smartlink

March 27, 2015

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap**
Property Address: **At 500 Highland Avenue, Cheshire, CT 06410 (the "Property")**
Applicant: **New Cingular Wireless PCS, LLC ("AT&T")**

Dear Ms. Bachman:

On behalf of AT&T please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72(b)(2).

AT&T currently maintains nine (9) wireless telecommunication antennas at an antenna centerline of 128' on an existing 160' tower owned and managed by SBA Site Management, LLC (the "Tower"). The Property on which the Tower is location is owned by the Town of Cheshire. The Connecticut Siting Counsel (the "Council") approved AT&T's use of the Tower in the following prior decisions: Dockets No. EM-CING-025-031212, EM-CING-025-070815 and EM-CING-025-121026.

AT&T now intends to replace three (3) of the existing panel antennas with like kind and size panel antennas at the 128-foot height. Included in Attachment 1 are specifications for the replacement antennas.

In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to Tim Slocum, Mayor and Chairman, Town Council, for the town of Cheshire, CT. A copy of this letter is also being sent to SBA Site Management, LLC, the owner of the Tower.

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

1. The proposed modifications will not result in an increase in height of the Tower. AT&T's replacement antennas will be installed at the 128 foot level of the 160 foot tower.

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2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the General Power Density table included in Attachment 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Attachment 3).

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

Sincerely,

Adam F. Braillard

Enclosures

cc: w/enclosures

SBA Site Management, LLC 1480 Route 9 North, Suite 303, Woodbridge, NJ 07095

Tim Slocum, Mayor and Chairman Town Council, 84 South Main Street, Cheshire, CT 06410

33 Boston Post Road West, Marlborough, Massachusetts 01752
p: 508.954.7702 • adam.braillard@smartlinkllc.com
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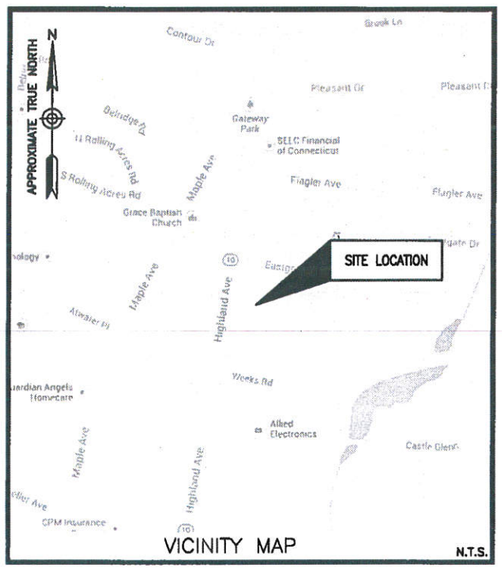
TAB 1

at&t Mobility

SITE NAME: CHESHIRE PD
SITE NUMBER: CT2081
500 HIGHLAND AVENUE
CHESHIRE, CT 06410



VICINITY MAP N.T.S.

DIRECTIONS FROM 500 ENTERPRISE DRIVE, ROCKY HILL, CT:

TAKE I-95 S. TAKE EXIT 18 TO MERGE ONTO I-691 W TOWARD MERIDEN/WATERBURY. TAKE EXIT 3 FOR CT-10 TOWARD MILLDALE/CHESHIRE. TURN LEFT ONTO CT-10 S/HIGHLAND AVE. DESTINATION WILL BE ON THE LEFT.

SITE COORDINATES:
LATITUDE: N 41° 30' 40.4" (NAD 83)*
LONGITUDE: W 72° 53' 55.4" (NAD 83)*
*PER GOOGLE EARTH

ELEVATION DATA
GRADE ELEVATION AT TOWER = 221'± A.M.S.L
AS PER GOOGLE EARTH

ANTENNA ELEVATION (TO CENTER OF ANTENNA)
ALPHA SECTOR: 128'-0"± A.G.L.
BETA SECTOR: 128'-0"± A.G.L.
GAMMA SECTOR: 128'-0"± A.G.L.

SITE INFORMATION

- REMOVE AND REPLACE (1) PANEL ANTENNA PER SECTOR ON A NEW MOUNT FOR A TOTAL OF (3) NEW ANTENNAS.
- ADD (1) NEW RRUS-12 & A2 MODULE PER SECTOR ON A NEW MOUNT FOR A TOTAL OF (3) RRUS-12'S & A2 MODULES.
- ADD (1) SURGE ARRESTOR ON A NEW MOUNT.
- ADD (1) NEW 23" EQUIPMENT RACK IN EXISTING SHELTER.
- REMOVE GALAXY DC PLANT AND REPLACE WITH (1) GE INFINITY POWER PLANT.

PROJECT DESCRIPTION

SITE NAME:
CHESHIRE PD

SITE NUMBER:
CT2081

LOCATION:
500 HIGHLAND AVENUE
CHESHIRE, CT 06410

APPLICANT/LESSEE:
AT&T MOBILITY
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CONNECTICUT 06067

TOWER OWNER:
TOWNSHIP OF CHESHIRE
84 SOUTH MAIN STREET
CHESHIRE, CT 06410

PROJECT INFORMATION

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

A.D.A. COMPLIANCE:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

SHEET NUMBER	DESCRIPTION
T-1	TITLE SHEET
G-1	GENERAL NOTES
C-1	SITE PLAN & EQUIPMENT PLANS
C-2	ANTENNAS LAYOUTS & ELEVATIONS
C-3	CONSTRUCTION DETAILS I
C-4	ANTENNA SCHEDULE & CONSTRUCTION DETAILS II
E-1	GROUNDING DETAILS

SHEET INDEX

at&t
500 ENTERPRISE DRIVE SUITE 3A
ROCKY HILL, CT 06067

smartlink
1997 ANNAPOLIS EXCHANGE PARKWAY
SUITE 200
ANNAPOLIS, MD 21401

CT2081
CHESHIRE PD

CONSTRUCTION DRAWINGS

Z2	03/27/15	ISSUED AS REV Z2

Dewberry
Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710

STATE OF CONNECTICUT
JIANG YU
3222
LICENSED PROFESSIONAL ENGINEER
JIANG YU
CT LICENSE No. PEN.0023222

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT.

DRAWN BY:	FG
REVIEWED BY:	PD
CHECKED BY:	GHN
PROJECT NUMBER:	50063024
JOB NUMBER:	50063036
SITE ADDRESS:	

500 HIGHLAND AVENUE
CHESHIRE, CT 06410

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   PROJECT MANAGEMENT – SMARTLINK
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY
   OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF PROJECT MANAGEMENT.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY PROJECT MANAGEMENT.
9. CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. CONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. CONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH PROJECT MANAGEMENT.
10. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. 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 THE CONTRACT.
14. CONTRACTOR SHALL NOTIFY DEWBERRY 48 HOURS IN ADVANCE OF POURING CONCRETE, OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEER REVIEW.
15. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. CONTRACTOR SHALL NOTIFY PROJECT MANAGEMENT OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
16. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY CONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH LAND LORD. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
17. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO:
   A) FALL PROTECTION
   B) CONFINED SPACE
   C) ELECTRICAL SAFETY
   D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
6. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE AT&T SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE SOIL COMPACTION NOTES.
11. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
12. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE (UNO). SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER:
   (A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"Ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION & TOPSOIL EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM & LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.
5. AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOFROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
   CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, AT&T ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
2. COORDINATION OF WORK:
   CONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH PROJECT MANAGEMENT.
3. CABLE LADDER RACK:
   CONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. CONTRACTOR SHALL SUBMIT MODIFICATIONS TO PROJECT MANAGEMENT FOR APPROVAL.
3. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
4. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
5. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
6. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
7. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
8. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
9. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
10. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
11. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL.) PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
13. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
14. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
15. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
16. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
17. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
18. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
19. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
20. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
21. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
22. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
23. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
24. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
25. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
26. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
27. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
28. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
29. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
30. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
31. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM PROJECT MANAGEMENT BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
32. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

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ROCKY HILL, CT 06067

smartlink
1997 ANNAPOLIS EXCHANGE PARKWAY
SUITE 200
ANNAPOLIS, MD 21401

CT2081
CHESHIRE PD

CONSTRUCTION DRAWINGS		
Z2	03/27/15	ISSUED AS REV Z2

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Dewberry Engineers Inc.
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PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710

STATE OF CONNECTICUT
JIANG YU
No. 23222
LICENSED PROFESSIONAL ENGINEER

JIANG YU
CT LICENSE No. PEN.0023222

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT.

DRAWN BY:	FG
REVIEWED BY:	PD
CHECKED BY:	GHN
PROJECT NUMBER:	50063024
JOB NUMBER:	50063036
SITE ADDRESS:	

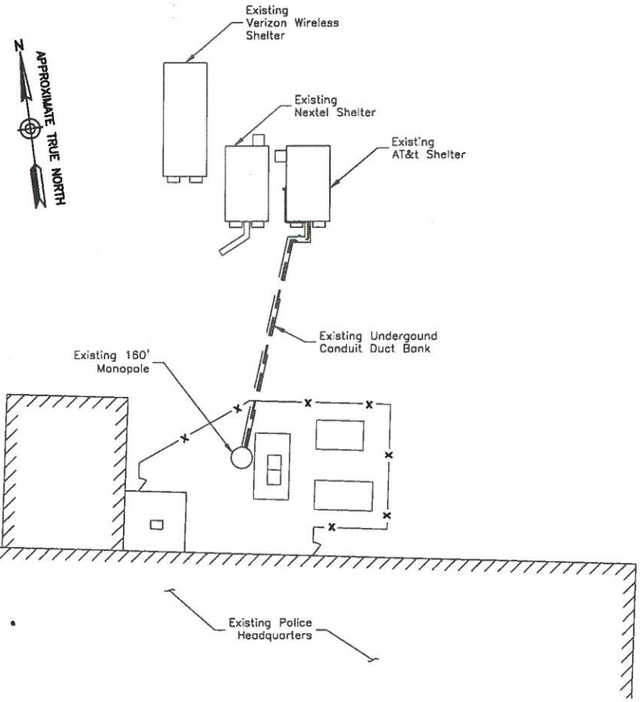
500 HIGHLAND AVENUE
CHESHIRE, CT 06410

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

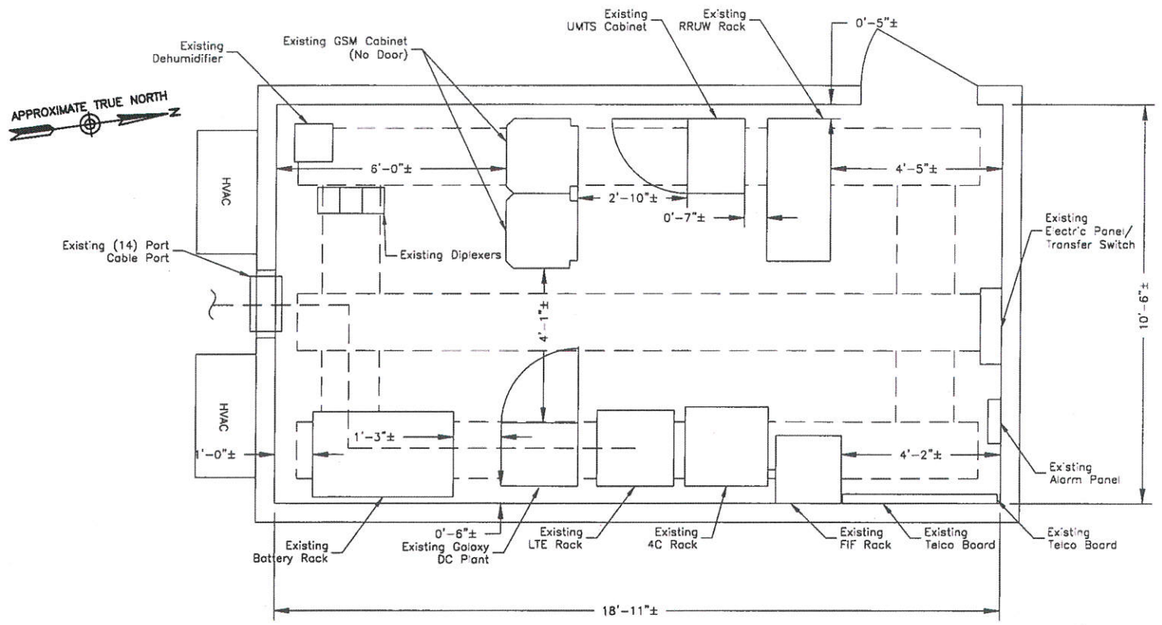
G-1



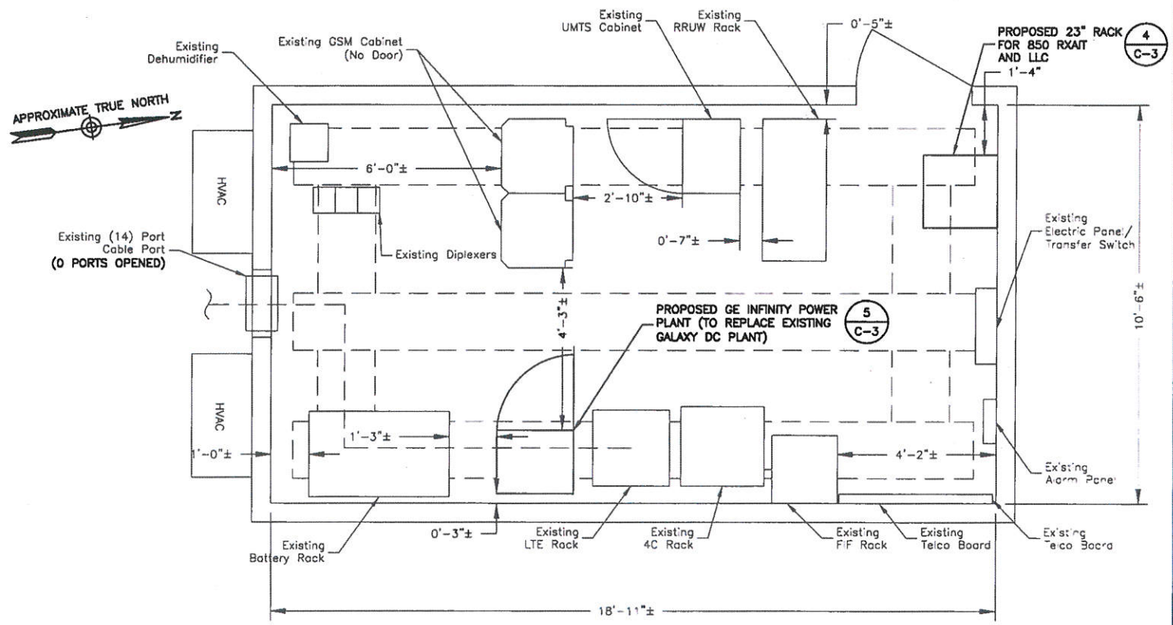
NOTES:

1. NORTH SHOWN AS APPROXIMATE.
2. MOUNT ALL ANTENNAS COAX SURGE ARRESTORS, RRUS, ETC. IN ACCORDANCE WITH STRUCTURAL ANALYSIS.
3. NOT ALL INFORMATION IS SHOWN FOR CLARITY.

SITE PLAN 1
SCALE: 1"=40' FOR 11"x17"
1"=20' FOR 22"x34"
0' 20' 40'



EXISTING EQUIPMENT PLAN 2
SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"
0' 1' 2' 4'



PROPOSED EQUIPMENT PLAN 3
SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"
0' 1' 2' 4'

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STATE OF CONNECTICUT JIANG YU 0023222 LICENSED PROFESSIONAL ENGINEER
CT LICENSE No. PEN.0023222

DRAWN BY:	FG
REVIEWED BY:	PD
CHECKED BY:	GHN
PROJECT NUMBER:	50063024
JOB NUMBER:	50063036
SITE ADDRESS:	

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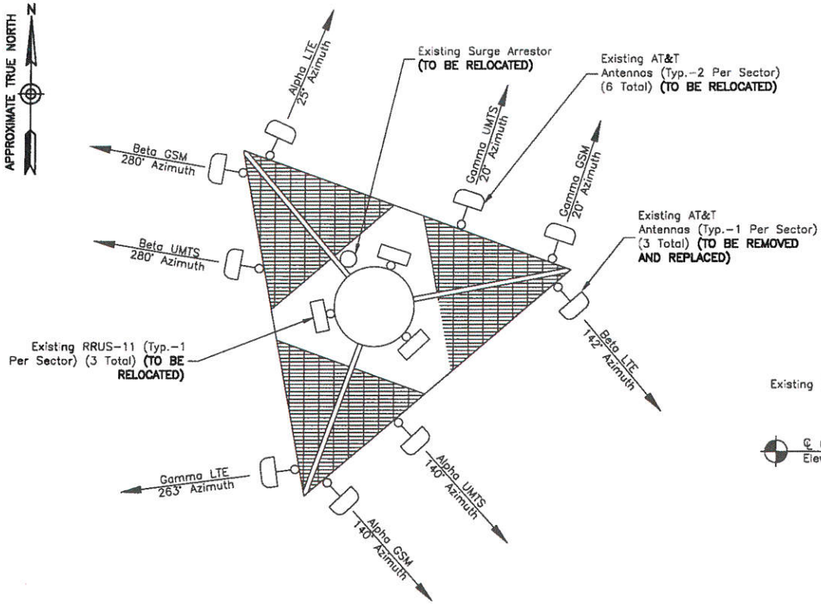
SHEET TITLE

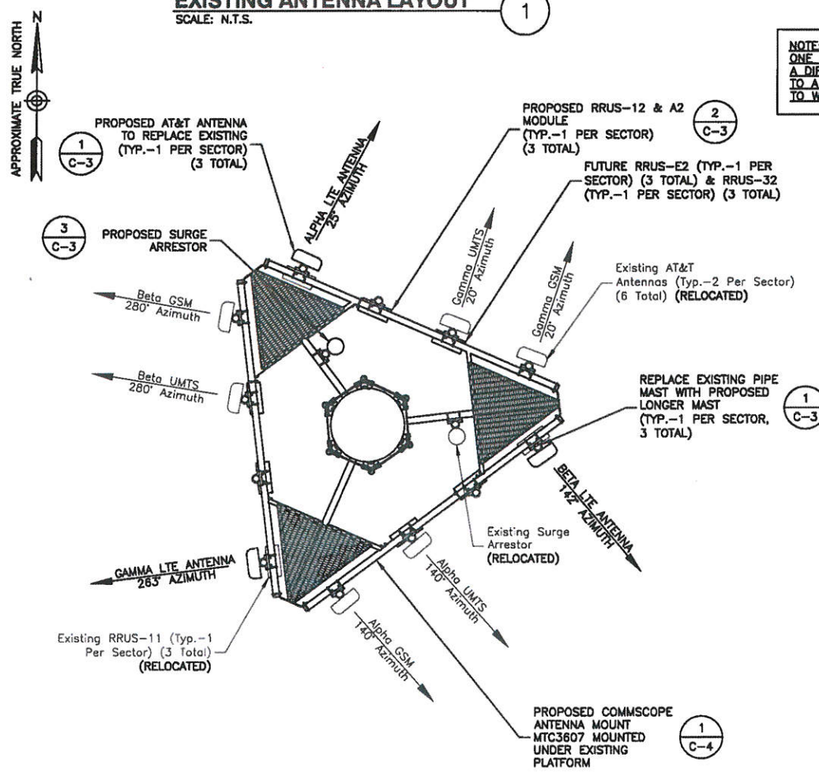
SITE PLAN &
EQUIPMENT PLANS

SHEET NUMBER

C-1

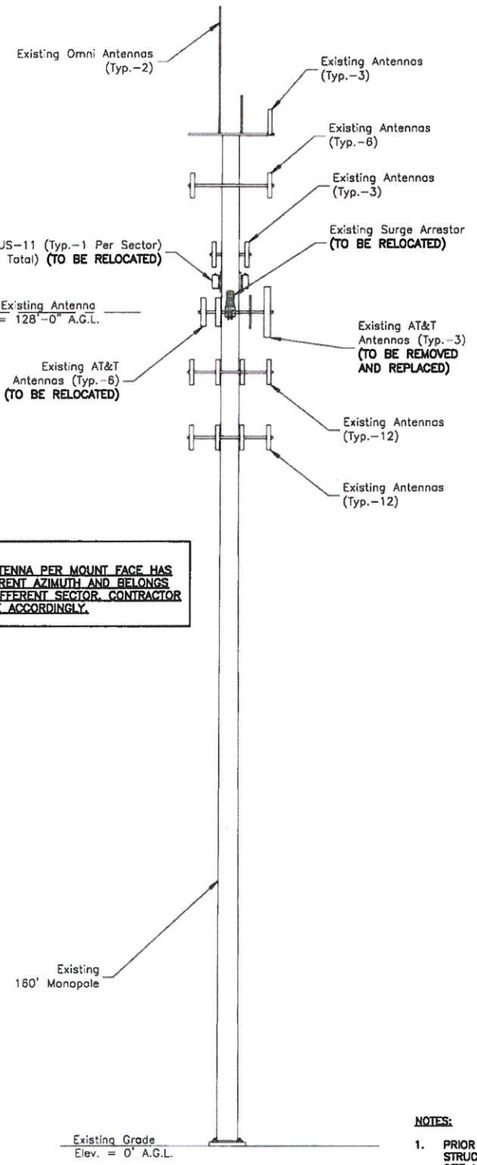


EXISTING ANTENNA LAYOUT (1)
SCALE: N.T.S.



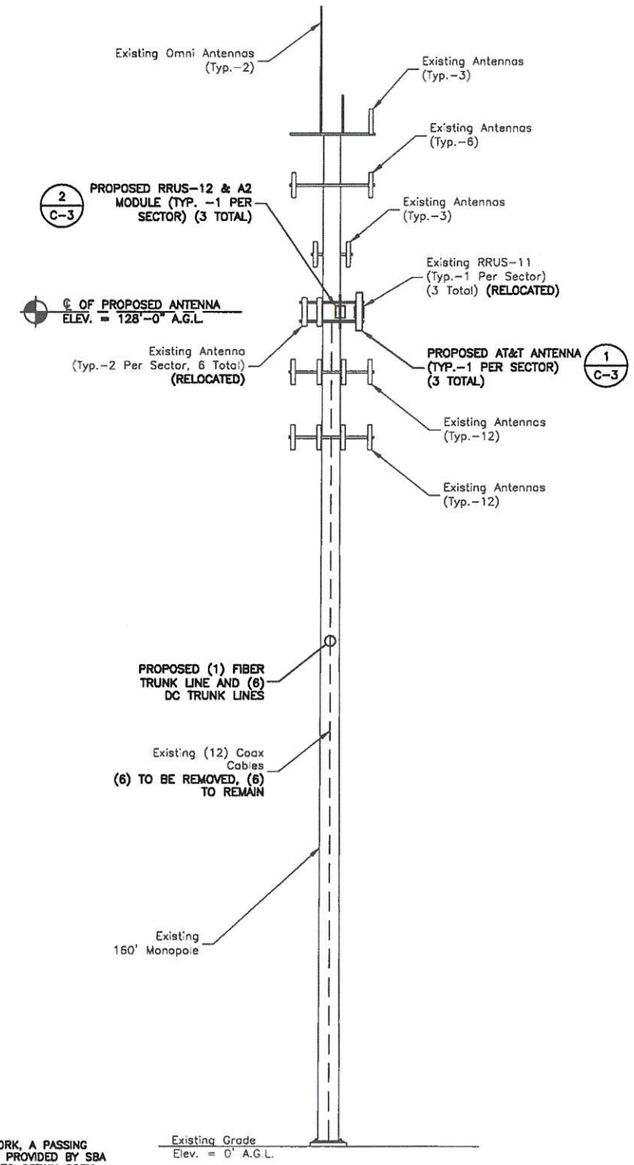
PROPOSED ANTENNA LAYOUT (2)
SCALE: N.T.S.

NOTE:
ONE ANTENNA PER MOUNT FACE HAS A DIFFERENT AZIMUTH AND BELONGS TO A DIFFERENT SECTOR. CONTRACTOR TO WIRE ACCORDINGLY.



EXISTING NORTH ELEVATION (3)
SCALE: 1/2"=1' FOR 11"x17"
1"=1' FOR 22"x34"

0' 1' 2'



PROPOSED NORTH ELEVATION (4)
SCALE: 1/2"=1' FOR 11"x17"
1"=1' FOR 22"x34"

0' 1' 2'

NOTES:
1. PRIOR TO THE START OF ANY WORK, A PASSING STRUCTURAL ANALYSIS SHALL BE PROVIDED BY SBA SITE MANAGEMENT. CONTRACTOR TO OBTAIN COPY BEFORE STARTING ANY WORK.
2. ALL ANTENNAS, COAX, SURGE ARRESTORS, RRUS, ETC. TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS AND FINAL AT&T RF DATA SHEET.

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CONSTRUCTION DRAWINGS

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STATE OF CONNECTICUT
JIANG YU
No. 32822
LICENSED PROFESSIONAL ENGINEER

CT LICENSE No. PEN.0023222

DRAWN BY:	FG
REVIEWED BY:	PD
CHECKED BY:	GHN
PROJECT NUMBER:	50063024
JOB NUMBER:	50063036
SITE ADDRESS:	

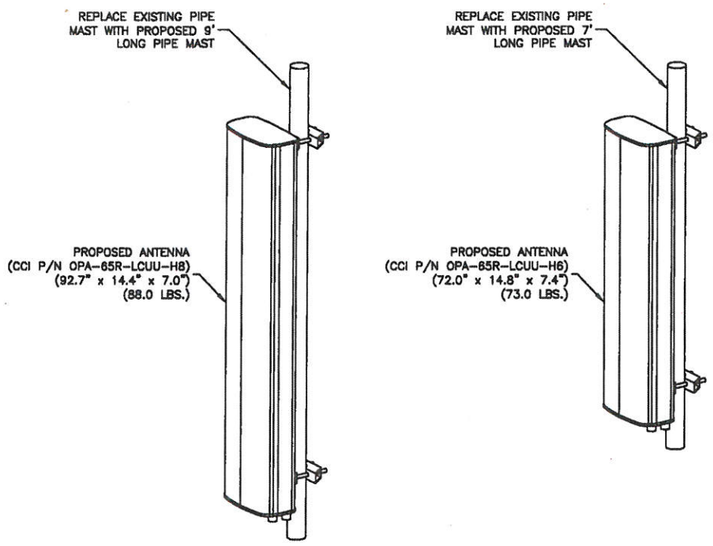
500 HIGHLAND AVENUE
CHESHIRE, CT 06410

SHEET TITLE

ANTENNA LAYOUTS & ELEVATIONS

SHEET NUMBER

C-2

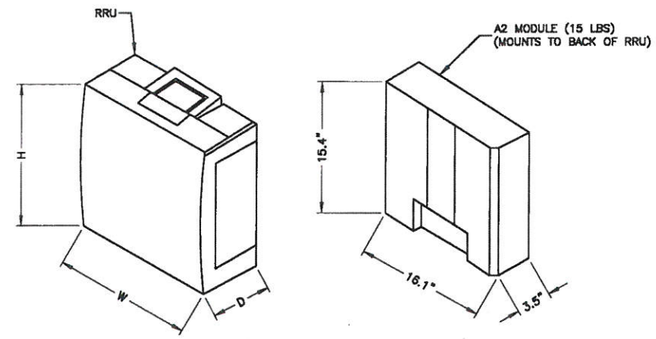


NOTE:

1. PLEASE SEE RFDS FOR SPECIFIC ANTENNA MODEL.

ISOMETRIC ANTENNA DETAILS (1)

SCALE: N.T.S.



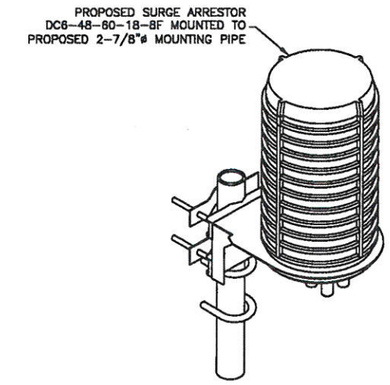
RRUS MODEL & DIMENSIONS		
ERICSSON MODEL #	DIMENSIONS (HxWxD)	
RRUS-11	19.7"x17.0"x7.2"	50.6 LBS
RRUS-12	20.4"x18.8"x7.5"	57.8 LBS
RRUS-E2	20.4"x18.8"x7.5"	
RRUS-32	29.9"x13.3"x9.5"	

RRU NOTES:

1. GROUND EQUIPMENT AND MOUNTS PER MANUFACTURER'S RECOMMENDATIONS AND AT&T STANDARDS.
2. MOUNT EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
3. CONFIRM REQUIRED EQUIPMENT WITH LATEST RFDS.

RRUS & A2 MODULE (2)

SCALE: N.T.S.

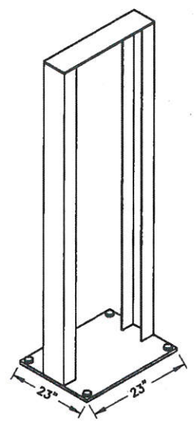


NOTE:

1. ALL ANTENNAS, COAX AND ANTENNA SUPPORT EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS AND FINAL RF DATA SHEET.

SURGE ARRESTOR MOUNTING DETAIL (3)

SCALE: N.T.S.



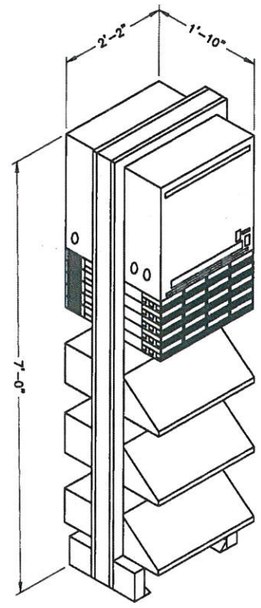
ISOMETRIC

NOTE:

1. CONTRACTOR SHALL SECURE RACK AS PER MANUFACTURER RECOMMENDATIONS.

23" x 23" INDOOR RACK (4)

SCALE: N.T.S



ISOMETRIC

NOTE:

1. CONTRACTOR SHALL SECURE RACK & POWER PLANT AS PER MANUFACTURER RECOMMENDATIONS.

GE INFINITY POWER PLANT DETAIL (5)

SCALE: N.T.S.

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STATE OF CONNECTICUT
JIANG YU
No. 23222
LICENSED
PROFESSIONAL ENGINEER

CT LICENSE No. PEN.0023222

DRAWN BY:	FG
REVIEWED BY:	PD
CHECKED BY:	GHN
PROJECT NUMBER:	50063024
JOB NUMBER:	50063036
SITE ADDRESS:	

500 HIGHLAND AVENUE
CHESHIRE, CT 06410

SHEET TITLE

CONSTRUCTION DETAILS I

SHEET NUMBER

C-3

EXISTING ANTENNA SCHEDULE

SECTOR	MAKE	MODEL #	SIZE (INCHES)
ALPHA:	KATHREIN	800 10121	54.5x10.3x5.9
	POWERWAVE	P65-17-XLH-RR	96x12x6
	KATHREIN	800 10121	54.5x10.3x5.9
BETA:	KATHREIN	800 10121	54.5x10.3x5.9
	KMW	AM-X-CD-16-65	72x11.8x5.9
	KATHREIN	800 10121	54.5x10.3x5.9
GAMMA:	KATHREIN	800 10121	54.5x10.3x5.9
	ANDREW	SBNH-1D6565C	96.4x11.9x7.1
	KATHREIN	800 10121	54.5x10.3x5.9

PROPOSED ANTENNA SCHEDULE

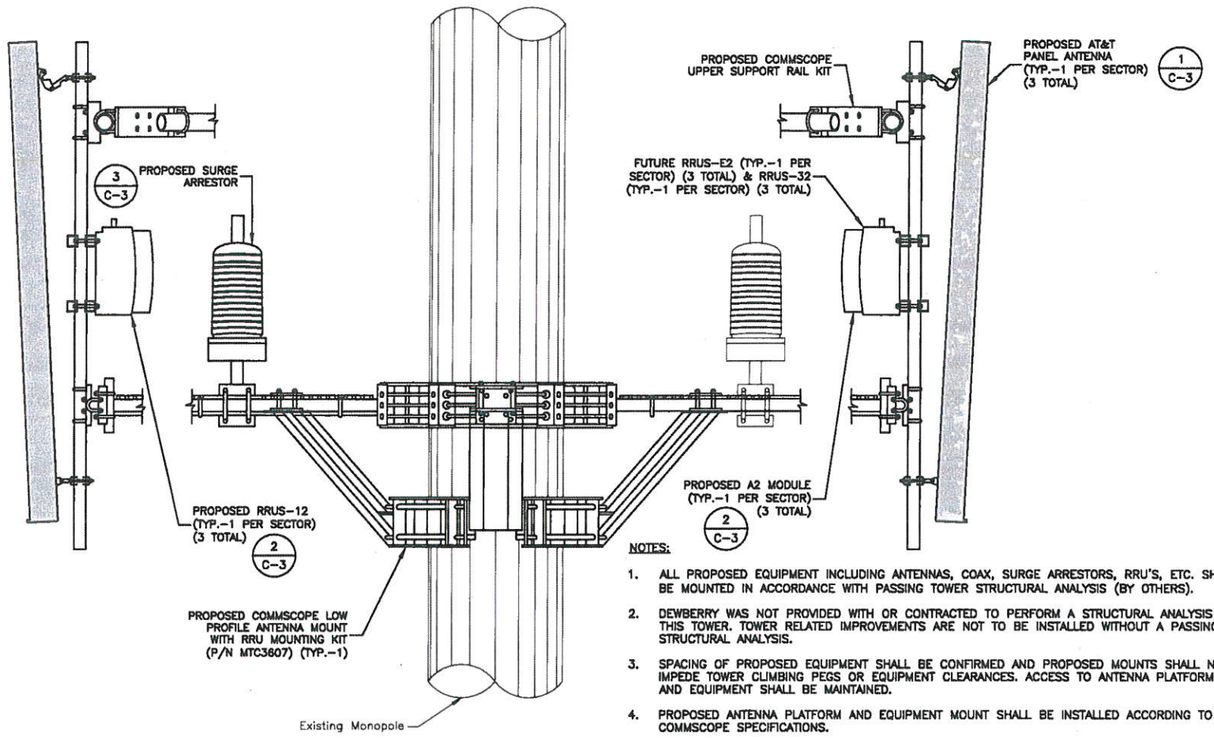
SECTOR	MAKE	MODEL #	SIZE (INCHES)
ALPHA:	KATHREIN	800 10121	54.5x10.3x5.9
	CCI	OPA-65R-LCUU-H8	92.7x14.4x7.0
	KATHREIN	800 10121	54.5x10.3x5.9
BETA:	KATHREIN	800 10121	54.5x10.3x5.9
	CCI	OPA-65R-LCUU-H6	72.0x14.8x7.4
	KATHREIN	800 10121	54.5x10.3x5.9
GAMMA:	KATHREIN	800 10121	54.5x10.3x5.9
	CCI	OPA-65R-LCUU-H8	92.7x14.4x7.0
	KATHREIN	800 10121	54.5x10.3x5.9

EXISTING RRUS SCHEDULE

SECTOR	MAKE	MODEL #	SIZE (INCHES)
ALPHA:	ERICSSON	RRUS-11	19.7x17.0x7.2
BETA:	ERICSSON	RRUS-11	19.7x17.0x7.2
GAMMA:	ERICSSON	RRUS-11	19.7x17.0x7.2

PROPOSED RRUS SCHEDULE

SECTOR	MAKE	MODEL #	SIZE (INCHES)
ALPHA:	ERICSSON	RRUS-11	19.7x17.0x7.2
	ERICSSON	RRUS-12	20.4x18.8x7.5
	ERICSSON	RRUS-A2	15.4x16.1x3.5
BETA:	ERICSSON	RRUS-11	19.7x17.0x7.2
	ERICSSON	RRUS-12	20.4x18.8x7.5
	ERICSSON	RRUS-A2	15.4x16.1x3.5
GAMMA:	ERICSSON	RRUS-11	19.7x17.0x7.2
	ERICSSON	RRUS-12	20.4x18.8x7.5
	ERICSSON	RRUS-A2	15.4x16.1x3.5



NOTES:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH PASSING TOWER STRUCTURAL ANALYSIS (BY OTHERS).
2. DEWBERRY WAS NOT PROVIDED WITH OR CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THIS TOWER. TOWER RELATED IMPROVEMENTS ARE NOT TO BE INSTALLED WITHOUT A PASSING STRUCTURAL ANALYSIS.
3. SPACING OF PROPOSED EQUIPMENT SHALL BE CONFIRMED AND PROPOSED MOUNTS SHALL NOT IMPEDE TOWER CLIMBING PEGS OR EQUIPMENT CLEARANCES. ACCESS TO ANTENNA PLATFORM AND EQUIPMENT SHALL BE MAINTAINED.
4. PROPOSED ANTENNA PLATFORM AND EQUIPMENT MOUNT SHALL BE INSTALLED ACCORDING TO COMMSCOPE SPECIFICATIONS.

PROPOSED ANTENNA MOUNTING DETAIL 1

SCALE: N.T.S.

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CONSTRUCTION DRAWINGS

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STATE OF CONNECTICUT · JIANG YU · No. 23222 · LICENSED PROFESSIONAL ENGINEER

CT LICENSE No. PEN.0023222

DRAWN BY:	FG
REVIEWED BY:	PD
CHECKED BY:	GHN
PROJECT NUMBER:	50063024
JOB NUMBER:	50063036
SITE ADDRESS:	

500 HIGHLAND AVENUE
CHESHIRE, CT 06410

SHEET TITLE

ANTENNA SCHEDULE & CONSTRUCTION DETAILS II

SHEET NUMBER

C-4

TAB 2

sitesafe
rf compliance experts

200 North Glebe Road, Suite 1000
Arlington, VA 22203-3728

Todd Oliver
Smartlink, LLC
Market Manager, NE
33 Boston Post Road, Suite 210
Marlborough, MA 01752

Reference: Smartlink LLC Site, Cheshire-490/500 Highland Ave: 500 Highland Avenue. Cheshire, CT 06410

Date: 05 May 2014

1. This letter will address the additional RF impact that adding AT&T LTE antennas to the referenced site. Attached are two documents which cover the modeled RF emissions from the site.

2. The first report, "RF Emissions Compliance Report," for the site complied by Sitesafe, uses the antenna patterns for the antennas at the site to calculate the General Public Maximum Permissible Exposure (MPE) on the ground. The total MPE of all the carriers is 5.208% (based on the General Public MPE) based on this modeling, with AT&T antennas emitting a maximum of 0.829% of the General Public MPE on the ground.

3. The second attachment has the calculations, used by the Connecticut Siting Council, which assumes the maximum antenna gain transmits in a spherical pattern where the worst case results would be at the base of the tower. That calculation, based on the existing antennas, gives a result of 76.96% of the General Public MPE, with the AT&T antennas emitting 25.22% of the General Public MPE on the ground, using the modeling predictions used by Connecticut Siting Council.

4. In either case, the site is compliant with FCC guidelines. If you have any questions regarding this site, the compliance report, please contact me at 719-434-0700 or dcotton@sitesafe.com.

David C. Cotton, Jr.
Licensed Professional Engineer (Electrical)
State of Connecticut, PEN.0027481
Date: 2014-May-05

Director, RF Compliance

Attachment 1

RF EMISSIONS COMPLIANCE REPORT

Smartlink on behalf of AT&T Mobility, LLC

Site FA: 10050935
Site ID: CT2081
Site Name: Cheshire - 490/500 Highland Ave
Address: 500 Highland Avenue
Chesh, CT 06410
5/5/2014

Report Status:

AT&T Mobility LLC Is Compliant.

Prepared By:

Sitesafe, Inc.

200 North Glebe Road, Suite 1000

Arlington, VA 22203

Voice 703-276-1100
Fax 703-276-1169

Engineering Statement in Re:
Electromagnetic Energy Analysis
AT&T Mobility LLC
Chesh, CT 06410

My signature on the cover of this document indicates:

That I am registered as a Professional Engineer in the jurisdiction indicated; and

That I have extensive professional experience in the wireless communications engineering industry; and

That I am an employee of Sitesafe, Inc. in Arlington, Virginia; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by Smartlink (See attached Site Summary and Carrier documents), and that AT&T Mobility LLC's installations involve communications equipment, antennas and associated technical equipment at a location referred to as the "Cheshire - 490/500 Highland Ave" ("the site"); and

That AT&T Mobility LLC proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by AT&T Mobility LLC and shown on the worksheet, and that worst-case 100% duty cycle have been assumed; and

That in addition to the emitters specified in the worksheet, there are additional collocated point-to-point microwave facilities on this structure and, the antennas used are highly directional oriented at angles at or just below the horizontal and, that the energy present at ground level is typically so low as to be considered insignificant and have not been included in this analysis; and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio-frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio-frequency radiation must utilize the standards set by the FCC, which is the Federal Agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," defined as situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and (2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for

licensees of AT&T Mobility LLC's operating frequency as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed AT&T Mobility LLC operation is no more than 0.829% of the maximum in any accessible area on the ground and

That it is understood per FCC Guidelines and OET65 Appendix A, that regardless of the existent radio-frequency environment, only those licenses whose contributions exceed five percent of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 5.208% of the maximum in any accessible area up to two meters above the ground per OET-65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET-65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier and frequency range indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding Radio Frequency Safety.

In summary, it is stated here that the proposed operation at the site would not result in exposure of the Public to excessive levels of radio-frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307 and that AT&T Mobility LLC's proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals, and approved contractor personnel trained in radio-frequency safety; and that the instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower, or in the immediate proximity of the antennas.

Note: Sitesafe has used data obtained from the "Connecticut Siting Council" to create this report. The manufacturer antenna patterns for AT&T Mobility, LLC were used to determine the RF emissions from the AT&T Mobility, LLC antennas. Generic antennas were used for the other carriers on the tower, as this information was not available, or provided at the time the study was conducted. Sitesafe has conducted FCC research on this site, and was updated in this report with the appropriate FCC call signs and Maximum ERP values. Sitesafe has also referenced the AT&T Mobility, LLC construction diagram for this site.

The following documents below were the primary sources of data used to create this report. The primary document was the "Connecticut Siting Council" document. The AT&T Mobility, LLC construction diagram was referenced when appropriate.

Connecticut Siting Council: AlphaExMPowDens 4-16-14

AT&T Mobility, LLC Construction Diagram: 10050935.AE201.140414 (CT2081) Dewberry Rev 0.pdf

Cheshire - 490/500 Highland Ave
Site Summary

Carrier	Area Maximum Percentage MPE
AT&T Mobility LLC	0.519 %
AT&T Mobility LLC	0.131 %
AT&T Mobility LLC	0.179 %
MetroPCS	0.272 %
MetroPCS	0.396 %
Sprint Microwave	0.00 %
Sprint WiMax	0.202 %
Sprint-Nextel	0.129 %
Sprint-Nextel	0.152 %
T-Mobile	0.008 %
T-Mobile	0.003 %
Town Emergency Svcs	0.668 %
Verizon Wireless	0.292 %
Verizon Wireless	0.473 %
Verizon Wireless	1.257 %
Verizon Wireless	0.528 %
Composite Site MPE:	5.208 %

Attachment 2

Control Number	Site	Carrier	#Channels	ERP/Ch	Ant Ht	Power Den	MHz	S	%MPE	Site Total
EM-Sprint-Nextel-025-080114	Cheshire - 490/500 Highland Ave	Sprint microwave antenna	2	4.42	157.5	0.0001	22500	1.0000	0.01%	
EM-Sprint-Nextel-025-080114	Cheshire - 490/500 Highland Ave	Sprint WiMAX	3	562	157.5	0.0244	2657	1.0000	2.44%	
EM-Sprint-025-120817	Cheshire - 490/500 Highland Ave	Sprint	2	778	158	0.0224	1900	1.0000	2.24%	
EM-Sprint-025-120817	Cheshire - 490/500 Highland Ave	Sprint	1	438	158	0.0063	850	0.5667	1.11%	
EM-MetroPCs-025-121228-MA	Cheshire - 490/500 Highland Ave	MetroPCS CDMA	3	727	137.5	0.0415	2135	1.0000	4.15%	
EM-MetroPCs-025-121228-MA	Cheshire - 490/500 Highland Ave	MetroPCS LTE	1	1200	137.5	0.0228	2130	1.0000	2.28%	
TS-Sprint-025-030714	Cheshire - 490/500 Highland Ave	Town Emergency Svcs	1	1200	167.5	0.0154	450	0.3000	5.13%	
EM-T-Mobile-025-130528	Cheshire - 490/500 Highland Ave	T-Mobile GSM/UMTS	2	12	149	0.0004	1950	1.0000	0.04%	
EM-T-Mobile-025-130528	Cheshire - 490/500 Highland Ave	T-Mobile UMTS	2	12	149	0.0004	2100	1.0000	0.04%	
EM-T-Mobile-025-130528	Cheshire - 490/500 Highland Ave	T-Mobile LTE	2	24	149	0.0008	2100	1.0000	0.08%	
EM-CING-025-121026	Cheshire - 490/500 Highland Ave	AT&T UMTS	2	565	132	0.0233	880	0.5867	3.97%	
EM-CING-025-121026	Cheshire - 490/500 Highland Ave	AT&T UMTS	2	1077	132	0.0445	1900	1.0000	4.45%	
EM-CING-025-121026	Cheshire - 490/500 Highland Ave	AT&T GSM	1	647	132	0.0134	880	0.5867	2.28%	
EM-CING-025-121026	Cheshire - 490/500 Highland Ave	AT&T GSM	4	934	132	0.0771	1900	1.0000	7.71%	
EM-CING-025-121026	Cheshire - 490/500 Highland Ave	AT&T LTE	1	1615	132	0.0333	734	0.4893	6.81%	
EM-Nextel-025-050427	Cheshire - 490/500 Highland Ave	Nextel	12	100	107	0.0377	851	0.5673	6.64%	
EM-VER-025-130722	Cheshire - 500 Highland Ave	Verizon cellular	9	262	117	0.0619	869	0.5793	10.69%	
EM-VER-025-130722	Cheshire - 500 Highland Ave	Verizon PCS	11	258	117	0.0745	1970	1.0000	7.45%	
EM-VER-025-130722	Cheshire - 500 Highland Ave	Verizon AWS	1	1750	117	0.0460	2145	1.0000	4.60%	
EM-VER-025-130722	Cheshire - 500 Highland Ave	Verizon LTE	1	856	117	0.0225	698	0.4653	4.83%	76.96%

TAB 3

GPD Engineering and Architecture
Professional Corporation

STRUCTURAL ANALYSIS REPORT

160' Monopole Tower

500 Highland Avenue
Cheshire, CT 06410

SBA Site Name: Cheshire
SBA Site Number: CT33762-M

AT&T Site Name: Cheshire Police Department
AT&T Site ID: CT2081
AT&T Site FA #: 10050935

GPD Project Number: 2015778.33762.05

Analysis Results

Tower Components	79.4%	Sufficient
Foundation	45.8%	Sufficient

March 18, 2015

Respectfully submitted by:

3/18/2015
John N. Kabak, P.E.
Connecticut #: 28836

TABLE OF CONTENTS

Executive Summary

The purpose of this analysis is to verify whether the existing monopole tower is structurally capable of carrying the proposed antenna and coax loads as specified by AT&T to SBA. This report was commissioned by Mr. Trisha Lohman of SBA Site Management.

The existing structure and its foundations have been analyzed using the following requirements:

Governing Code/s	TIA-222-G, & 2005 CTBC
Wind Speed	100 MPH 3-Second Gust
Wind Speed w/ Ice	50 MPH 3-Second Gust
Radial Ice Thickness	3/4"
Structure Class	III
Exposure Class	B
Topographic Category	1

Conclusions & Recommendations

The designs of the tower and its foundation are sufficient for the proposed loading configuration considering the above analysis criteria and will not require modification.

Tower Description

The existing 160' Monopole Tower is located in Cheshire, Connecticut. The tower was originally designed by Sabre in September of 2003. All structural information was obtained from a previous analysis performed by URS. The original design load for the tower was not available at the time of analysis.

Documents Provided:

Document Type	Remarks	Source
Previous Structural Analysis	Hudson Design Group dated 05/06/2013	SBA
Previous Structural Analysis	GPD Job #: 2014778.33762.03, dated 7/17/2014	SBA
Previous Structural Analysis	GPD Job #: 2014778.33762.04, dated 11/26/2014	SBA
Foundation Calculations	URS Corporation Job #: 36917370, dated 10/10/2012	SBA
Construction Drawings	Hudson Design Group, reviewed by SBA 7/10/2014	SBA

Tower Materials:

Structural Components	Material Strength
Pole	ASTM A572 (65 KSI Yield Strength)
Base Plate	ASTM A572 (60 KSI Yield Strength)
Anchor Rods	ASTM A615 (75 KSI Yield Strength)

Tower Loading

The following data shows the major loading that the tower supports. All existing/leased and proposed loading was provided by SBA or taken from the previous analysis.

Existing/Leased Loading

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufact.	Antenna/Mount Model	# of Coax	Coax Size (in)	Note
Town of Cheshire	160	170	1		20' Omni	4	1/2	
		168	2	Decibel	DB224			
		166.17	1		6' Omni			
		160	3		T-Arm			
Sprint	160	160	1		LP Platform	6	1-1/4	
		158	3	RFS	APXVSPP18-C-A20			
			3	RFS	APXVTM14-C-I20			
			4	RFS	ACU-A20-N			
			3	ALU	1900 MHz RRH			
			3	ALU	800 MHz RRH			
			3	ALU	2500 MHz RRH			
			3	ALU	800 MHz Filter			
T-Mobile	152	152	1		LP Platform	18	1-5/8	
		149	3	Ericsson	AIR21 B2A/B4P			
			3	Ericsson	AIR21 B4A/B2P			
			3	RFS	APX16-PV-6PVL-C			
			3	Ericsson	KRY 112			
			3	RFS	ATMAA1412D			
Pocket	141.08	141.08	3	RFS	APXV18-206517S-C	6	1-5/8	
			3		T-Arm			
AT&T	128	128	3	Kathrein	800 10121	12 1 2	1-5/8 3/8 3/4	
			2	Powerwave	P65-17-NKH-RR			
			2	KMW	AM-X-CD-16-65-00T-RET			
			2	Andrew	SBNH-1D6565C			
			6	CCI	DTNIABP7819VG12A TMA			
			6	Ericsson	RRUS-11			
			1	Raycap	DC6-48-60-18-8F			
			1		LP Platform			
Verizon	122.5	122.5	3	Antel	BXA 70063/6CF	12 1	1-5/8 1-5/8 Fiber	
			3	Antel	BXA 185063/8CF			
			3	Andrew	HBX-6517DS-VTM			
			3	Andrew	LNX-6514DS-VTM			
			6	RFS	FD9R6004/2C-3L			
			3	ALU	RRH2x40-AWS			
			1		DB-T1-6Z-8AB-0Z			
			1		LP Platform			
Town of Cheshire	89.08	89.08	1		Dipole Antenna	5	1/2	
			1		Collar Mount			
		81.25	1		Yagi Antenna			
		79.33	1		Yagi Antenna			
	83.17	83.17	1	PCTEL	GPS-TMG-HR-26N			
			1		Collar Mount			
		81.17	1		Yagi Antenna			

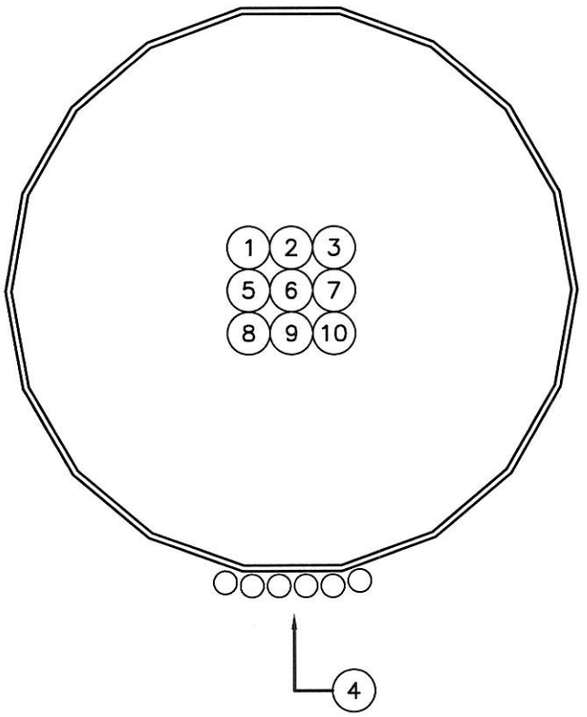
Final Proposed Loading Configuration

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufact.	Antenna/Mount Model	# of Coax	Coax Size	Note
AT&T	128	128	6	Kathrein	800 10121	12 1 4	1-5/8" 10mm 19.7mm	1
			2	CCI	OPA-65R-LCUU-H8			
			1	CCI	OPA-65R-LCUU-H6			
			3	Powerwave	TT19-08BP111-001 TMA			
			6	Powerwave	LGP 21401 TMA			
			6	Kathrein	860-10025			
			3	Ericsson	RRUS-11			
			3	Ericsson	RRUS-12			
			3	Ericsson	A2 Module			
			2	Raycap	DC6-48-60-18-8F			
			1	Commscope	MTC3607			

Notes:

1)This loading represents the final configuration for AT&T. See the next page for the proposed coax layout.

Proposed Coax Configuration



#	CARRIER	SIZE	QTY.	ELEVATION	NOTES
1	Town of Cheshire	1/2"	4	160'	
2	Sprint	1-1/4" Fiber	6	160'	
3	T-Mobile	1-5/8"	18	152'	
4	Pocket	1-5/8"	6	141.08'	
5	AT&T	1-5/8"	12	128'	
6	AT&T	10mm	1	128'	Fiber
7	AT&T	19.7mm	4	128'	[(2) Proposed] DC Cables
8	Verizon	1-5/8"	12	122.5'	
9	Verizon	1-5/8"	1	122.5'	Fiber
10	Town of Cheshire	1/2"	5	89.09'	

Assumptions

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in the Existing/Reserved Loading and Proposed Loading Tables, and the specified documents.
4) All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5) Mount sizes, weights, and manufacturers are best estimates based on photos provided and determined without the benefit of a site visit by GPD.
6) The proposed coax shall be installed internal to the monopole.
7) All member connections and foundation steel reinforcing are assumed designed to meet or exceed the load carrying capacity of the connected member and surrounding soils respectively unless otherwise specified in this report.
8) The existing loads on the tower were modeled from the previous structural analyses.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD should be allowed to review any new information to determine its effect on the structural integrity of the tower.

Tower Section Results

Capacity Summary of Structural Components

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass/ Fail
L1	160 - 146.5	Pole	TP20.91x16.75x0.1875	1	-4.57	865.69	21.3	Pass
L2	146.5 - 95.75	Pole	TP36.16x19.6876x0.25	2	-17.68	1841.20	79.2	Pass
L3	95.75 - 46.75	Pole	TP50.76x34.2745x0.3125	3	-30.48	3077.94	79.4	Pass
L4	46.75 - 0	Pole	TP64.53x48.1321x0.375	4	-50.13	4662.89	69.8	Pass
						Summary	ELC:	Proposed
						Pole (L3)	79.4	Pass
						Rating =	**79.4**	**Pass**

Additional Capacities

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
	Anchor Rods	0	71.1	Pass
	Base Plate	0	44.3	Pass
	Tower Base Foundation	0	45.8	Pass

Disclaimer of Warranties

GPD has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD , but are beyond the scope of this report. Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

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

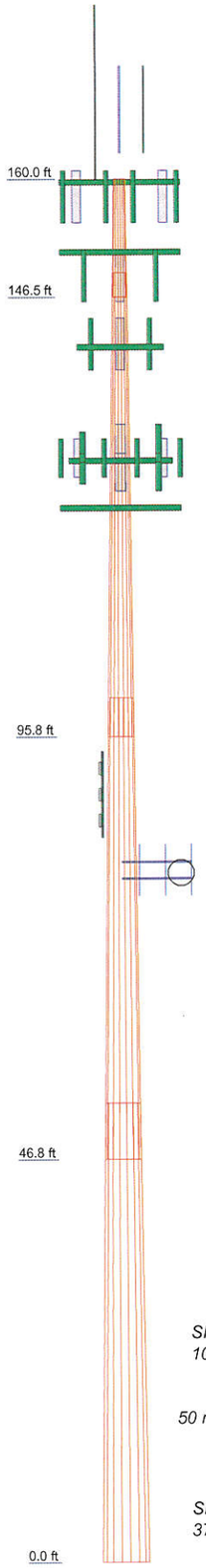
TNX TOWER OUTPUT

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 100 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class III.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 79.4%



Section	1	2	3	4	
Length (ft)	13.50	53.50	53.50	53.25	
Number of Sides	18	18	18	18	
Thickness (in)	0.1875	0.2500	0.3125	0.3750	
Socket Length (ft)	2.75	4.50	6.50		
Top Dia (in)	16.7500	19.6876	34.2745	48.1321	
Bot Dia (in)	20.9100	36.1600	50.7600	64.5300	
Grade			A572-65		
Weight (K)	0.5	4.0	7.6	12.1	24.2

ALL REACTIONS ARE FACTORED

AXIAL 98 K

SHEAR 10 K — *MOMENT 1183 kip-ft*

TORQUE 1 kip-ft
50 mph WIND - 0.7500 in ICE

AXIAL 50 K

SHEAR 37 K — *MOMENT 4234 kip-ft*

TORQUE 1 kip-ft
REACTIONS - 100 mph WIND

GPD GROUP
GPD Group
520 South Main Street, Suite 2531
Akron, OH 44311
Phone: (206) 204-7399
FAX: (330) 572-2101

Job: *CT33762-M Cheshire, CT*			
Project: *2015778.33762.05*			
Client: SBA	Drawn by: SWelch	App'd:	
Code: TIA-222-G	Date: 03/18/15	Scale: N	
Path: C:\Users\swelch\Desktop\Cheshire 33762.05 CT33762-M\tnx\CT33762_G Code.eri		Dwg No.	

Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in New Haven County, Connecticut.
Basic wind speed of 100 mph.
Structure Class III.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 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.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	C	Surface Ar (CaAa)	141.08 - 8.00	6	6	0.000 0.000	1.9800		0.82
Step Pegs	B	Surface Ar (CaAa)	160.00 - 0.00	1	1	0.000 0.000	0.8000		2.72

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight plf
LDF4-50A (1/2 FOAM)	A	No	Inside Pole	160.00 - 8.00	4	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
LDF6-50A (1-1/4 FOAM)	A	No	Inside Pole	160.00 - 8.00	6	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
						1" Ice	0.00	0.66
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	152.00 - 8.00	18	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	128.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
19.7mm DC Power Cable	A	No	Inside Pole	128.00 - 8.00	2	No Ice	0.00	0.59
						1/2" Ice	0.00	0.59

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
10mm Fiber Cable	A	No	Inside Pole	128.00 - 8.00	1	1" Ice	0.00	0.59
						No Ice	0.00	0.10
						1/2" Ice	0.00	0.10
						1" Ice	0.00	0.10
HB158-1-08U8-S8J18 (1-5/8")	A	No	Inside Pole	122.50 - 8.00	1	No Ice	0.00	1.30
						1/2" Ice	0.00	1.30
						1" Ice	0.00	1.30
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	122.50 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
LDF4-50A (1/2 FOAM)	A	No	Inside Pole	89.08 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
Safety Line (3/8")	B	No	CaAa (Out Of Face)	160.00 - 0.00	1	No Ice	0.04	0.22
						1/2" Ice	0.14	0.75
						1" Ice	0.24	1.28
LDF4-50A (1/2 FOAM)	A	No	Inside Pole	81.25 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
LDF4-50A (1/2 FOAM)	A	No	Inside Pole	79.33 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
LDF4-50A (1/2 FOAM)	A	No	Inside Pole	83.17 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
LDF4-50A (1/2 FOAM)	A	No	Inside Pole	81.17 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
19.7mm DC Power Cable	A	No	Inside Pole	128.00 - 8.00	4	No Ice	0.00	0.59
						1/2" Ice	0.00	0.59
						1" Ice	0.00	0.59

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
20' Omni (3" Diam)	C	From Leg	2.50 0.00 10.00	0.0000	160.00	No Ice	6.00	6.00	0.05
						1/2" Ice	8.03	8.03	0.09
						1" Ice	10.08	10.08	0.14
DB224	A	From Leg	2.50 0.00 8.00	0.0000	160.00	No Ice	3.15	3.15	0.03
						1/2" Ice	5.67	5.67	0.04
						1" Ice	8.19	8.19	0.05
DB224	B	From Leg	2.50 0.00 8.00	0.0000	160.00	No Ice	3.15	3.15	0.03
						1/2" Ice	5.67	5.67	0.04
						1" Ice	8.19	8.19	0.05
6' Omni	C	From Leg	2.50 0.00 6.17	0.0000	160.00	No Ice	1.77	1.77	0.03
						1/2" Ice	2.13	2.13	0.04
						1" Ice	2.50	2.50	0.06
MTS 36" Standoff (3)	C	None		0.0000	160.00	No Ice	2.64	2.64	0.09
						1/2" Ice	4.10	4.10	0.13
						1" Ice	5.56	5.56	0.17
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice	8.26	6.71	0.08
						1/2" Ice	8.81	7.66	0.14
						1" Ice	9.36	8.49	0.22

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	8.26 8.81 9.36	6.71 7.66 8.49	0.08 0.14 0.22
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	8.26 8.81 9.36	6.71 7.66 8.49	0.08 0.14 0.22
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	7.13 7.66 8.18	4.96 5.75 6.47	0.08 0.13 0.19
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	7.13 7.66 8.18	4.96 5.75 6.47	0.08 0.13 0.19
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	7.13 7.66 8.18	4.96 5.75 6.47	0.08 0.13 0.19
(2) ACU-A20-N	A	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	0.08 0.12 0.17	0.14 0.19 0.25	0.00 0.00 0.00
ACU-A20-N	B	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	0.08 0.12 0.17	0.14 0.19 0.25	0.00 0.00 0.00
ACU-A20-N	C	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	0.08 0.12 0.17	0.14 0.19 0.25	0.00 0.00 0.00
1900MHz RRH	A	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.94 3.17 3.41	1.19 1.35 1.52	0.06 0.08 0.11
1900MHz RRH	B	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.94 3.17 3.41	1.19 1.35 1.52	0.06 0.08 0.11
1900MHz RRH	C	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.94 3.17 3.41	1.19 1.35 1.52	0.06 0.08 0.11
RRH 800 MHz	A	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.01 2.21 2.42	1.67 1.86 2.06	0.05 0.06 0.08
RRH 800 MHz	B	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.01 2.21 2.42	1.67 1.86 2.06	0.05 0.06 0.08
RRH 800 MHz	C	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	2.01 2.21 2.42	1.67 1.86 2.06	0.05 0.06 0.08
RRH 2500MHz	A	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	3.76 4.03 4.30	2.23 2.46 2.69	0.06 0.08 0.11
RRH 2500MHz	B	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	3.76 4.03 4.30	2.23 2.46 2.69	0.06 0.08 0.11
RRH 2500MHz	C	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	3.76 4.03 4.30	2.23 2.46 2.69	0.06 0.08 0.11
800 MHz Filter	A	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	0.49 0.60 0.71	0.48 0.59 0.70	0.01 0.01 0.02
800 MHz Filter	B	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	0.49 0.60 0.71	0.48 0.59 0.70	0.01 0.01 0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
800 MHz Filter	C	From Leg	4.00 0.00 -2.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	0.49 0.60 0.71	0.48 0.59 0.70	0.01 0.01 0.02
Sabre 12' LP Platform	A	None		0.0000	160.00	No Ice 1/2" Ice 1" Ice	28.47 33.59 38.71	28.47 33.59 38.71	1.12 1.51 1.91
AIR21 B2A/B4P w/ mount pipe	A	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.09 0.14 0.21
AIR21 B4A/B2P w/ mount pipe	A	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.10 0.16 0.22
APX16-PV-6PVL-C w/ Mount Pipe	A	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.79 7.23 7.68	3.05 3.65 4.27	0.06 0.11 0.16
AIR21 B2A/B4P w/ mount pipe	B	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.09 0.14 0.21
AIR21 B4A/B2P w/ mount pipe	B	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.10 0.16 0.22
APX16-PV-6PVL-C w/ Mount Pipe	B	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.79 7.23 7.68	3.05 3.65 4.27	0.06 0.11 0.16
AIR21 B2A/B4P w/ mount pipe	C	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.09 0.14 0.21
AIR21 B4A/B2P w/ mount pipe	C	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.61 7.08 7.55	5.54 6.27 7.01	0.10 0.16 0.22
APX16-PV-6PVL-C w/ Mount Pipe	C	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	6.79 7.23 7.68	3.05 3.65 4.27	0.06 0.11 0.16
KRY 112	A	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	0.53 0.63 0.75	0.42 0.53 0.64	0.01 0.02 0.02
ATMAA1412D	A	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	1.17 1.31 1.47	0.47 0.57 0.69	0.02 0.02 0.03
KRY 112	B	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	0.53 0.63 0.75	0.42 0.53 0.64	0.01 0.02 0.02
ATMAA1412D	B	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	1.17 1.31 1.47	0.47 0.57 0.69	0.02 0.02 0.03
KRY 112	C	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	0.53 0.63 0.75	0.42 0.53 0.64	0.01 0.02 0.02
ATMAA1412D	C	From Leg	4.00 0.00 -3.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	1.17 1.31 1.47	0.47 0.57 0.69	0.02 0.02 0.03
Sabre 12' LP Platform	C	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice	28.47 33.59 38.71	28.47 33.59 38.71	1.12 1.51 1.91
APXV18-206517S-C w/ Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	141.08	No Ice 1/2" Ice 1" Ice	5.17 5.62 6.08	4.46 5.39 6.20	0.05 0.09 0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXV18-206517S-C w/ Mount Pipe	B	From Leg	3.00	0.00	0.0000	141.08	No Ice	5.17	4.46	0.05
			0.00	0.00			1/2" Ice	5.62	5.39	0.09
							1" Ice	6.08	6.20	0.14
APXV18-206517S-C w/ Mount Pipe	C	From Leg	3.00	0.00	0.0000	141.08	No Ice	5.17	4.46	0.05
			0.00	0.00			1/2" Ice	5.62	5.39	0.09
							1" Ice	6.08	6.20	0.14
MTS 36" Standoff (3)	B	None			0.0000	141.08	No Ice	2.64	2.64	0.09
							1/2" Ice	4.10	4.10	0.13
							1" Ice	5.56	5.56	0.17
(2) 800 10121 w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	128.00	No Ice	5.56	4.47	0.06
			0.00	0.00			1/2" Ice	6.01	5.13	0.11
							1" Ice	6.47	5.79	0.16
(2) 800 10121 w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	128.00	No Ice	5.56	4.47	0.06
			0.00	0.00			1/2" Ice	6.01	5.13	0.11
							1" Ice	6.47	5.79	0.16
(2) 800 10121 w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	128.00	No Ice	5.56	4.47	0.06
			0.00	0.00			1/2" Ice	6.01	5.13	0.11
							1" Ice	6.47	5.79	0.16
OPA-65R-LCUU-H8 w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	128.00	No Ice	13.22	9.32	0.12
			0.00	0.00			1/2" Ice	14.02	10.79	0.21
							1" Ice	14.82	12.24	0.32
OPA-65R-LCUU-H8 w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	128.00	No Ice	13.22	9.32	0.12
			0.00	0.00			1/2" Ice	14.02	10.79	0.21
							1" Ice	14.82	12.24	0.32
OPA-65R-LCUU-H6 w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	128.00	No Ice	10.36	7.24	0.11
			0.00	0.00			1/2" Ice	10.93	8.06	0.18
							1" Ice	11.50	8.89	0.27
TT19-08BP111-001	A	From Leg	4.00	0.00	0.0000	128.00	No Ice	0.64	0.52	0.02
			0.00	0.00			1/2" Ice	0.76	0.62	0.02
							1" Ice	0.88	0.74	0.03
TT19-08BP111-001	B	From Leg	4.00	0.00	0.0000	128.00	No Ice	0.64	0.52	0.02
			0.00	0.00			1/2" Ice	0.76	0.62	0.02
							1" Ice	0.88	0.74	0.03
TT19-08BP111-001	C	From Leg	4.00	0.00	0.0000	128.00	No Ice	0.64	0.52	0.02
			0.00	0.00			1/2" Ice	0.76	0.62	0.02
							1" Ice	0.88	0.74	0.03
(2) LGP21401	A	From Leg	4.00	0.00	0.0000	128.00	No Ice	1.29	0.23	0.01
			0.00	0.00			1/2" Ice	1.45	0.31	0.02
							1" Ice	1.61	0.40	0.03
(2) LGP21401	B	From Leg	4.00	0.00	0.0000	128.00	No Ice	1.29	0.23	0.01
			0.00	0.00			1/2" Ice	1.45	0.31	0.02
							1" Ice	1.61	0.40	0.03
(2) LGP21401	C	From Leg	4.00	0.00	0.0000	128.00	No Ice	1.29	0.23	0.01
			0.00	0.00			1/2" Ice	1.45	0.31	0.02
							1" Ice	1.61	0.40	0.03
RRUS-11	A	From Leg	1.00	0.00	0.0000	128.00	No Ice	3.25	1.37	0.05
			0.00	0.00			1/2" Ice	3.49	1.55	0.07
							1" Ice	3.74	1.74	0.09
RRUS-11	B	From Leg	1.00	0.00	0.0000	128.00	No Ice	3.25	1.37	0.05
			0.00	0.00			1/2" Ice	3.49	1.55	0.07
							1" Ice	3.74	1.74	0.09
RRUS-11	C	From Leg	1.00	0.00	0.0000	128.00	No Ice	3.25	1.37	0.05
			0.00	0.00			1/2" Ice	3.49	1.55	0.07
							1" Ice	3.74	1.74	0.09
RRUS-12	A	From Leg	1.00	0.00	0.0000	128.00	No Ice	3.67	1.49	0.06
			0.00	0.00			1/2" Ice	3.93	1.67	0.08
							1" Ice	4.19	1.87	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRUS-12	B	From Leg	1.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	3.67 3.93 4.19	1.49 1.67 1.87	0.06 0.08 0.11
RRUS-12	C	From Leg	1.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	3.67 3.93 4.19	1.49 1.67 1.87	0.06 0.08 0.11
RRUS A2 MODULE	A	From Leg	4.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.87 2.05 2.24	0.42 0.53 0.65	0.02 0.03 0.04
RRUS A2 MODULE	B	From Leg	4.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.87 2.05 2.24	0.42 0.53 0.65	0.02 0.03 0.04
RRUS A2 MODULE	C	From Leg	4.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.87 2.05 2.24	0.42 0.53 0.65	0.02 0.03 0.04
DC6-48-60-18-8F Surge Suppression Unit	A	From Leg	1.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.47 1.67 1.88	1.47 1.67 1.88	0.02 0.04 0.06
DC6-48-60-18-8F Surge Suppression Unit	B	From Leg	1.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.47 1.67 1.88	1.47 1.67 1.88	0.02 0.04 0.06
Commscope MTC3607 Platform w/ Reinforcing Kit	C	None		0.0000	128.00	No Ice 1/2" Ice 1" Ice	51.70 62.70 73.70	51.70 62.70 73.70	2.26 2.94 3.61
BXA-70063-6CF w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	7.73 8.27 8.81	5.49 6.23 6.99	0.05 0.10 0.17
BXA-70063-6CF w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	7.73 8.27 8.81	5.49 6.23 6.99	0.05 0.10 0.17
BXA-70063-6CF w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	7.73 8.27 8.81	5.49 6.23 6.99	0.05 0.10 0.17
BXA-185063/8CF w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	3.64 4.26 4.79	3.46 4.48 5.23	0.04 0.07 0.11
BXA-185063/8CF w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	3.64 4.26 4.79	3.46 4.48 5.23	0.04 0.07 0.11
BXA-185063/8CF w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	3.64 4.26 4.79	3.46 4.48 5.23	0.04 0.07 0.11
(2) FD9R6004/2C-3L	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.54	0.08 0.14 0.20	0.00 0.01 0.01
(2) FD9R6004/2C-3L	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.54	0.08 0.14 0.20	0.00 0.01 0.01
(2) FD9R6004/2C-3L	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.54	0.08 0.14 0.20	0.00 0.01 0.01
HBX-6517DS-VTM w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	5.30 5.77 6.25	4.73 5.68 6.50	0.04 0.08 0.13
HBX-6517DS-VTM w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	5.30 5.77 6.25	4.73 5.68 6.50	0.04 0.08 0.13

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
HBX-6517DS-VTM w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	5.30 5.77 6.25	4.73 5.68 6.50	0.04 0.08 0.13
LNX-6514DS-VTM w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	8.41 8.96 9.52	6.83 7.79 8.62	0.06 0.13 0.20
LNX-6514DS-VTM w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	8.41 8.96 9.52	6.83 7.79 8.62	0.06 0.13 0.20
LNX-6514DS-VTM w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	8.41 8.96 9.52	6.83 7.79 8.62	0.06 0.13 0.20
RRH2x40-AWS	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	2.52 2.75 2.99	1.59 1.80 2.01	0.04 0.06 0.08
RRH2x40-AWS	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	2.52 2.75 2.99	1.59 1.80 2.01	0.04 0.06 0.08
RRH2x40-AWS	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	2.52 2.75 2.99	1.59 1.80 2.01	0.04 0.06 0.08
DB-T1-6Z-8AB-0Z	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.50	No Ice 1/2" Ice 1" Ice	5.60 5.92 6.24	2.33 2.56 2.79	0.05 0.09 0.13
MTS 14.5' LP Platform	C	None		0.0000	122.50	No Ice 1/2" Ice 1" Ice	17.46 22.44 27.42	17.46 22.44 27.42	1.35 1.62 1.90
3' Yagi	A	From Leg	1.50 0.00 -7.83	0.0000	89.08	No Ice 1/2" Ice 1" Ice	0.52 0.71 0.90	0.52 0.71 0.90	0.02 0.02 0.03
3' Yagi	A	From Leg	1.50 0.00 -9.75	0.0000	89.08	No Ice 1/2" Ice 1" Ice	0.52 0.71 0.90	0.52 0.71 0.90	0.02 0.02 0.03
3' Yagi	A	From Leg	1.50 0.00 -1.92	0.0000	83.17	No Ice 1/2" Ice 1" Ice	0.52 0.71 0.90	0.52 0.71 0.90	0.02 0.02 0.03
Andrew Collar Mount	C	None		0.0000	83.17	No Ice 1/2" Ice 1" Ice	2.14 2.35 2.57	2.14 2.35 2.57	0.19 0.25 0.30
Andrew Collar Mount	C	None		0.0000	89.08	No Ice 1/2" Ice 1" Ice	2.14 2.35 2.57	2.14 2.35 2.57	0.19 0.25 0.30
14' Dipole	C	From Leg	1.00 0.00 0.00	0.0000	89.08	No Ice 1/2" Ice 1" Ice	2.80 4.22 5.67	2.80 4.22 5.67	0.03 0.05 0.08
GPS-TMG-HR-26N	B	From Leg	1.00 0.00 0.00	0.0000	83.17	No Ice 1/2" Ice 1" Ice	0.16 0.21 0.28	0.16 0.21 0.28	0.00 0.00 0.01
3' Yagi	A	From Leg	1.50 0.00 -1.92	0.0000	83.17	No Ice 1/2" Ice 1" Ice	0.52 0.71 0.90	0.52 0.71 0.90	0.02 0.02 0.03

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
160.00	20' Omni (3" Diam)	47	19.949	1.2478	0.0029	17590
152.00	AIR21 B2A/B4P w/ mount pipe	47	17.872	1.2222	0.0020	11085
141.08	APXV18-206517S-C w/ Mount Pipe	47	15.153	1.1606	0.0010	7444
128.00	(2) 800 10121 w/ Mount Pipe	47	12.152	1.0444	0.0004	6505
122.50	BXA-70063-6CF w/ Mount Pipe	47	10.981	0.9862	0.0004	6177
89.08	3' Yagi	47	5.235	0.6150	0.0004	5455
83.17	3' Yagi	47	4.478	0.5572	0.0003	5644

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	160 - 146.5	Pole	TP20.91x16.75x0.1875	1	-4.57	865.69	21.3	Pass
L2	146.5 - 95.75	Pole	TP36.16x19.6876x0.25	2	-17.68	1841.20	79.2	Pass
L3	95.75 - 46.75	Pole	TP50.76x34.2745x0.3125	3	-30.48	3077.94	79.4	Pass
L4	46.75 - 0	Pole	TP64.53x48.1321x0.375	4	-50.13	4662.89	69.8	Pass
						Summary	ELC:	Proposed
						Pole (L3)	79.4	Pass
						Rating =	79.4	Pass

ADDITIONAL CALCULATIONS

Anchor Rod and Base Plate Stresses, TIA-222-G-1

CT33762-M/Cheshire, CT

33762.05

Overturning Moment =	4234.00	k*ft
Axial Force =	50.00	k
Shear Force =	37.00	k

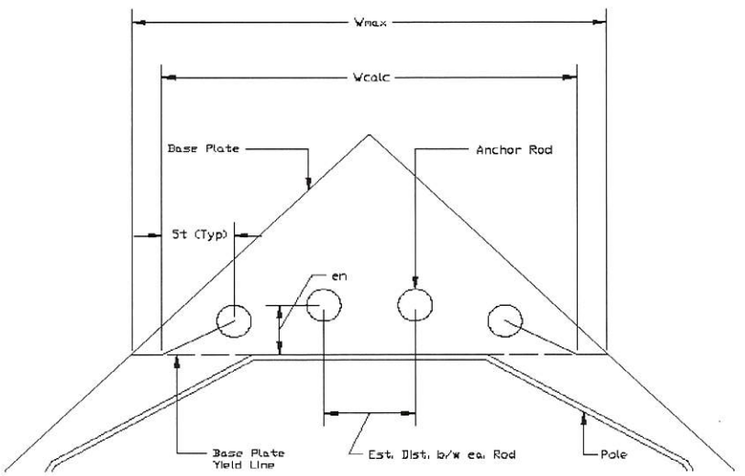
Acceptable Stress Ratio =	100.0%

Anchor Rods		
Pole Diameter =	64.53	in
Number of Rods =	16	
ϕ =	0.8	
Rod Ultimate Strength (F_u) =	100	ksi
Base Plate Detail Type* =	d	
Rod Circle =	71.651	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in^2
Max Tension on Rod =	174.06	kips
Max Compression on Rod =	180.31	kips
P_u =	180.31	kips
V_u =	2.31	kips
η =	0.50	
φR_{nt} =	260.00	kips
Anchor Rod Capacity =	**71.1%**	**OK**

Base Plate		
Plate Strength (Fy) =	60	ksi
ϕ =	0.9	
Plate Thickness =	3	in
Plate Width =	73	in
Est. Dist. b/w ea. Rod =	6	in
w_{calc} =	47.83	in
w_{max} =	38.71	in
w =	38.71	in
Z =	87.09	in^3
M_u =	2084.75	k-in
φM_n =	4702.97	k-in
Base Plate Capacity =	**44.3%**	**OK**

(Section 4.9.9, TIA-222-G-1)

***This analysis assumes the clear distance from the top of the concrete to the bottom of the leveling nut is less than the diameter of the anchor rod. Notify GPD Group immediately if existing field conditions do not meet this assumption.**



GPD GROUP

Mat Foundation Analysis
CT33762-M/Cheshire, CT
33762.05

General Info	
Code	TIA-222-G
Bearing On	Soil
Foundation Type	Mono Pad
Pier Type	Round
Reinforcing Known	Yes
Max Capacity	1

Tower Reactions		
Moment, M	4234	k-ft
Axial, P	50	k
Shear, V	37	k

Pad & Pier Geometry		
Pier Diameter, ø	8	ft
Pad Length, L	27	ft
Pad Width, W	27	ft
Pad Thickness, t	5	ft
Depth, D	13.25	ft
Height Above Grade, HG	0	ft

Pad & Pier Reinforcing		
Rebar Fy	60	ksi
Concrete Fc'	4	ksi
Clear Cover	3	in
Reinforced Top & Bottom?	Yes	
Pad Reinforcing Size	# 8	
Pad Quantity Per Layer	42	
Pier Rebar Size	# 9	
Pier Quantity of Rebar	38	

Soil Properties		
Soil Type	Granular	
Soil Unit Weight	100	pcf
Angle of Friction, ø	35	°
Bearing Type	Gross	
Ultimate Bearing	8	ksf
Water Table Depth	0	ft
Frost Depth	3.33333	ft

Bearing Summary			Load Case
Qxmax	1.54	ksf	1.2D+1.6W
Qymax	1.54	ksf	1.2D+1.6W
Qmax @ 45°	1.59	ksf	1.2D+1.6W
$Q_{(all)\ Gross}$	6.00	ksf	
Controlling Capacity	**26.5%**	**Pass**	

Overturning Summary (Required FS=1.0)			Load Case
FS(ot)x	2.18	≥1.0	0.9D+1.6W
FS(ot)y	2.18	≥1.0	0.9D+1.6W
Controlling Capacity	**45.8%**	**Pass**