.35	34.00 77.74
TD-RRH8X20 (Sprint)	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	4.32 4.60	1.41 1.61	66.14 90.08
TD-RRH8X20 (Sprint)	В	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	4.32 4.60	1.41 1.61	66.14 90.08
TD-RRH8X20 (Sprint)	C	From Leg	4.00 0.00	0.0000	155.00	No Ice 1/2" Ice	4.32 4.60	1.41 1.61	66.14 90.08

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Northeast Site Solutions / T-Mobile	Designed by Jack Stockli		

Description	Face	Offset Type	Offsets: Horz	Azimuth Adjustment	Placement		$C_AA_A$ Front	$C_AA_A$ Side	Weight
	Leg		Lateral Vert ft	D	ft		ft²	$ft^2$	lb
			ft ft						
800 MHz RRH	A	From Leg	0.00 4.00	0.0000	155.00	No Ice	2.25	2.40	64,00
(Sprint)			0.00		100,00	1/2" Ice	2.46	2.61	86.12
800 MHz RRH	В	From Leg	4.00	0.0000	155.00	No Ice	2.25	2.40	64.00
(Sprint)			0.00			1/2" Ice	2.46	2.61	86.12
800 MHz RRH	C	From Leg	4.00	0.0000	155.00	No Ice	2.25	2.40	64.00
(Sprint)		110111 22 6	0.00	0.000	155.00	1/2" Ice	2.46	2.61	86.12
1900MHz RRH	A	From Leg	4.00	0.0000	155.00	No Ice	2.70	2.77	60.00
(Sprint)			0.00	******	100.00	1/2" Ice	2.94	3.01	83.90
1900MHz RRH	В	From Leg	4.00	0.0000	155.00	No Ice	2.70	2.77	60.00
(Sprint)			0.00		100,00	1/2" Ice	2.94	3.01	83.90
1900MHz RRH	C	From Leg	4.00	0.0000	155.00	No Ice	2.70	2.77	60.00
(Sprint)			0.00			1/2" Ice	2.94	3.01	83.90
Pipe Low Profile Platform	A	From Leg	4.00	0.0000	155.00	No Ice	21.70	21.70	1500.00
(Municipal)			0.00			1/2" Ice	27.20	27.20	1700.00
***									
2) AIR 21, 1.3 M, B2A B4P (T-Mobile)	A	From Leg	4.00 0.00	0.0000	144.00	No Ice 1/2" Ice	6.53 6.98	4.36 4.77	83.00 124.90
N AID 01 1 2 M D0 A D4D	70	т. т	0.00	0.0000	144.00	3.7 Y	6.50	100	00.00
2) AIR 21, 1.3 M, B2A B4P (T-Mobile)	В	From Leg	4.00 0.00 0.00	0.0000	144.00	No Ice 1/2" Ice	6.53 6.98	4.36 4.77	83.00 124.90
2) AIR 21, 1.3 M, B2A B4P	C	From Leg	4.00	0.0000	144.00	No Ice	6.53	4.36	83.00
(T-Mobile)		Trom Leg	0.00	0.0000	144.00	1/2" Ice	6.98	4.77	124.90
TTA 18"x6"x6"	Α	From Leg	4.00	0.0000	144.00	No Ice	1.05	1.08	20,61
(T-Mobile)		21000.206	0.00	0.0000	111.00	1/2" Ice	1.21	1.27	30.47
TTA 18"x6"x6"	В	From Leg	4.00	0.0000	144.00	No Ice	1.05	1.08	20.61
(T-Mobile)		2	0.00			1/2" Ice	1.21	1.27	30.47
TTA 18"x6"x6"	C	From Leg	4.00	0.0000	144.00	No Ice	1.05	1.08	20.61
(T-Mobile)			0.00			1/2" Ice	1.21	1.27	30.47
Pipe T-Arm	A	From Leg	4.00	0.0000	144.00	No Ice	9.70	3.30	250.00
(T-Mobile)			0.00			1/2" Ice	12.10	5.20	314.00
Pipe T-Arm	В	From Leg	4.00	0.0000	144.00	No Ice	9.70	3.30	250.00
(T-Mobile)			0.00			1/2" Ice	12.10	5.20	314.00
Pipe T-Arm (T-Mobile)	C	From Leg	4.00 0.00	0.0000	144.00	No Ice 1/2" Ice	9.70 12.10	3.30 5.20	250.00 314.00
(1 Moone)			0.00			1/2 100	12,10	5.20	514.00
***									
P45-17-XLH-RR (AT&T)	A	From Leg	4.00 0.00	0.0000	135.00	No Ice 1/2" Ice	12.13 12.71	4.97 5.41	53.00 115.33
,			0.00						
P45-17-XLH-RR (AT&T)	В	From Leg	4.00 0.00	0.0000	135.00	No Ice 1/2" Ice	12.13 12.71	4.97 5.41	53.00 115.33

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Client	New House City Colletions / T. Markilla	Designed by
	Northeast Site Solutions / T-Mobile	Jack Stockli

Description	Face or	Offset Type	Offsets: Horz	Azimuth Adjustment	Placement		$C_AA_A$ Front	$C_A A_A$ Side	Weig
	Leg		Lateral Vert						
			ft ft	o	ft		ft²	$ft^2$	lb
			ft						
P45-17-XLH-RR	С	From Leg	4.00	0.0000	135.00	No Ice	12.13	4.97	53.00
(AT&T)			0.00			1/2" Ice	12.71	5.41	115.3
RRUS-11	A	From Leg	4.00	0.0000	135.00	No Ice	4.42	1.63	55.00
(AT&T)			0.00			1/2" Ice	4.71	1.84	80.7
RRUS-11	В	From Leg	4.00	0.0000	135.00	No Ice	4.42	1.63	55.0
(AT&T)			0.00			1/2" Ice	4.71	1.84	80.7
RRUS-11	C	From Leg	4.00	0.0000	135.00	No Ice	4.42	1.63	55.0
(AT&T)	C	Trom Bog	0.00	0.0000	155.00	1/2" Ice	4.71	1.84	80.7
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	135.00	No Ice	2.22	2.22	20.0
(AT&T)		110111200	0.00	0.000	155.00	1/2" Ice	2.44	2.44	39.2
(2) RA21-7770.00	A	From Leg	4.00	0.0000	135.00	No Ice	6.79	3.51	37.2
(AT&T)			0.00			1/2" Ice	7.28	3.90	74.5
(2) RA21-7770.00	В	From Leg	4.00	0.0000	135.00	No Ice	6.79	3.51	37.2
(AT&T)			0.00			1/2" Ice	7.28	3.90	74.5
(2) RA21-7770.00	C	From Leg	4.00	0.0000	135.00	No Ice	6.79	3.51	37.2
(AT&T)			0.00			1/2" Ice	7.28	3.90	74.5
(2) LGP21401	A	From Leg	4.00	0.0000	135.00	No Ice	0.95	0.37	17.5
(AT&T)			0.00			1/2" Ice	1.09	0.48	23.3
(2) LGP21401	В	From Leg	4.00	0.0000	135.00	No Ice	0.95	0.37	17.5
(AT&T)			0.00			1/2" Ice	1.09	0.48	23.3
(2) LGP21401	C	From Leg	4.00	0.0000	135.00	No Ice	0.95	0.37	17.5
(AT&T)			0.00			1/2" Ice	1.09	0.48	23.3
TTA	A	From Leg	4.00	0.0000	135.00	No Ice	1.05	1.08	20.6
(AT&T)			0.00			1/2" Ice	1.21	1.27	30.4
TTA	В	From Leg	4.00	0.0000	135.00	No Ice	1.05	1.08	20.6
(AT&T)			0.00			1/2" Ice	1.21	1.27	30.4
TTA	C	From Leg	4.00	0.0000	135.00	No Ice	1.05	1.08	20.6
(AT&T)			0.00			1/2" Ice	1.21	1.27	30.4
Pipe T-Arm	A	From Leg	4.00	0.0000	135.00	No Ice	9.70	3.30	250.0
(AT&T)			0.00			1/2" Ice	12.10	5.20	314.0
Pipe T-Arm	В	From Leg	4.00	0.0000	135.00	No Ice	9.70	3.30	250.0
(AT&T)			0.00			1/2" Ice	12.10	5.20	314.0
Pipe T-Arm	C	From Leg	4.00	0.0000	135.00	No Ice	9.70	3.30	250.0
(AT&T)			0.00			1/2" Ice	12.10	5.20	314.0
***		F	4.00	0.0000	107.00	37 -	4.05	0.40	
(2) LPA-80080/6CF (Verizon)	A	From Leg	4.00 0.00	0,000	125.00	No Ice 1/2" Ice	4.32 4.76	9.10 9.65	21.00 69.20
(2) LPA-80080/6CF	В	From Leg	0.00 4.00	0,0000	125.00	No Ice	4.32	9.10	21.00
	-	CHARLES	7.00				4 1/	7 11/	21.00

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Client		Designed by
	Northeast Site Solutions / T-Mobile	Jack Stockli

Description	Face or	Offset Type	Offsets: Horz	Azimuth Adjustment	Placement		$C_AA_A$ Front	$C_A A_A$ Side	Weig
	Leg		Lateral Vert						
			ft ft	o	ft		ft²	$ft^2$	lb
			<i>ft</i> 0.00						
(2) LPA-80080/6CF	C	From Leg	4.00	0.0000	125.00	No Ice	4.32	9.10	21.00
(Verizon)	C	Trom Log	0.00	0.0000	123.00	1/2" Ice	4.76	9.65	69.20
(2) BXA-171085/12CF	A	From Leg	4.00	0,0000	125.00	No Ice	4.79	3.62	15.0
(Verizon)			0.00			1/2" Ice	5.24	4.06	42.4
(2) BXA-171085/12CF	В	From Leg	4.00	0.0000	125.00	No Ice	4.79	3,62	15.0
(Verizon)			0.00			1/2" Ice	5.24	4.06	42.4
(2) BXA-171085/12CF	C	From Leg	4.00	0.0000	125.00	No Ice	4.79	3.62	15.0
(Verizon)			0.00			1/2" Ice	5.24	4.06	42.4
BXA-70063/6CF	A	From Leg	4.00	0.0000	125.00	No Ice	7.73	4.04	14.9
(Verizon)			0.00			1/2" Ice	8.27	4.48	56.8
BXA-70063/6CF	В	From Leg	4.00	0.0000	125.00	No Ice	7.73	4.04	14.9
(Verizon)			0.00			1/2" Ice	8.27	4.48	56.8
BXA-70063/6CF	C	From Leg	4.00	0.0000	125.00	No Ice	7.73	4.04	14.9
(Verizon)			0.00			1/2" Ice	8.27	4.48	56.8
RRH2x40-07-U	A	From Leg	4.00	0.0000	125.00	No Ice	2.25	1.23	50.0
(Verizon)			0.00			1/2" Ice	2.45	1.39	66.8
RRH2x40-07-U	В	From Leg	4.00	0.0000	125.00	No Ice	2.25	1.23	50.0
(Verizon)			0.00			1/2" Ice	2.45	1.39	66.8
RRH2x40-07-U	C	From Leg	4.00	0.0000	125.00	No Ice	2.25	1.23	50.0
(Verizon)			0.00			1/2" Ice	2.45	1.39	66.8
(2) Diplexer	A	From Leg	4.00	0.0000	125.00	No Ice	0.49	0.29	50.0
(Verizon)			0.00			1/2" Ice	0.59	0.38	53.6
(2) Diplexer	В	From Leg	4.00	0.0000	125.00	No Ice	0.49	0.29	50.0
(Verizon)			0.00			1/2" Ice	0.59	0.38	53.6
(2) Diplexer	C	From Leg	4.00	0.0000	125.00	No Ice	0.49	0.29	50.0
(Verizon)			0.00			1/2" Ice	0.59	0.38	53.6
RDC-4276-PF-48J	A	From Leg	4.00	0.0000	125.00	No Ice	2.03	1.64	14.0
(Verizon)			0.00			1/2" Ice	2.23	1.83	30.2
Pipe T-Arm	A	From Leg	4.00	0.0000	125.00	No Ice	9.70	3.30	250.0
(Verizon)			0.00	0.05		1/2" Ice	12.10	5.20	314.0
Pipe T-Arm (Verizon)	В	From Leg	4.00 0.00	0.0000	125.00	No Ice 1/2" Ice	9.70 12.10	3.30 5.20	250.0 314.0
Dino T A	C	From I am	0.00	0.0000	125.00	No Inc	0.70	2.20	250.0
Pipe T-Arm (Verizon)	С	From Leg	4.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice	9.70 12.10	3.30 5.20	250.0 314.0
***			0.00						
PD220	A	From Leg	4.00	0.0000	100.00	No Ice	3.56	3.56	23.00
(Municipal)			0.00			1/2" Ice	7.13	7.13	46.00
Pipe Side Arm	A	From Leg	4.00	0.0000	100.00	No Ice	0.46	3.55	150.0

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Client	Northeast Site Solutions / T-Mobile	Designed by  Jack Stockli

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C <sub>A</sub> A <sub>A</sub> Front	C <sub>A</sub> A <sub>A</sub> Side	Weigh
			ft ft ft	0	ft		ft²	ft²	lb
(Municipal)		**************************************	0.00 0.00			1/2" Ice	0.62	4.93	175.00
***									
GPS (Sprint)	A	From Leg	2.00 0.00 0.00	0,000	85.00	No Ice 1/2" Ice	0.50 0.63	0.50 0.63	10.00 15.96
GPS (Sprint)	В	From Leg	2.00 0.00 0.00	0.0000	85.00	No Ice 1/2" Ice	0.50 0.63	0.50 0.63	10.00 15.96
GPS (Sprint)	С	From Leg	2.00 0.00 0.00	0.0000	85.00	No Ice 1/2" Ice	0.50 0.63	0.50 0.63	10.00 15.96
***			0.00						
LNX-6515DS-VTM (T-Mobile)	A	From Leg	4.00 0.00 0.00	0.0000	144.00	No Ice 1/2" Ice	11.45 12.06	7.70 8.29	50.30 116.17
LNX-6515DS-VTM (T-Mobile)	В	From Leg	4.00 0.00 0.00	0.0000	144.00	No Ice 1/2" Ice	11.45 12.06	7.70 8.29	50.30 116.17
LNX-6515DS-VTM (T-Mobile)	С	From Leg	4.00 0.00 0.00	0.0000	144.00	No Ice 1/2" Ice	11.45 12.06	7.70 8.29	50.30 116.17
RRUS-11 (T-Mobile)	A	From Leg	4.00 0.00 0.00	0.0000	144.00	No Ice 1/2" Ice	4.42 4.71	1.63 1.84	55.00 80.77
RRUS-11 (T-Mobile)	В	From Leg	4.00 0.00 0.00	0.0000	144.00	No Ice 1/2" Ice	4.42 4.71	1.63 1.84	55.00 80.77
RRUS-11 (T-Mobile)	С	From Leg	4.00 0.00 0.00	0.0000	144.00	No Ice 1/2" Ice	4.42 4.71	1.63 1.84	55.00 80.77

Dishes											
Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter		Aperture Area	Weight
				ft	0	0	ft	ft		$ft^2$	lb
2.5' Dish w/ Radome	A	Paraboloid	From	4.00	0.0000		175.00	2.50	No Ice	4.91	125.00
(Municipal)		w/Radome	Leg	0.00					1/2" Ice	5.24	151.90

Lo						

Comb.		Description
No.		
1	Dead Only	

Infinigy Engineering 1033 Watervliet Shaker Road Albany, NY 12205 Phone: (518) 690-0790 FAX:

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Client	Northeast Site Solutions / T-Mobile	Designed by Jack Stockli

Comb.		Description
No.		
2	Dead+Wind 0 deg - No Ice	
3	Dead+Wind 30 deg - No Ice	
4	Dead+Wind 60 deg - No Ice	
5	Dead+Wind 90 deg - No Ice	
6	Dead+Wind 120 deg - No Ice	
7	Dead+Wind 150 deg - No Ice	
8	Dead+Wind 180 deg - No Ice	
9	Dead+Wind 210 deg - No Ice	
10	Dead+Wind 240 deg - No Ice	
11	Dead+Wind 270 deg - No Ice	
12	Dead+Wind 300 deg - No Ice	
13	Dead+Wind 330 deg - No Ice	
14	Dead+Ice+Temp	
15	Dead+Wind 0 deg+Ice+Temp	
16	Dead+Wind 30 deg+Ice+Temp	
17	Dead+Wind 60 deg+Ice+Temp	
18	Dead+Wind 90 deg+Ice+Temp	
19	Dead+Wind 120 deg+Ice+Temp	
20	Dead+Wind 150 deg+Ice+Temp	
21	Dead+Wind 180 deg+Ice+Temp	
22	Dead+Wind 210 deg+Ice+Temp	
23	Dead+Wind 240 deg+Ice+Temp	
24	Dead+Wind 270 deg+Ice+Temp	
25	Dead+Wind 300 deg+Ice+Temp	
26	Dead+Wind 330 deg+Ice+Temp	
27	Dead+Wind 0 deg - Service	
28	Dead+Wind 30 deg - Service	
29	Dead+Wind 60 deg - Service	
30	Dead+Wind 90 deg - Service	
31	Dead+Wind 120 deg - Service	
32	Dead+Wind 150 deg - Service	
33	Dead+Wind 180 deg - Service	
34	Dead+Wind 210 deg - Service	
35	Dead+Wind 240 deg - Service	
36	Dead+Wind 270 deg - Service	
37	Dead+Wind 300 deg - Service	
38	Dead+Wind 330 deg - Service	

#### **Maximum Tower Deflections - Service Wind**

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	in	Comb.	0	0
L1	175 - 130	52.307	27	2.4930	0.0503
L2	135 - 85	32.191	27	2.2384	0.0248
L3	91 - 41	14.428	27	1.5174	0.0106
L4	48 - 0	3.947	38	0.7658	0.0040

#### Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	0	0	ft
175.00	2.5' Dish w/ Radome	27	52.307	2.4930	0.0503	37685
155.00	APXVTM14-C-120	27	41.993	2.4027	0.0365	9420

THY	ower
UILAI	UNCI

Infinigy Engineering 1033 Watervliet Shaker Road Albany, NY 12205 Phone: (518) 690-0790

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Client	Northeast Site Solutions / T-Mobile	Designed by
	Northeast Site Solutions / 1-Mobile	Jack Stockli

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	0	0	ft
144.00	(2) AIR 21, 1.3 M, B2A B4P	27	36.506	2.3262	0.0296	6076
135.00	P45-17-XLH-RR	27	32.191	2.2384	0.0248	4764
125.00	(2) LPA-80080/6CF	27	27.635	2.1085	0.0203	4247
100.00	PD220	27	17.544	1.6839	0.0126	3410
85.00	GPS	27	12.519	1.4077	0.0095	3107

#### **Maximum Tower Deflections - Design Wind**

Section No.	Elevation	Horz. Deflection	Gov. Load	Tilt	Twist	
1.0.	ft	in	Comb.	٥		
L1	175 - 130	103.631	2	4.8878	0.1008	
L2	135 - 85	64.019	2	4.4354	0.0495	
L3	91 - 41	28.785	11	3.0220	0.0212	
L4	48 - 0	7.892	11	1.5301	0.0080	

#### Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature	
ft		Comb.	in	o	0	ft	
175.00	2.5' Dish w/ Radome	2	103.631	4.8878	0.1008	20284	
155.00	APXVTM14-C-120	2	83.347	4.7383	0.0730	5069	
144.00	(2) AIR 21, 1.3 M, B2A B4P	2	72.537	4.6005	0.0593	3268	
135.00	P45-17-XLH-RR	2	64.019	4.4354	0.0495	2557	
125.00	(2) LPA-80080/6CF	2	55.003	4.1850	0.0406	2240	
100.00	PD220	11	34.988	3.3514	0.0251	1738	
85.00	GPS	11	24.982	2.8049	0.0189	1568	

#### Compression Checks

#### Pole Design Data

Section No.	Elevation	Size	L	$L_u$	Kl/r	$F_a$	A	Actual P	Allow. $P_a$	Ratio P
ft		ft	ft		ksi		1b	1b	$P_{a}$	
L1	175 - 130 (1)	TP34.688x24x0.25	45.00	175.00	177.9	4.718	26.3842	-11272.50	124483.00	0.091
L2	130 - 85 (2)	TP44,688x33,0004x0,313	50.00	175.00	137.7	7.880	42.6915	-19724.00	336428.00	0.059
L3	85 - 41 (3)	TP54.5x42.6595x0.375	50.00	175.00	112.7	11.748	62.4492	-32299.40	733625.00	0.044
L4	41 - 0 (4)	TP64.5x52.0923x0.375	48.00	175.00	94.1	16.848	74.7864	-46932.70	1259970.00	0.037

#### Pole Bending Design Data

Infinigy Engineering 1033 Watervliet Shaker Road Albany, NY 12205 Phone: (518) 690-0790 FAX:

Job		Page
	379-016	11 of 13
Project	CT11797A	Date 17:54:55 04/24/15
Client	Northeast Site Solutions / T-Mobile	Designed by Jack Stockli

Section No.	Elevation	Size	Actual $M_x$	Actual $f_{bx}$	Allow. $F_{bx}$	Ratio f <sub>bx</sub>	Actual $M_{\nu}$	Actual $f_{by}$	$Allow. \ F_{by}$	Ratio $f_{by}$
	ft		lb-ft	ksi	ksi	$\overline{F_{bx}}$ lb-ft		ksi	ksi	$\overline{F_{by}}$
L1	175 - 130 (1)	TP34.688x24x0.25	297130. 83	-16.465	39.000	0.422	0.00	0.000	39.000	0.000
L2	130 - 85 (2)	TP44.688x33.0004x0.313	1450200 .00	-38.420	39.000	0.985	0.00	0.000	39.000	0.000
L3	85 - 41 (3)	TP54.5x42.6595x0.375	2801450	-41.550	39.000	1.065	0.00	0.000	39.000	0.000
L4	41 - 0 (4)	TP64.5x52.0923x0.375	4322916 .67	-44.654	37.043	1.205	0.00	0.000	37.043	0.000

Pole Interaction D	Desian	Data
--------------------	--------	------

Section No.	Elevation	Size	Ratio P	Ratio $f_{bx}$	Ratio $f_{by}$	Comb. Stress	Allow. Stress	Criteria
	ft		$P_a$	$\overline{F_{bx}}$	$F_{b\nu}$	Ratio	Ratio	
L1	175 - 130 (1)	TP34.688x24x0.25	0.091	0.422	0.000	0.513	1.333	H1-3
L2	130 - 85 (2)	TP44.688x33.0004x0.313	0.059	0.985	0.000	1.044	1.333	H1-3
L3	85 - 41 (3)	TP54.5x42.6595x0.375	0.044	1.065	0.000	1.109	1.333	H1-3
L4	41 - 0 (4)	TP64.5x52.0923x0.375	0.037	1.205	0.000	1.243	1.333	H1-3

#### Reinforcing Design Data (Compression)

Section No.	Elevation	Size	L	$L_u$	Kl/r	$F_a$	A	Actual P	Allow. Pa	Ratio P
	ft		ft	ft		ksi	$in^2$	lb	<i>1b</i>	$P_a$
L4	5 - 0	Williams R71 1-3/4" 150 KSI All-Thread-Bar	5.00	2.50	60.0 K=1.00	39.110	3.1416	-144654.00	122869.00	1.177

#### Reinforcing Bending Design Data

Section No.	Elevation ft	Size	$Actual\ M_x\ lb-ft$	Actual f <sub>bx</sub> ksi	Allow. F <sub>bx</sub> ksi	$\frac{f_{bx}}{F_{bx}}$	$Actual\ M_y\ lb-ft$	Actual f <sub>by</sub> ksi	Allow. F <sub>by</sub> ksi	$\frac{Ratio}{f_{by}}$
L4	5 - 0	Williams R71 1-3/4" 150 KSI All-Thread-Bar	97.57	-1.491	90.000	0.017	0.00	0.000	90.000	0.000

#### Reinforcing Interaction Design Data

#### Job Page tnxTower 12 of 13 379-016 Date Project Infinigy Engineering CT11797A 17:54:55 04/24/15 1033 Watervliet Shaker Road Albany, NY 12205 Phone: (518) 690-0790 Client Designed by Northeast Site Solutions / T-Mobile Jack Stockli

lection No.	Elevation	Size	Ratio P	Ratio $f_{bx}$	$Ratio$ $f_{by}$	Comb. Stress	Allow. Stress	Criteria
	ft		$P_a$	$F_{bx}$	$F_{bv}$	Ratio	Ratio	
L4	5 - 0	Williams R71 1-3/4" 150 KSI All-Thread-Bar	1.177	0.017	0.000	1.194	1.333	H1-3

FAX:

#### **Tension Checks**

Reinforcing Design Data (Tension)										
Section No.	Elevation	Size	L	$L_u$	Kl/r	$F_a$	A	Actual P	Allow.	Ratio P
	ft		ft	ft		ksi	$in^2$	Ib	lb .	$P_a$
L4	5 - 0	Williams R71 1-3/4" 150 KSI All-Thread-Bar	5.00	2.50	60.0	72.000	3.1416	133024.00	226195.00	0.588

Reinforcing Bending Design Data										
Section No.	Elevation	Size	Actual M <sub>x</sub>	Actual f <sub>bx</sub>	Allow. $F_{bx}$	Ratio f <sub>bx</sub>	Actual M <sub>v</sub>	$Actual f_{by}$	Allow. F <sub>by</sub>	Ratio f <sub>by</sub>
	ft		lb-ft	ksi	ksi	$F_{bx}$	lb-ft	ksi	ksi	$\overline{F_{bv}}$
L4	5 - 0	Williams R71 1-3/4" 150 KSI All-Thread-Bar	112.94	1.726	90.000	0.019	0.00	0.000	90.000	0.000

Reinforcing Interaction Design Data								
Section No.	Elevation	Size	Ratio P	Ratio f <sub>bx</sub>	Ratio f <sub>bv</sub>	Comb. Stress	Allow. Stress	Criteria
	ft		$P_a$	$F_{bx}$	$F_{b\nu}$	Ratio	Ratio	
L4	5 - 0	Williams R71 1-3/4" 150 KSI All-Thread-Bar	0.588	0.019	0.000	0.607	1.333	H2-1

#### **Section Capacity Table** SF\*Pallow Section Elevation Component Size Critical Pass lbIb ft Туре Element Capacity Fail No. 175 - 130 Pole TP34.688x24x0.25 -11272.50 L1 165935.83 38.5 Pass 130 - 85 L2 Pole TP44.688x33.0004x0.313 2 -19724.00 448458.51 78.3 Pass L3 85 - 41 Pole TP54.5x42.6595x0.375 3 -32299.40 977922.08 83.2 Pass TP64.5x52.0923x0.375 L4 41 - 0 -46932.70 1679539.94 Pole 93.2 Pass Williams R71 1-3/4" 150 KSI 5 - 0 Reinforcing -144654.00 163784.37 89.6 Pass All-Thread-Bar Summary

Pole (L4)

93.2

Pass

tnx.T	ower
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Job		Page
	379-016	13 of 13
Project		Date
	CT11797A	17:54:55 04/24/15
Client	Northeast Site Solutions / T-Mobile	Designed by
	North cust Site Solutions / 1-Woolle	Jack Stockli

Section	Elevation	Component	Size	Critical	P	$SF*P_{allow}$	%	Pass
No.	ft	Туре		Element	lb	lb	Capacity	Fail
					***************************************	Reinforcing	89.6	Pass
						(L4)		
						RATING =	93.2	Pass

Program Version 6.1.3.1 - 3/21/2014 File:N:/Northeast Site Solutions/TMobile/CT11797A/Structural/Structural Documents/CT11797A Mod Design.eri

Date: Customer: Engineer: Job #:

Baseplate/Flange: Plate Shape:

Use Addendum 3:

4/24/2015 T-Mobile JOEJ 379-016 Base Plate Circle No

Loading Data						
TIA Code Revision:	Rev-F					
Axial:	48.6	kips				
Moment:	4511.7	k-ft				
	Plate Data					
Pole Base Diameter:	64.5	in				
Pole Base Shape:	18 Sided					
Pole thickness:	0.375	in				
Pole Fy:	65	ksi				
Base Weld Size:	0.375	in				
Plate Diameter:	52	in				
Plate Thickness:	1.5	in				
Plate Steel Grade:	A572 Gr. 42	ksi				
Internal/External:	Internal	ksi				
Ar	nchor Bolt Data					
Bolt Diameter:	2	in				
Bolt Hole Diameter:	2.25	in				
Bolt Quantity:	24					
Bolt Grade:	F1554 Gr. 105	psi				
Bolt Circle:	58	in				
Bolt Spacing:	6	in				
Fully Developed:	Unknown					
Add	itional Bolt Data					
Bolt Diameter:	R41 1-3/4"	in				
Bolt Quantity:	4					
Bolt Grade:	A1035 Gr. 120	psi				
Bolt Circle:	76.5	in				
Angle:	5	deg				
S	tiffener Data					
Stiffener Quantity:						
Stiffener Height:		in				
Stiffener Width:		in				

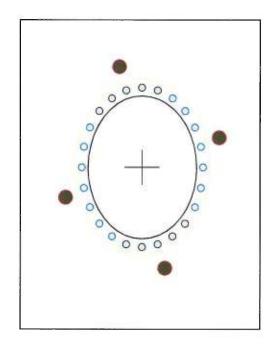
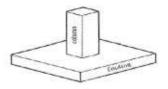


Plate Ratio:	76.22
Bolt Ratio:	73.88
Additional Bolt Ratio:	81.02
Vertical Weld Ratio:	
Horizontal Weld Ratio:	-
Stiffener Ratio:	=

Date: 4/24/2015
Site Name: CT11797A
Client: Northeast Site Solutions
Infinigy Job #: 158-093
Analysis/Design: Analysis
Column Shape: Circle
Footing Shape: Square
Tower Type: Self Support



Infinigy Engineering PLLC Pad + Pier Calculations

Λſ	11:	21	Q_	1	1

Loading	Data		_
TIA Code Revision:	ANSI/TIA/E	IA-222-F	
Uplift:	0	kips	
Axial:	48.8	kips	
Shear:	37.5	kips	
Moment:	4509	k-ft	

Column Data	Column Data				
Concrete Strength:	3000	psi			
Column Diameter:	7	ft			
Column Total Length:	2.25	ft			
Column Height above ground:	0.25	ft			
Vertical Rebar Strength:	60000	psi			
Vertical Rebar Size:	#11	(#10) max.			
Vertical Rebar Quantity:	50	(4) min.			
Tie Rebar Strength:	60000	psi			
Tie Rebar Size:		(#3) max.			
Tie Rebar Spacing:		în			
Rebar Clear Distance:		in			

Concrete Strength	Check	
Footing One-Way Shear Ratio:	1.56	%
Footing Two-Way Shear Ratio:	1.38	%
Footing Moment Ratio:	0.5	%

Soil Data		
Soil Type:	Sand	
Water Table Depth:	10	ft
Soil Dry Unit Weight:	100	pcf
ø Angle:	30	deg
Cohesion:	0	psf
Allowable Skin Friction:	500	psf
Friction Coefficient:	0.45	
Allowable Bearing Pressure:	4000	psf

Footing Da	ta	
Concrete Strength:	3000	psi
Footing Length:	27.5	ft
Footing Width:	27.5	ft
Footing Thickness:	4	ft
Horizontal Rebar Strength:	60000	psi
Horizontal Rebar Size:	#10	
Horizontal Rebar Quantity:	32	
Rebar Clear Distance:	3	in
Dowel Strength:	60000	psi
Dowel Size:	#11	(#11) max.
Dowel Development Length:		in
Dowel Quantity:		

Soil Stability Check						
Bearing Safety Factor:	2					
Uplift Safety Factor:	2					
Uplift Ratio:	0.00	%				
Bearing Ratio:	1.61	%				
Sliding Ratio:	14.08	%				
Overturning Ratio:	78.51	%				

STRUCTURAL ABBREVIATIONS:

T - Mobile -

NSS NORTHELST

#### GENERAL:

- The modifications outlined in these documents were designed in accordance with ansi/tia-222-6 and aci 355 2 codes.
- ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
- ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.

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- THE CONTRACTOR SHOULD NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS.
- ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER TIA-1019-A-2011, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
- CONTRACTORS PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.
- ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
- ō CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

# STEEL CONSTRUCTION:

- STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
- ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
- ALL WELDING SHALL BE DONE USING EBOXX ELECTRODES.
- ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION
- BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.

#### CONCRETE:

CONCRETE TO BE 4000 PSI © 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS, CONCRETE INSTALLATION TO CONFORM TO ACI—318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS, A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.

## PLUMB & TENSION:

PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.

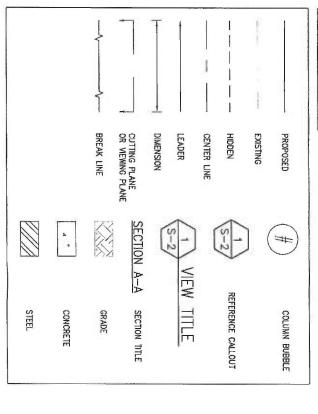
RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.

PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS (EX. DO NOT EXCEED .6" FOR 20' OF VERTICAL DISTANCE)

M

- THE TWIST BETWEEN ANY TWO ELEVATIONS SHALL NOT EXCEED .5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.
- ĊΔ SEE "GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS" SHEET FOR ACCEPTABLE GUY WIRE TERMINATION EXTENSION, IF REQUIRED.

# STRUCTURAL SYMBOLS



3	T INCL	275	HP HORIZ	품프 중	GALV GR GRND	37888	FA 5	EXI EXI EXI EXI EXI EXI EXI EXI EXI EXI		EL BEV	DIAG DIAG DIST DIST DN	CONT	CONC CLR	BOT	@ AB ALT APPROX
KIP (1000 LBS)	INCLUDE, INCLUDING INFORMATION INITIAL TENSION	INSIDE DIAMETER INSIDE FACE INCH, INCHES	HORIZONTAL HIGH POINT HEAVY DUTY	HEAVY DUTY HEXAGON(AL)	GAUGE GALVANIZED GRADE GROUND, GRADE GRATING	FOUNDATION FAR SIDE FEET FOOTING	FABRICATE	EQUAL EQUIPMENT EACH SIDE ESTIMATED EACH WAY EXISTING EXTERIOR	EMBEDDED, EMBEDMENT ENCLOSURE ENGINEER	EACH EACH FACE EXTRA HIGH STRENGTH ELEVATION	DIAMETER DIAGONAL DINENSION DISTANCE DOWN DISTANCE	CONTINUOUS CONTINUED CENTERED	BEARING CLEAR CONCRETE	BEAM BOTTOM BASE PLATE	AT ANCHOR BOLT ALTERNATE APPROXIMATE
dim //w	VERT	쿻	0AL /1 8%1	STD STRUCT SUB	SCHED SP SPEC SQFT	REINF REQD REV	QC QC	PS P	PCS PCS	OP OP OPP, OPNG	R NS S S S	NA NEC	MECH	₹ <u></u>	E Ne
WITH WITHOUT WORKING POINT	VERTICAL	THICK TYPICAL OTHERWISE	TOP & BOTTOM TOP OF THREAD, THREADED	STANDARD STRUTURAL SUBSTITUTE	SCHEDULE SPACED, SPACES, SPACING SPECIFICATION SOUARE SQUARE FEET	RADIUS REINFORCEMENT, REINFORCING REQUIRED REVISION	QUALITY CONTROL QUALITY	PERMENT INE PERPENDICULAR PERPENDICULAR PLATE, PROPERTY LINE POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POINT	OTHERWISE SPECIFIED PIECES	OUTSIDE DIAMETER OUTSIDE FACE OPENING OPPOSITE	NEAR FACE NOT IN CONTRACT NUMBER NEAR SIDE NOT TO SCALE	MISCELLANEOUS  NOT APPLICABLE  NECESSARY	MAXIMUM MECHANICAL MINIMUM	55	ANGLE LENGTH OF CHORD LONG, LENGTH LONG LEG HORIZONTAL LONG IFG VERTICAL

DATE 4/24/15

SUBMITTALS
DESCRIPTION
ESSUED FOR REVIEW

**INFINIGY**8

(033 WATERVLIET SHAKER ROAD ALBANY, NY 12205 OFFICE: (518) 690-0790 FAX: (518) 690-0793

ZERO TO INFINIGY

the solutions are endless

HILLING THE CONNECTION OF CONNECTION O PROJECT NO: DRAWN BY: CHECKED BY: 379-016 VEB JRJ

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YIELD STRENGTH

CT11797A 32 BALL POND RD (RTE 39) NEW FAIRFIELD, CT SITE NAME NOTE: IF DRAWINGS ARE 22\*x34\*, USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SHEET NUMBER

NOTES

SHEET TITLE

SHEET OF 2 SHEETS

DESIGN BASED ON REQUIREMENTS FROM FAILING STRUCTURAL ANALYSIS BY INFINIGY JOB #379-015, DATED APRIL 24, 2015 EXISTING GRADE = 0.0' ELEV 85.0' ELEV 41.0' ELEV 175.0' ELEV 130.0' "PROPOSED 1 3/4" WILLIAMS MMFX 150 KSI THREADED BAR, 2" OD MONOPOLE REINFORCEMENT

T - Mobile

**INFINIGY**8 FROM ZERO TO INFINIGY the solutions are endless

NSS NORTHEAST

SHEET NUMBER

SHEET

S2 of 2 SHEETS

ELEVATION TOWER SITE NAME CT11797A 32 BALL POND RD (RTE 39) NEW FAIRFIELD, CT

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

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DESCRIPTION REVISION
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REVISION 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205 OFFICE (518) 690-0790 FAX. (518) 690-0793

2'-0" 3" (TYP) 1½" (TYP) 25 0 0 0 0 0 0 0 80 KSI 10 cđ 10" (2)—HSS3"x3"x3/8" TUBE A500 GR B, 46 KSI GALVANIZED 0 0 0 0 0 52. (16) LINDAPTER HB16 HOLLO-BOLTS GALVANIZED 1" DIA HOLE PER LINDAPTER SPECIFICATIONS 1/2" THICK PLATE SIZED TO FIT

(a) LINDAPTER HB16
HOLLO-BOLTS (TIP)

1/2" THICK PLATE

80 KS 3/8" TUBE
A500 GR B, 46 KS
GALVANIZED

PLAN VIEW

REINFORCING
BRACKET DETAILS
SHEET NUMBER

SHEET

S3 OF 2 SHEETS

TERMINATION BRACKET

ELEVATION VIEW

SITE NAME CT11797A 32 BALL POND RD (RTE 39) NEW FAIRFIELD, CT

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CHECKED BY: JRJ

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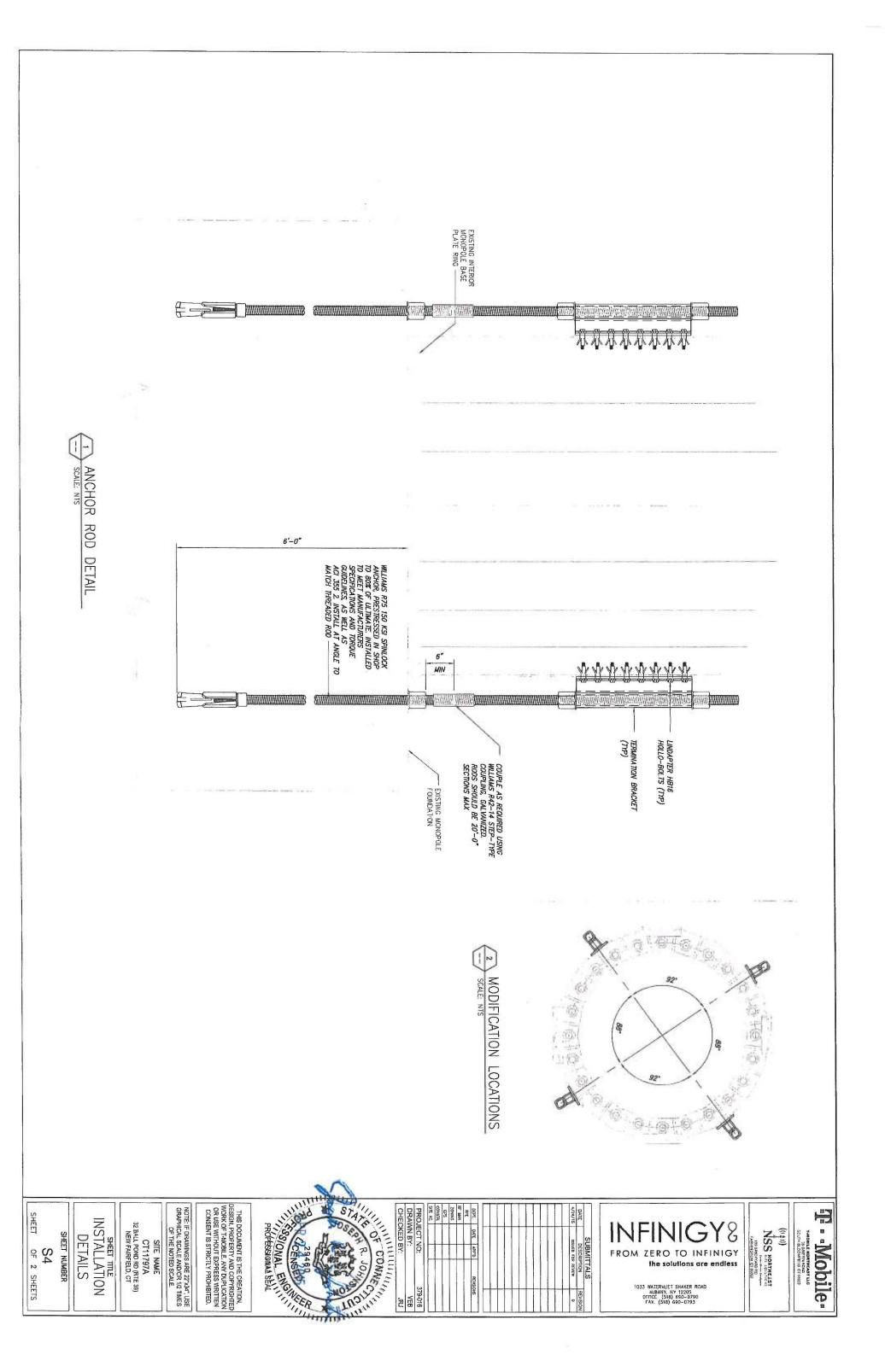
INFINIGY &
FROM ZERO TO INFINIGY
the solutions are endless

1033 WATERVLIET SHAKER ROAD ALBANY, HY 12205 OFFICE (518) 690-0790 FAX. (518) 690-0793 Tan Mobile

Translate sources us

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NSS NORTHELST NSS AND STANDARD TO 198 BRICKING TO FARMINGTON CT 08000



# **EXHIBIT C**



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

T-Mobile Existing Facility

Site ID: CT11797A

CT797/New Fairfield MP 302 Ball Pond Road New Fairfield, CT 06812

April 20, 2015

EBI Project Number: 6215002589

Site Compliance Summary				
Compliance Status:	COMPLIANT			
Site total MPE% of FCC general public allowable limit:	64.53 %			



April 20, 2015

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

Emissions Analysis for Site: CT11797A - CT797/New Fairfield MP

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **302 Ball Pond Road**, **New Fairfield**, **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 ( $\mu$ W/cm2). The number of  $\mu$ W/cm² 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/cm²). The general population exposure limit for the 700 MHz Band is 467  $\mu$ W/cm², and the general population exposure limit for the PCS and AWS bands is 1000  $\mu$ W/cm². 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 **302 Ball Pond Road, New Fairfield, 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:

- 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 (AWS Band 2100 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 (AWS Band 2100 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) 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.

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- 6) 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.
- 7) The antennas used in this modeling are the Ericsson AIR21 B4A/B2P & B2A/B4P) for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the Commscope LNX-6515DS-VTM for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The Ericsson AIR21 B4A/B2P & B2A/B4P) have a maximum gain of 15.9 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.
- 8) The antenna mounting height centerline of the proposed antennas is **145 feet** above ground level (AGL).
- 9) 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:	В	Sector:	С
Antenna #:	_ 1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model;	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain;	15.9 dBd
Height (AGL):	145	Height (AGL):	145	Height (AGL):	145
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.87	Antenna B1 MPE%	0.87	Antenna C1 MPE%	0.87
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B4P□	Make / Model:	Ericsson AIR21 B2A/B4P□	Make / Model:	Ericsson AIR21 B2A/B4P□
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	145	Height (AGL):	145	Height (AGL):	145
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	0.87	Antenna B2 MPE%	0.87	Antenna C2 MPE%	0.87
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope LNX- 6515DS-VTM	Make / Model:	Commscope LNX- 6515DS-VTM	Make / Model:	Commscope LNX- 6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL);	145	Height (AGL):	145	Height (AGL):	145
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):	865.21	ERP (W):	865.21	ERP (W):	865,21
Antenna A3 MPE%	0.34	Antenna B3 MPE%	0.34	Antenna C3 MPE%	0.34

Carrier	MPE%	
T-Mobile	6.25	
Town Fire Dept	2.16 %	
Town Police Dept	1.37 %	
Town Pub Wks Dept	2.01 %	
Sprint	7.31 %	
Clearwire	1.08 %	
AT&T	18.14 %	
Verizon Wireless	26.21 %	
Site Total MPE %:	64.53 %	

T TIESTER DESIGN X X DEMX! MICO /	Mobile Sector 2 Total: 2.08 %		
T-Mobile Sector 2 Total: 2.08 %		T-Mobile Sector 1 Total:	2.08 %
	Mobile Sector 3 Total: 2.08 %	T-Mobile Sector 2 Total:	2.08 %
T-Mobile Sector 3 Total: 2.08 %		T-Mobile Sector 3 Total:	2.08 %



#### 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:	2.08 %
Sector 2:	2.08 %
Sector 3:	2.08 %
T-Mobile Total:	6.25 %
Site Total:	64.53 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **64.53%** 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.

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