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January 12, 2017

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT1086
171 Town Hill Road, Plymouth, CT 06786
N 41-40-06.21
W 73-01-11.63

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 115-foot level of the existing 170-foot Monopole at 171 Town Hill Road, Plymouth, CT. The tower is owned by Crown Castle. The property is owned by Terryville Lions Club. AT&T now intends to replace three (3) of its existing Ericsson remote radio units (RRUS-11) with three (3) Ericsson RRUS-12 units.

This facility was approved by the Planning and Zoning Commission of the Town of Plymouth with Zoning Permit # 00-201 on June 22, 2000. This approval included no condition(s) that could feasibly be violated by this modification, including total facility height or mounting restrictions. This modification therefore complies with the aforementioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that 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 David V. Merchant, Mayor of the Town of Plymouth, as well as the property owner and the tower owner.

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

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

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

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

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

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

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

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

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,

Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Honorable David V. Merchant - as elected official
Crown Castle - as tower owner (via e-mail)
Terryville Lions Club - as property owner (via e-mail)

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							7.47%
AT&T LTE	2	1791	115	0.1084	2300	1.0000	1.08%
AT&T LTE	1	1313	115	0.0397	734	0.4893	0.81%
AT&T LTE	2	875	115	0.0530	1900	1.0000	0.53%
AT&T GSM	1	283	115	0.0086	880	0.5867	0.15%
AT&T UMTS	2	565	115	0.0342	880	0.5867	0.58%
AT&T UMTS	4	525	115	0.0636	1900	1.0000	0.64%
Site Total							11.26%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

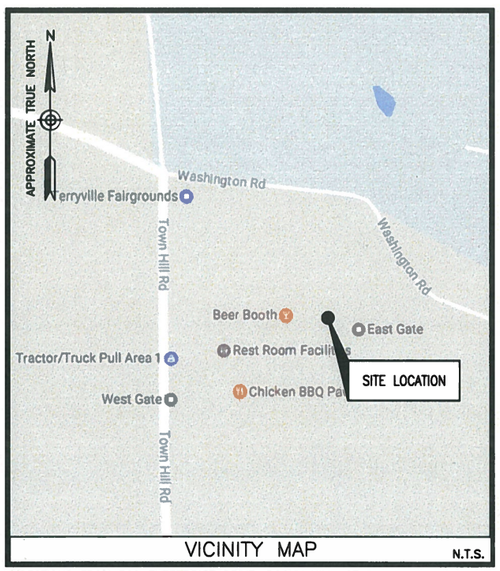
Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							7.47%
AT&T LTE	1	1285	115	0.0389	2300	1.0000	0.39%
AT&T LTE	1	1476	115	0.0447	725	0.4833	0.92%
AT&T LTE	2	3664	115	0.2218	1900	1.0000	2.22%
AT&T GSM	1	300	115	0.0091	850	0.5667	0.16%
AT&T UMTS	2	300	115	0.0182	850	0.5667	0.32%
AT&T UMTS	1	578	115	0.0175	1900	1.0000	0.17%
Site Total							11.66%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

SITE NAME: PLYMOUTH TOWN HILL ROAD
AT&T SITE NUMBER: CT1086
CROWN CASTLE BU #: 826768
171 TOWN HILL ROAD
TERRYVILLE, CT 06786



VICINITY MAP N.T.S.

DIRECTIONS FROM 500 ENTERPRISE DRIVE, ROCKY HILL, CT:

HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD. TURN LEFT ONTO CAPITAL BLVD. USE THE LEFT 2 LANES TO TURN LEFT ONTO STATE HWY 411. TURN LEFT TO MERGE ONTO I-91 S. MERGE ONTO I-91 S. TAKE EXIT 22N TO MERGE ONTO CT-9 N TOWARD NEW BRITAIN. USE THE LEFT 2 LANES TO TAKE EXIT 28 FOR CT-72 TOWARD BRISTOL. CONTINUE ONTO CT-72 W. MERGE ONTO CT-72 W/I-84. TAKE EXIT 33 FOR CT-72 W TOWARD BRISTOL. CONTINUE ONTO CT-72 W. TURN RIGHT ONTO CT-72. SLIGHT RIGHT ONTO RIVERSIDE AVE. TURN LEFT ONTO MAIN ST. TURN RIGHT ONTO SCHOOL ST. CONTINUE ONTO DIVINITY ST. TURN RIGHT ONTO PARK ST. CONTINUE ONTO TERRYVILLE RD. TURN LEFT ONTO CANAL ST. CONTINUE ONTO ALLEN ST. TURN LEFT ONTO BEACH AVE. CONTINUE ONTO S MAIN ST. TURN LEFT ONTO S EAGLE ST. TURN LEFT TO STAY ON S EAGLE ST. TURN RIGHT ONTO WASHINGTON RD. SITE WILL BE ON THE LEFT.

SITE COORDINATES:
LATITUDE: 41°-40'-06.23" N (NAD83)
LONGITUDE: 73°-01'-11.69" W (NAD83)
(PER GOOGLE EARTH)

ELEVATION DATA:
GRADE ELEVATION AT TOWER = 894'± A.M.S.L.
(PER GOOGLE EARTH)

SITE INFORMATION

- SWAP EXISTING AWS RRUS-11 WITH 1900 RRUS-12 (TYP.-1 PER SECTOR) (3 TOTAL)

PROJECT DESCRIPTION

SITE NAME:
PLYMOUTH TOWN HILL ROAD

AT&T SITE NUMBER:
CT1086

CROWN CASTLE BU #:
826768

SITE ADDRESS:
171 TOWN HILL ROAD
TERRYVILLE, CT 06786
LITCHFIELD COUNTY

TOWER OWNER:
CROWN CASTLE
12 GILL STREET, SUITE 5800
WOBURN, MA 01801

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

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	COMPOUND PLAN
C-2	EXISTING & PROPOSED SHELTER LAYOUTS
C-3	ANTENNA LAYOUTS & ELEVATIONS
C-4	CONSTRUCTION DETAILS
E-1	GROUNDING NOTES & DETAILS

SHEET INDEX

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

SAI
27 NORTHWESTERN DRIVE
SALEM, NH 03079

CT1086
PLYMOUTH TOWN
HILL ROAD
CROWN BU #: 826768

CONSTRUCTION DRAWINGS

0	01/11/17	ISSUED FOR CONSTRUCTION
A	01/04/17	ISSUED FOR REVIEW

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
No. 23222
LICENSED
PROFESSIONAL ENGINEER

CONNECTICUT LICENSE NO. 23222

DRAWN BY:	BJR
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50055106
JOB NUMBER:	50065680
SITE ADDRESS:	

171 TOWN HILL ROAD
TERRYVILLE, CT 06786
LITCHFIELD COUNTY

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   PROJECT MANAGEMENT – SAI COMMUNICATIONS, INC.
   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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CROWN BU #: 826768

CONSTRUCTION DRAWINGS		
0	01/11/17	ISSUED FOR CONSTRUCTION
A	01/04/17	ISSUED FOR REVIEW

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STATE OF CONNECTICUT
JIANG YU
No. 23222
REGISTERED PROFESSIONAL ENGINEER
CONNECTICUT LICENSE NO. 0023222
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DRAWN BY:	BJR
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50055106
JOB NUMBER:	50065680
SITE ADDRESS:	

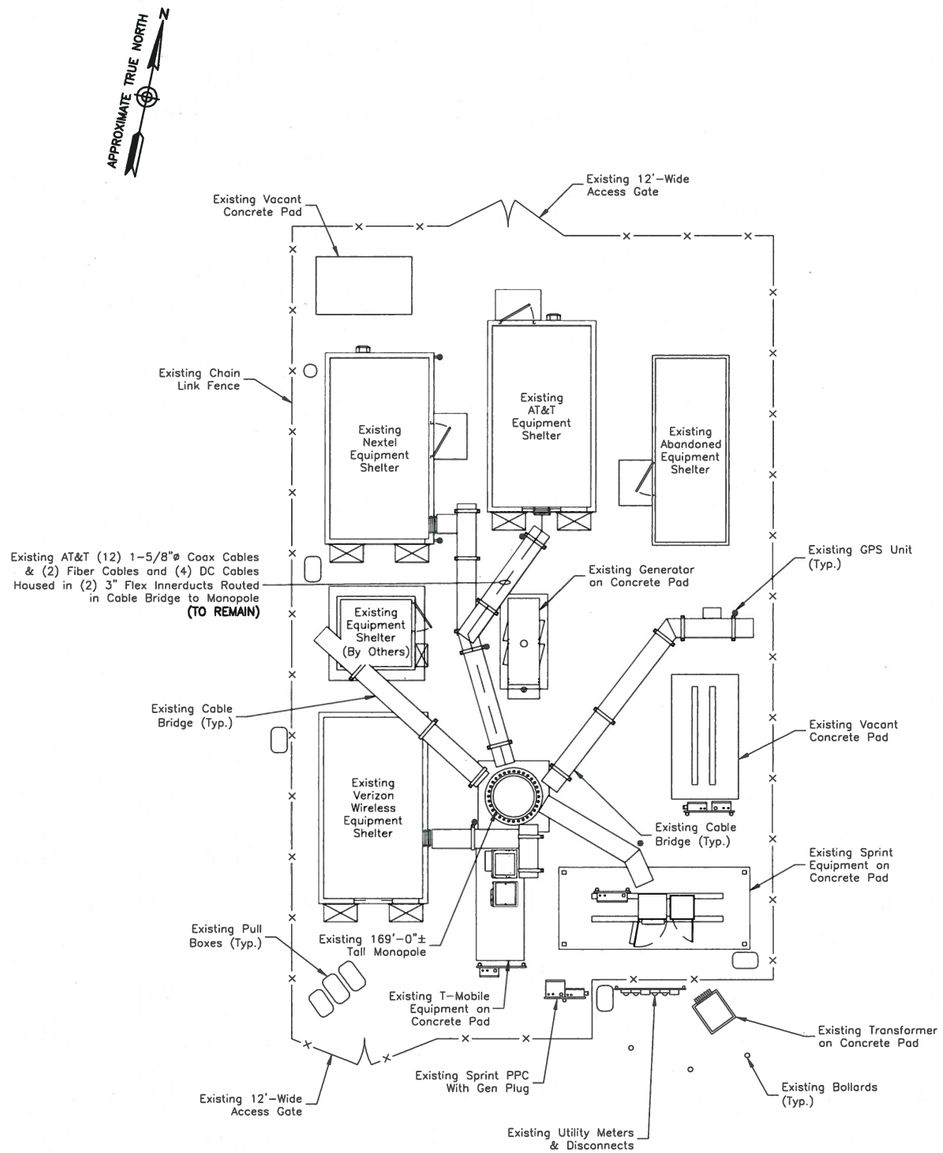
171 TOWN HILL ROAD
TERRYVILLE, CT 06786
LITCHFIELD COUNTY

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

G–1



COMPOUND PLAN 1
SCALE: 1/16"=1' FOR 11"x17"
1/8"=1' FOR 22"x34"

0' 4' 8' 16'

3
C-3

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.

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JIANG YU
No. 23222
LICENSED PROFESSIONAL ENGINEER
JIANG YU, P.E.
CONNECTICUT LICENSE NO. 0023222

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JOB NUMBER:	50065680
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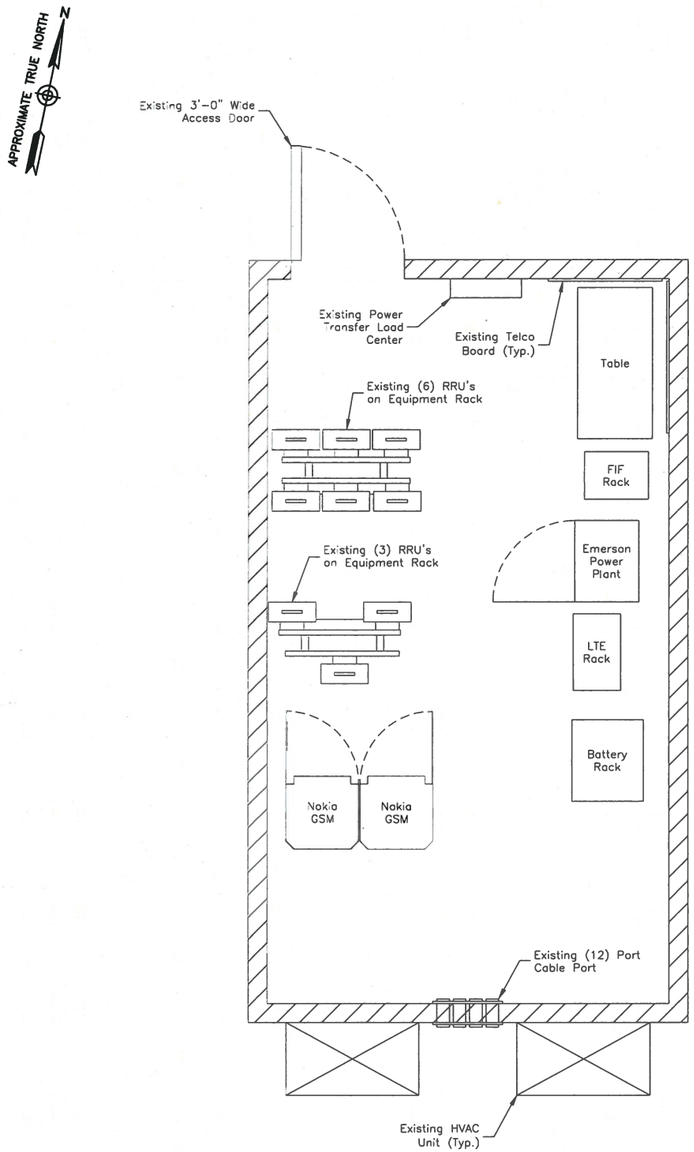
LITCHFIELD COUNTY

SHEET TITLE

COMPOUND PLAN

SHEET NUMBER

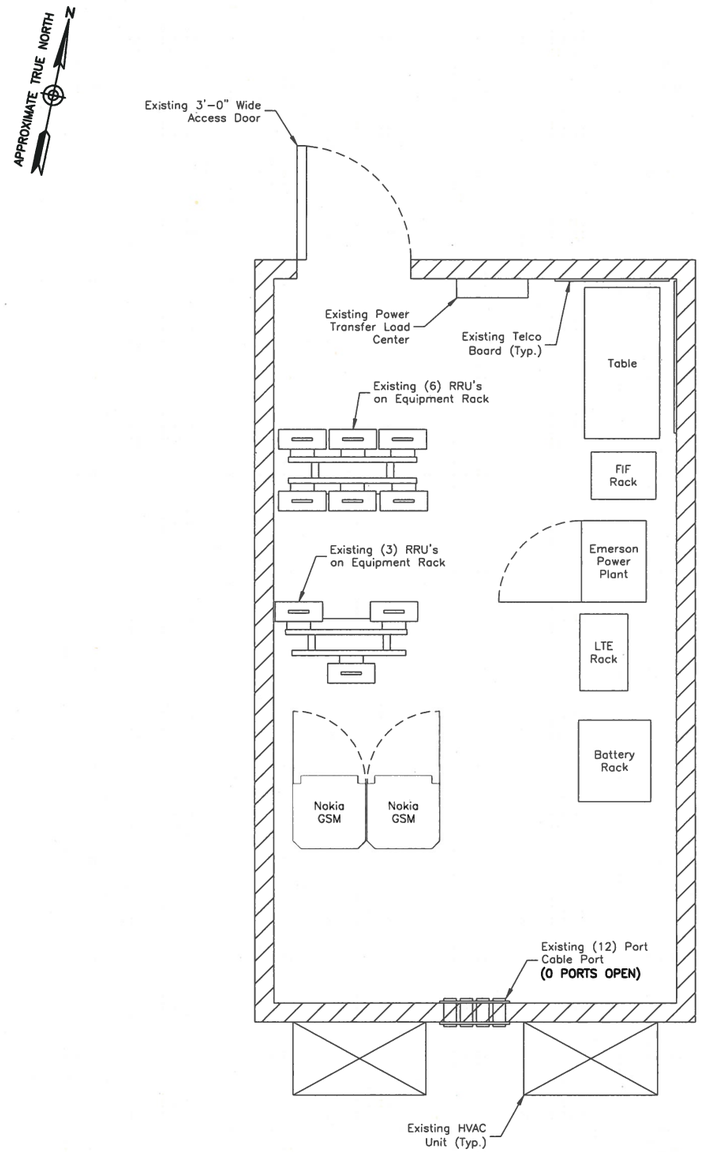
C-1



EXISTING SHELTER LAYOUT (1)

SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"

0' 1' 2' 4'



PROPOSED SHELTER LAYOUT (2)

SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"

0' 1' 2' 4'

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JIANG YU
No. 23222
LICENSED PROFESSIONAL ENGINEER
JIANG YU, PE
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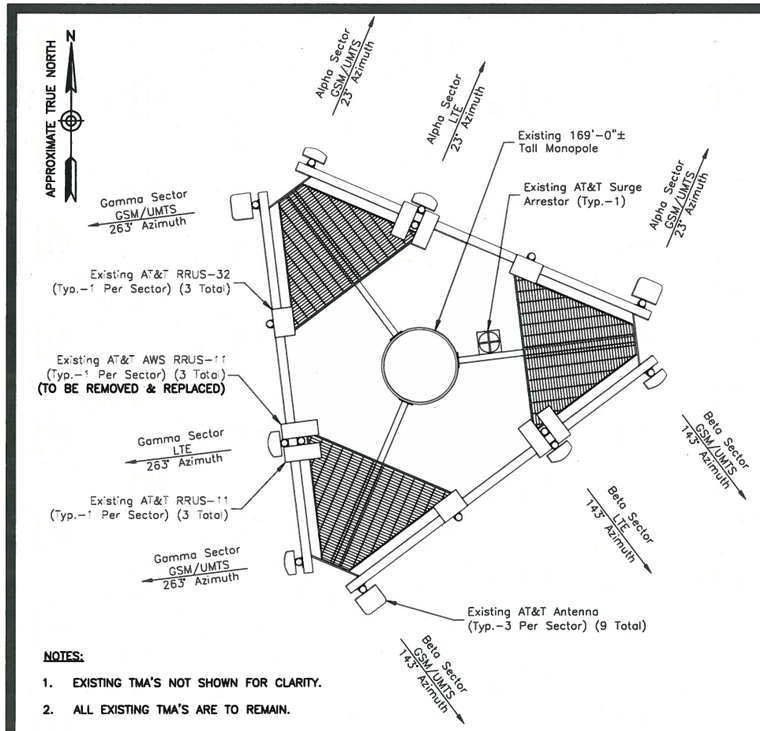
SHEET TITLE

EXISTING & PROPOSED SHELTER LAYOUTS

SHEET NUMBER

C-2

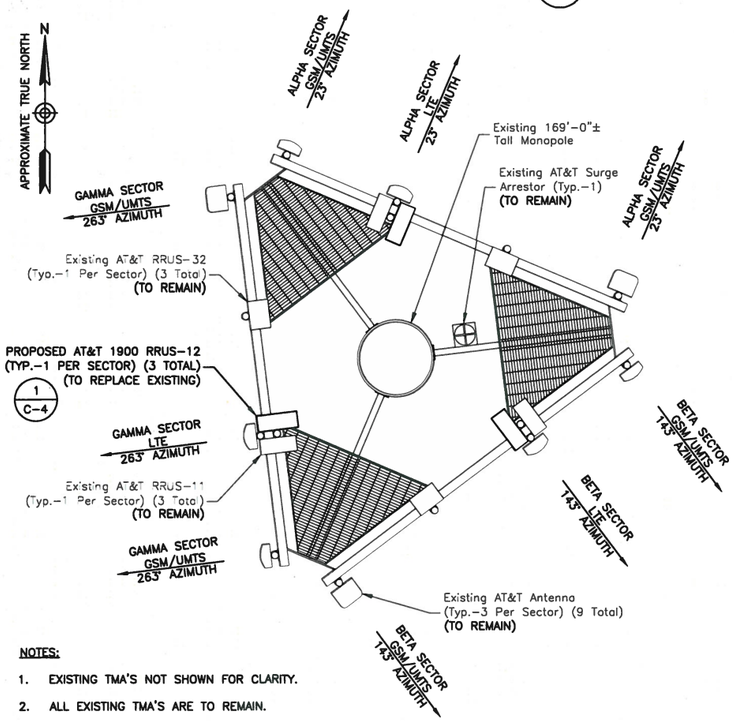


NOTES:

1. EXISTING TMA'S NOT SHOWN FOR CLARITY.
2. ALL EXISTING TMA'S ARE TO REMAIN.

EXISTING ANTENNA LAYOUT (1)

SCALE: N.T.S.

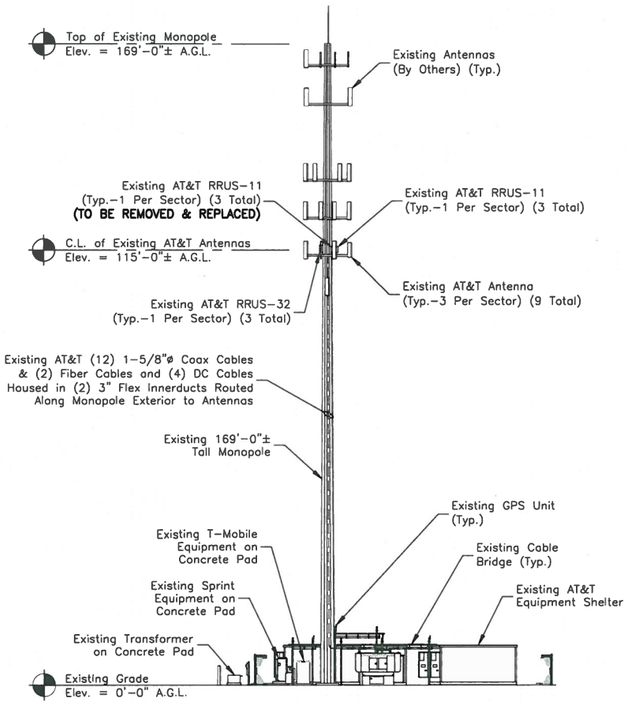


NOTES:

1. EXISTING TMA'S NOT SHOWN FOR CLARITY.
2. ALL EXISTING TMA'S ARE TO REMAIN.

PROPOSED ANTENNA LAYOUT (2)

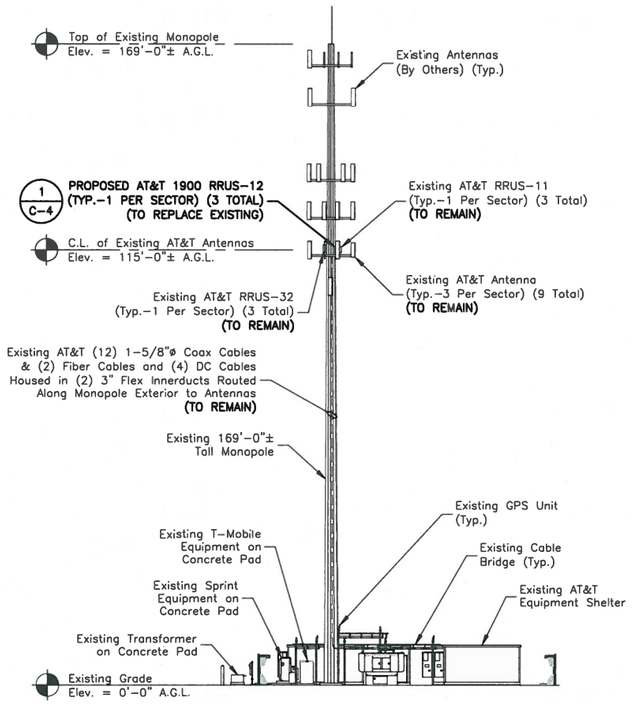
SCALE: N.T.S.



EXISTING EAST ELEVATION (3)

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

0' 20' 40'



PROPOSED EAST ELEVATION (4)

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

0' 20' 40'

NOTES:

1. PRIOR TO START OF ANY WORK, A PASSING STRUCTURAL ANALYSIS SHALL BE PROVIDED BY A CONNECTICUT LICENSED P.E. CONTRACTOR TO OBTAIN A 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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LITCHFIELD COUNTY

SHEET TITLE

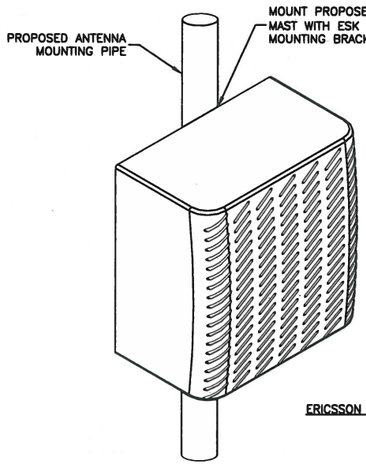
ANTENNA LAYOUTS & ELEVATIONS

SHEET NUMBER

C-3

EXISTING/PROPOSED RRUS SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	ERICSSON	RRUS-11	19.7x17.0x7.2
	ERICSSON	RRUS-12	18.2x18.5x7.3
	ERICSSON	RRUS-32	27.2x12.1x7.0
BETA:	ERICSSON	RRUS-11	19.7x17.0x7.2
	ERICSSON	RRUS-12	18.2x18.5x7.3
	ERICSSON	RRUS-32	27.2x12.1x7.0
GAMMA:	ERICSSON	RRUS-11	19.7x17.0x7.2
	ERICSSON	RRUS-12	18.2x18.5x7.3
	ERICSSON	RRUS-32	27.2x12.1x7.0



ERICSSON RRUS-12

SPECIFICATIONS:

HEIGHT:	18.2"
WIDTH:	18.5"
DEPTH:	7.3"
WEIGHT:	55.0 LBS

RRU NOTES:

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

RRUS-12 - REMOTE RADIO UNIT

SCALE: N.T.S.

1

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JIANG YU
No. 23222
LICENSED
PROFESSIONAL ENGINEER

JIANG YU
CONNECTICUT LICENSE NO. 0023222

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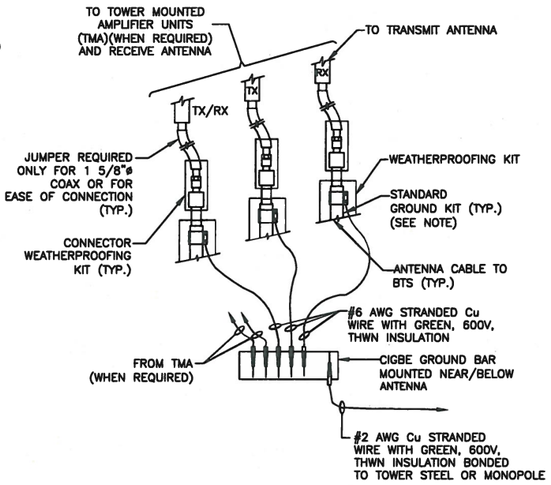
CONSTRUCTION DETAILS

SHEET NUMBER

C-4

GROUNDING NOTES:

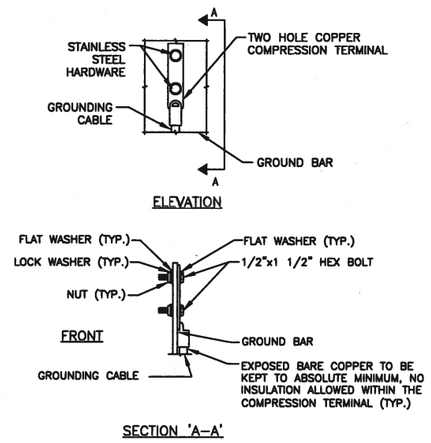
1. THE CONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ). THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE CONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE ENGINEER FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS. ALL AVAILABLE GROUNDING ELECTRODES SHALL BE CONNECTED TOGETHER IN ACCORDANCE WITH THE NEC.
3. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. USE OF OTHER METHODS MUST BE PRE-APPROVED BY THE ENGINEER IN WRITING.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS ON TOWER SITES AND 10 OHMS OR LESS ON ROOFTOP SITES. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
6. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
7. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO TRANSMISSION EQUIPMENT.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
11. EACH INTERIOR TRANSMISSION CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH 6 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRE UNLESS NOTED OTHERWISE IN THE DETAILS. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER WIRE UNLESS NOTED OTHERWISE IN THE DETAILS.
12. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE 2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
13. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM SAI MARKET REPRESENTATIVE.
14. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
15. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
16. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP TRANSMISSION EQUIPMENT AND STRUCTURAL STEEL.
17. COAX BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO-HOLE MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
18. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
19. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
20. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
21. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER GROUND CONDUCTOR. DURING EXCAVATION FOR NEW GROUND CONDUCTORS, IF EXISTING GROUND CONDUCTORS ARE ENCOUNTERED, BOND EXISTING GROUND CONDUCTORS TO NEW CONDUCTORS.
22. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE) 1

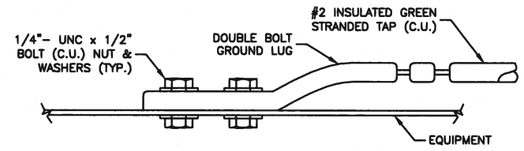


NOTES:

1. DOUBLING UP OR STACKING OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

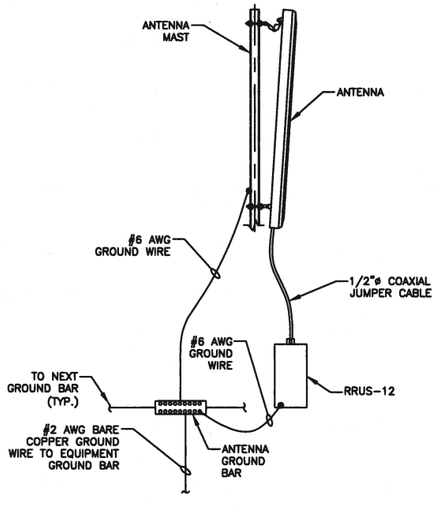
TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL 2

SCALE: N.T.S.



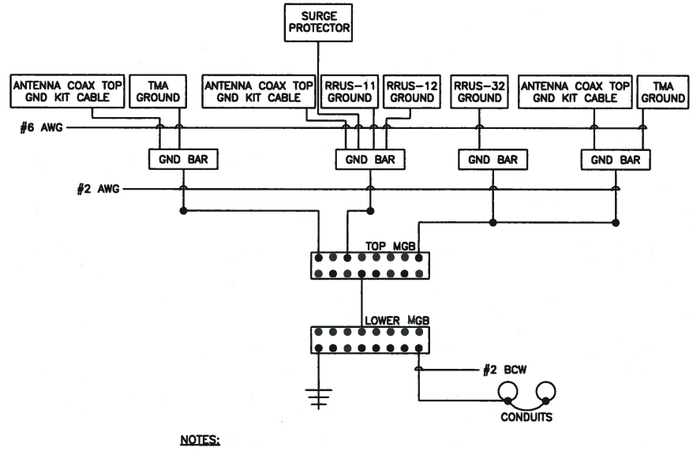
CONNECTION TO EQUIPMENT DETAIL 3

SCALE: N.T.S.



TYPICAL ANTENNA GROUNDING DETAIL 4

SCALE: N.T.S



NOTES:

1. BOND ANTENNA GROUNDING KIT CABLE TO TOP CIGBE
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIGBE.
3. SCHEMATIC GROUNDING DIAGRAM IS TYPICAL FOR EACH SECTOR.
4. GROUND ALL EQUIPMENT PER MANUFACTURER RECOMMENDATIONS.

SCHEMATIC GROUNDING DIAGRAM 5

SCALE: N.T.S.

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CROWN BU #: 826768

CONSTRUCTION DRAWINGS		
0	01/11/17	ISSUED FOR CONSTRUCTION
A	01/04/17	ISSUED FOR REVIEW

Dewberry®
Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
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STATE OF CONNECTICUT
JIANG YU
No. 23222
LICENSED PROFESSIONAL ENGINEER

JIANG YU
CONNECTICUT LICENSE NO. 0023222

DRAWN BY:	BJR
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50055106
JOB NUMBER:	50065680
SITE ADDRESS:	

171 TOWN HILL ROAD
TERRYVILLE, CT 06786
LITCHFIELD COUNTY

SHEET TITLE

GROUNDING NOTES & DETAILS

SHEET NUMBER

E-1

PJF PAUL J. FORD & COMPANY

Date: **December 28, 2016**

Kevin Morrow
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277
704.405.6619

Paul J. Ford and Company
250 E Broad St, Suite 600
Columbus, OH 43215
(614) 221-6679
mherbert@pjfweb.com

Subject: Structural Analysis Report

Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CT1086
	Carrier Site Name:	Plymouth
Crown Castle Designation:	**Crown Castle BU Number:**	826768
	Crown Castle Site Name:	PLYMOUTH/RT 6
	Crown Castle JDE Job Number:	412884
	Crown Castle Work Order Number:	1339320
	Crown Castle Application Number:	371929 Rev. 0
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37516-3909.001.7805
Site Data:	**171 Town Hill Road, Plymouth, Litchfield County, CT** **Latitude *41° 40' 6.197"*, Longitude *-73° 1' 11.842"*** **169 Foot - Monopole Tower**	

Dear Kevin Morrow,

Paul J. Ford and Company is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 983119, in accordance with application 371929, revision 0.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind speed of 93 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category C and Topographic Category 1 with a maximum Topographic Factor were used in this analysis.

We at *Paul J. Ford and Company* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

Michelle Herbert
Structural Designer JWM/LGR

STATE OF CONNECTICUT JUSTIN T. KLINE No. 30301 LICENSED PROFESSIONAL ENGINEER 12.28.16

tnxTower Report - version 7.0.5.1

Date: **December 28, 2016**

Kevin Morrow
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Respectfully submitted by:

Michelle Herbert
Structural Designer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 169 ft Monopole tower designed by PIROD MANUFACTURES INC. in September of 2000. The tower was originally designed for a wind speed of 80 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind speed of 93 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G-2005 Standard, “Structural Standard for Antenna Supporting Structures and Antennas”, with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category C and Topographic Category 1 with a maximum Topographic Factor were used in this analysis.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
115.0	115.0	3	ericsson	RRUS 12 B2	--	--	--

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
164.0	186.0	1	rfi antennas	COL45-70	--	--	1
	168.0	2	rfi antennas	COL45-70	--	--	1
	166.0	3	commscope	ATBT-BOTTOM-24V	--	--	1
		3	commscope	LNX-6515DS-VTM w/ Mount Pipe			
	164.0	3	ems wireless	RR90-17-02DP w/ Mount Pipe	11 12	7/8 1-5/8	1
		3	rfs celwave	ATMAA1412D-1A20			
		1	tower mounts	Platform Mount [LP 403-1]			
155.0	155.0	3	alcatel lucent	1900MHz RRH	4	1-1/4	1
		3	alcatel lucent	800MHZ RRH			
		3	alcatel lucent	TD-RRH8x20-25			
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe			
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe			
		1	tower mounts	Platform Mount [LP 405-1]			
144.0	144.0	3	alcatel lucent	RRH2X60-AWS	2	1-5/8	2
		3	alcatel lucent	RRH2X60-PCS			
		3	alcatel lucent	RRH2x60-700			
		6	commscope	SBNHH-1D65B w/ Mount Pipe			
		1	rfs celwave	DB-T1-6Z-8AB-0Z			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
144.0	144.0	6	antel	LPA-80080/6CF w/ Mount Pipe	12	1-5/8	1
		1	tower mounts	Platform Mount [LP 403-1]			
121.0	125.0	1	rfs celwave	201-4	2	1/2	1
	121.0	1	tower mounts	Pipe Mount [PM 601-1]			
115.0	115.0	3	cci antennas	DTMABP7819VG12A	2 4 12	3/8 5/8 1-5/8	1
		6	cci antennas	TPX-070821			
		3	ericsson	RRUS 11			
		3	ericsson	WCS RRUS-32-B30			
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	powerwave technologies	7770.00 w/ Mount Pipe			
		3	quintel technology	QS66512-3 w/ Mount Pipe			
		2	raycap	DC6-48-60-18-8F			
		1	tower mounts	Platform Mount [LP 303-1]			
105.0	105.0	3	rfs celwave	APXV18-206517S-C w/ Mount Pipe	1	1-5/8	1
		1	tower mounts	Pipe Mount [PM 601-3]			
74.0	83.0	1	decibel	DB810T3E-XT	1	7/8	1
	74.0	1	tower mounts	Side Arm Mount [SO 306-1]			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Equipment To Be Removed

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Clarence Welti Assoc., N/A, 8/14/2000	3491991	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Pirod, A-117464, 9/1/2000	3678682	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Pirod, A-117464, 9/1/2000	3491992	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

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 Tables 1 and 2 and the referenced drawings.
4) In accordance with discussions with CCI Corporate Engineering: Based on the assumption that the monopole manufacturer (ROHN/PiRod) has designed the flange plates at splices to adequately develop the full capacity of the unreinforced shaft section using unpublished and/or proprietary methodologies, we are assuming that if our analysis shows that both the existing shaft and the existing flange bolts are at a usage capacity of 100% or less, then the existing flange plates are at a usage capacity of 100% or less and no additional analysis of the flange plate is required.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	169 - 164.25	Pole	TP26x18x0.25	1	-0.24	1506.86	0.1	Pass
L2	164.25 - 129.125	Pole	TP34.0625x21.5x0.3125	2	-12.63	2369.54	20.3	Pass
L3	129.125 - 95.455	Pole	TP41.75x32.1545x0.375	3	-23.94	3489.98	34.5	Pass
L4	95.455 - 62.625	Pole	TP49.0625x39.805x0.375	4	-33.78	3910.90	49.5	Pass
L5	62.625 - 30.625	Pole	TP56.125x46.9547x0.375	5	-44.95	4259.41	60.7	Pass
L6	30.625 - 0	Pole	TP62.9375x53.8466x0.375	6	-59.81	4606.06	71.1	Pass
							Summary	
						Pole (L6)	71.1	Pass
						RATING =	**71.1**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	70.1	Pass
1,2	Base Plate	0	71.1	Pass
1	Base Foundation Structural Steel	0	63.2	Pass
1	Base Foundation Soil Interaction	0	11.0	Pass

Structure Rating (max from all components) =	**71.1%**

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) See Assumption #4

4.1) Recommendations

The monopole and its foundation have sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

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

1) Tower is located in Litchfield County, Connecticut.
2) ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
3) Basic wind speed of 93 mph.
4) Structure Class II.
5) Exposure Category C.
6) Topographic Category 1.
7) Crest Height 0.00 ft.
8) Nominal ice thickness of 1.0000 in.
9) Ice thickness is considered to increase with height.
10) Ice density of 56 pcf.
11) A wind speed of 40 mph is used in combination with ice.
12) Temperature drop of 50 °F.
13) Deflections calculated using a wind speed of 60 mph.
14) A non-linear (P-delta) analysis was used.
15) Pressures are calculated at each section.
16) Stress ratio used in pole design is 1.
17) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	
L1	169.00-164.25	4.75	2.38	18	18.0000	26.0000	0.2500	1.0000	A572-65 (65 ksi)
L2	164.25-129.13	37.50	3.83	18	21.5000	34.0625	0.3125	1.2500	A572-65 (65 ksi)
L3	129.13-95.46	37.50	4.67	18	32.1544	41.7500	0.3750	1.5000	A572-65 (65 ksi)
L4	95.46-62.63	37.50	5.50	18	39.8050	49.0625	0.3750	1.5000	A572-65 (65 ksi)
L5	62.63-30.63	37.50	6.25	18	46.9547	56.1250	0.3750	1.5000	A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L6	30.63-0.00	36.88		18	53.8466	62.9375	0.3750	1.5000	(65 ksi) A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	18.2777	14.0846	560.6340	6.3012	9.1440	61.3117	1122.0058	7.0437	2.7280	10.912
	26.4011	20.4326	1711.6544	9.1412	13.2080	129.5922	3425.5610	10.2183	4.1360	16.544
L2	22.6396	21.0154	1191.8828	7.5216	10.9220	109.1268	2385.3338	10.5097	3.2340	10.349
	34.5880	33.4758	4817.4335	11.9812	17.3038	278.4040	9641.2058	16.7411	5.4450	17.424
L3	33.6456	37.8255	4826.3051	11.2817	16.3345	295.4677	9658.9607	18.9163	4.9992	13.331
	42.3941	49.2466	10650.9822	14.6881	21.2090	502.1916	21315.9793	24.6280	6.6880	17.835
L4	41.5897	46.9316	9218.4328	13.9977	20.2210	455.8851	18448.9955	23.4703	6.3457	16.922
	49.8194	57.9503	17355.1378	17.2841	24.9238	696.3293	34733.1119	28.9807	7.9750	21.267
L5	49.0448	55.4415	15197.3115	16.5358	23.8530	637.1235	30414.6200	27.7260	7.6040	20.277
	56.9908	66.3564	26056.1506	19.7913	28.5115	913.8821	52146.5865	33.1845	9.2180	24.581
L6	56.2419	63.6446	22990.3583	18.9824	27.3541	840.4726	46010.9678	31.8283	8.8170	23.512
	63.9084	74.4650	36822.8946	22.2097	31.9722	1151.7142	73694.2417	37.2396	10.4170	27.779

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 169.00-164.25				1	1	1			
L2 164.25-129.13				1	1	1			
L3 129.13-95.46				1	1	1			
L4 95.46-62.63				1	1	1			
L5 62.63-30.63				1	1	1			
L6 30.63-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***								
AVA7-50(1-5/8)	C	No	Inside Pole	164.00 - 0.00	6	No Ice	0.00	0.70
						1/2" Ice	0.00	0.70
						1" Ice	0.00	0.70
LDF7-50A(1-5/8)	C	No	Inside Pole	164.00 - 0.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
810921-701(7/8)	C	No	Inside Pole	164.00 - 0.00	11	No Ice	0.00	0.34
						1/2" Ice	0.00	0.34
						1" Ice	0.00	0.34

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***								
HB114-1-08U4-M6F(1-1/4)	C	No	Inside Pole	155.00 - 0.00	3	No Ice	0.00	1.30
						1/2" Ice	0.00	1.30
						1" Ice	0.00	1.30
HB114-21U3M12-XXXF(1-1/4)	C	No	Inside Pole	155.00 - 0.00	1	No Ice	0.00	1.22
						1/2" Ice	0.00	1.22
						1" Ice	0.00	1.22
***								
LDF7-50A(1-5/8)	C	No	Inside Pole	144.00 - 0.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
HB158-1-08U8-S8J18(1-5/8)	C	No	Inside Pole	144.00 - 0.00	2	No Ice	0.00	1.30
						1/2" Ice	0.00	1.30
						1" Ice	0.00	1.30
***								
LDF4-50A(1/2)	C	No	CaAa (Out Of Face)	121.00 - 0.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.84
						1" Ice	0.00	2.14
LDF4-50A(1/2)	C	No	CaAa (Out Of Face)	115.00 - 0.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.84
						1" Ice	0.00	2.14
LDF4-50A(1/2)	C	No	CaAa (Out Of Face)	121.00 - 115.00	1	No Ice	0.06	0.15
						1/2" Ice	0.16	0.84
						1" Ice	0.26	2.14
***								
LDF7-50A(1-5/8)	C	No	CaAa (Out Of Face)	115.00 - 0.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	2.33
						1" Ice	0.00	4.46
FB-L98B-034-XXX(3/8)	C	No	CaAa (Out Of Face)	115.00 - 0.00	2	No Ice	0.00	0.06
						1/2" Ice	0.00	0.60
						1" Ice	0.00	1.76
WR-VG82ST-BRDA(5/8)	C	No	CaAa (Out Of Face)	115.00 - 0.00	4	No Ice	0.00	0.31
						1/2" Ice	0.00	1.01
						1" Ice	0.00	2.32
2" (Nominal) Conduit	C	No	CaAa (Out Of Face)	115.00 - 0.00	2	No Ice	0.24	0.72
						1/2" Ice	0.34	2.48
						1" Ice	0.44	4.84
***								
LDF7-50A(1-5/8)	C	No	CaAa (Out Of Face)	105.00 - 0.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	2.33
						1" Ice	0.00	4.46
***								
LDF5-50A(7/8)	C	No	CaAa (Out Of Face)	74.00 - 0.00	1	No Ice	0.00	0.33
						1/2" Ice	0.00	1.26
						1" Ice	0.00	2.81

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	169.00-164.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	164.25-129.13	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.77
L3	129.13-95.46	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	9.659	1.33
L4	95.46-62.63	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	15.595	1.59
L5	62.63-30.63	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	15.200	1.55

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L6	30.63-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	14.547	1.49

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	169.00-164.25	A	2.351	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L2	164.25-129.13	A	2.320	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.77
L3	129.13-95.46	A	2.260	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	30.581	7.11
L4	95.46-62.63	A	2.182	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	45.266	12.02
L5	62.63-30.63	A	2.070	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	43.125	11.25
L6	30.63-0.00	A	1.852	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	39.903	9.85

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	169.00-164.25	0.0000	0.0000	0.0000	0.0000
L2	164.25-129.13	0.0000	0.0000	0.0000	0.0000
L3	129.13-95.46	-0.3516	0.2030	-0.8572	0.4949
L4	95.46-62.63	-0.5403	0.3119	-1.2074	0.6971
L5	62.63-30.63	-0.5487	0.3168	-1.2427	0.7175
L6	30.63-0.00	-0.5550	0.3204	-1.2541	0.7240

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

Discrete Tower Loads

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

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
***									
LNX-6515DS-VTM w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
LNX-6515DS-VTM w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
LNX-6515DS-VTM w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
(2) COL45-70	A	From Leg	4.00 0.00 4.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	1.38 2.32 3.27	1.38 2.32 3.27	0.01 0.02 0.03
COL45-70	C	From Leg	4.00 0.00 22.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	1.38 2.32 3.27	1.38 2.32 3.27	0.01 0.02 0.03
RR90-17-02DP w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	4.59 5.02 5.44	3.32 4.09 4.78	0.03 0.07 0.12
RR90-17-02DP w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	4.59 5.02 5.44	3.32 4.09 4.78	0.03 0.07 0.12
RR90-17-02DP w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	4.59 5.02 5.44	3.32 4.09 4.78	0.03 0.07 0.12
ATBT-BOTTOM-24V	A	From Leg	4.00 0.00 2.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	0.10 0.15 0.20	0.06 0.10 0.15	0.00 0.00 0.01
ATBT-BOTTOM-24V	B	From Leg	4.00 0.00 2.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	0.10 0.15 0.20	0.06 0.10 0.15	0.00 0.00 0.01
ATBT-BOTTOM-24V	C	From Leg	4.00 0.00 2.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	0.10 0.15 0.20	0.06 0.10 0.15	0.00 0.00 0.01
ATMAA1412D-1A20	A	From Leg	4.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	1.00 1.13 1.26	0.41 0.50 0.59	0.01 0.02 0.03
ATMAA1412D-1A20	B	From Leg	4.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	1.00 1.13 1.26	0.41 0.50 0.59	0.01 0.02 0.03
ATMAA1412D-1A20	C	From Leg	4.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice	1.00 1.13 1.26	0.41 0.50 0.59	0.01 0.02 0.03
Platform Mount [LP 403-1]	C	None		0.0000	164.00	No Ice 1/2" Ice 1" Ice	18.85 24.30 29.75	18.85 24.30 29.75	1.50 1.80 2.09
***									
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice	6.58 7.03 7.47	4.96 5.75 6.47	0.08 0.13 0.19

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
							1" Ice			
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	155.00	No Ice	6.58	4.96	0.08
			0.00				1/2" Ice	7.03	5.75	0.13
			0.00				1" Ice	7.47	6.47	0.19
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	155.00	No Ice	6.58	4.96	0.08
			0.00				1/2" Ice	7.03	5.75	0.13
			0.00				1" Ice	7.47	6.47	0.19
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	155.00	No Ice	8.26	6.95	0.08
			0.00				1/2" Ice	8.82	8.13	0.15
			0.00				1" Ice	9.35	9.02	0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	155.00	No Ice	8.26	6.95	0.08
			0.00				1/2" Ice	8.82	8.13	0.15
			0.00				1" Ice	9.35	9.02	0.23
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	155.00	No Ice	8.26	6.95	0.08
			0.00				1/2" Ice	8.82	8.13	0.15
			0.00				1" Ice	9.35	9.02	0.23
TD-RRH8x20-25	A	From Leg	4.00	0.00	0.0000	155.00	No Ice	4.05	1.53	0.07
			0.00				1/2" Ice	4.30	1.71	0.10
			0.00				1" Ice	4.56	1.90	0.13
TD-RRH8x20-25	B	From Leg	4.00	0.00	0.0000	155.00	No Ice	4.05	1.53	0.07
			0.00				1/2" Ice	4.30	1.71	0.10
			0.00				1" Ice	4.56	1.90	0.13
TD-RRH8x20-25	C	From Leg	4.00	0.00	0.0000	155.00	No Ice	4.05	1.53	0.07
			0.00				1/2" Ice	4.30	1.71	0.10
			0.00				1" Ice	4.56	1.90	0.13
800MHZ RRH	A	From Leg	4.00	0.00	0.0000	155.00	No Ice	2.13	1.77	0.05
			0.00				1/2" Ice	2.32	1.95	0.07
			0.00				1" Ice	2.51	2.13	0.10
800MHZ RRH	B	From Leg	4.00	0.00	0.0000	155.00	No Ice	2.13	1.77	0.05
			0.00				1/2" Ice	2.32	1.95	0.07
			0.00				1" Ice	2.51	2.13	0.10
800MHZ RRH	C	From Leg	4.00	0.00	0.0000	155.00	No Ice	2.13	1.77	0.05
			0.00				1/2" Ice	2.32	1.95	0.07
			0.00				1" Ice	2.51	2.13	0.10
1900MHz RRH	A	From Leg	4.00	0.00	0.0000	155.00	No Ice	2.49	3.26	0.04
			0.00				1/2" Ice	2.70	3.48	0.08
			0.00				1" Ice	2.91	3.72	0.11
1900MHz RRH	B	From Leg	4.00	0.00	0.0000	155.00	No Ice	2.49	3.26	0.04
			0.00				1/2" Ice	2.70	3.48	0.08
			0.00				1" Ice	2.91	3.72	0.11
1900MHz RRH	C	From Leg	4.00	0.00	0.0000	155.00	No Ice	2.49	3.26	0.04
			0.00				1/2" Ice	2.70	3.48	0.08
			0.00				1" Ice	2.91	3.72	0.11
Platform Mount [LP 405-1]	C	None			0.0000	155.00	No Ice	20.80	20.80	1.80
							1/2" Ice	28.10	28.10	2.07
							1" Ice	35.40	35.40	2.33
***										
(2) LPA-80080/6CF w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	144.00	No Ice	4.56	10.26	0.05
			0.00				1/2" Ice	5.11	11.43	0.11
			0.00				1" Ice	5.61	12.31	0.19

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
							1" Ice			
(2) LPA-80080/6CF w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	144.00	No Ice	4.56	10.26	0.05
							1/2" Ice	5.11	11.43	0.11
							1" Ice	5.61	12.31	0.19
(2) LPA-80080/6CF w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	144.00	No Ice	4.56	10.26	0.05
							1/2" Ice	5.11	11.43	0.11
							1" Ice	5.61	12.31	0.19
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	144.00	No Ice	8.40	7.07	0.07
							1/2" Ice	8.96	8.26	0.14
							1" Ice	9.49	9.18	0.21
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	144.00	No Ice	8.40	7.07	0.07
							1/2" Ice	8.96	8.26	0.14
							1" Ice	9.49	9.18	0.21
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	144.00	No Ice	8.40	7.07	0.07
							1/2" Ice	8.96	8.26	0.14
							1" Ice	9.49	9.18	0.21
RRH2X60-PCS	A	From Leg	4.00	0.00	0.0000	144.00	No Ice	2.20	1.72	0.06
							1/2" Ice	2.39	1.90	0.08
							1" Ice	2.59	2.09	0.10
RRH2X60-PCS	B	From Leg	4.00	0.00	0.0000	144.00	No Ice	2.20	1.72	0.06
							1/2" Ice	2.39	1.90	0.08
							1" Ice	2.59	2.09	0.10
RRH2X60-PCS	C	From Leg	4.00	0.00	0.0000	144.00	No Ice	2.20	1.72	0.06
							1/2" Ice	2.39	1.90	0.08
							1" Ice	2.59	2.09	0.10
RRH2x60-700	A	From Leg	4.00	0.00	0.0000	144.00	No Ice	3.50	1.82	0.06
							1/2" Ice	3.76	2.05	0.08
							1" Ice	4.03	2.29	0.11
RRH2x60-700	B	From Leg	4.00	0.00	0.0000	144.00	No Ice	3.50	1.82	0.06
							1/2" Ice	3.76	2.05	0.08
							1" Ice	4.03	2.29	0.11
RRH2x60-700	C	From Leg	4.00	0.00	0.0000	144.00	No Ice	3.50	1.82	0.06
							1/2" Ice	3.76	2.05	0.08
							1" Ice	4.03	2.29	0.11
RRH2X60-AWS	A	From Leg	4.00	0.00	0.0000	144.00	No Ice	1.88	1.24	0.04
							1/2" Ice	2.06	1.39	0.06
							1" Ice	2.24	1.54	0.08
RRH2X60-AWS	B	From Leg	4.00	0.00	0.0000	144.00	No Ice	1.88	1.24	0.04
							1/2" Ice	2.06	1.39	0.06
							1" Ice	2.24	1.54	0.08
RRH2X60-AWS	C	From Leg	4.00	0.00	0.0000	144.00	No Ice	1.88	1.24	0.04
							1/2" Ice	2.06	1.39	0.06
							1" Ice	2.24	1.54	0.08
DB-T1-6Z-8AB-0Z	C	From Leg	4.00	0.00	0.0000	144.00	No Ice	4.80	2.00	0.04
							1/2" Ice	5.07	2.19	0.08
							1" Ice	5.35	2.39	0.12
Platform Mount [LP 403-1]	C	None			0.0000	144.00	No Ice	18.85	18.85	1.50
							1/2" Ice	24.30	24.30	1.80
							1" Ice	29.75	29.75	2.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
***									
201-4	A	From Leg	1.00 0.00 4.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	1.13 2.00 2.90	1.13 2.00 2.90	0.00 0.01 0.03
Pipe Mount [PM 601-1]	C	None		0.0000	121.00	No Ice 1/2" Ice 1" Ice	3.00 3.74 4.48	0.90 1.12 1.34	0.07 0.08 0.09
***									
7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	5.82 6.27 6.70	4.68 5.51 6.21	0.09 0.14 0.21
7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	5.82 6.27 6.70	4.68 5.51 6.21	0.09 0.14 0.21
7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	5.82 6.27 6.70	4.68 5.51 6.21	0.09 0.14 0.21
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	6.30 7.48 8.37	0.07 0.14 0.21
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	6.30 7.48 8.37	0.07 0.14 0.21
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	6.30 7.48 8.37	0.07 0.14 0.21
QS66512-3 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	8.37 8.93 9.46	8.46 9.66 10.55	0.13 0.21 0.29
QS66512-3 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	8.37 8.93 9.46	8.46 9.66 10.55	0.13 0.21 0.29
QS66512-3 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	8.37 8.93 9.46	8.46 9.66 10.55	0.13 0.21 0.29
DTMABP7819VG12A	A	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	0.98 1.10 1.23	0.34 0.42 0.51	0.02 0.03 0.04
DTMABP7819VG12A	B	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	0.98 1.10 1.23	0.34 0.42 0.51	0.02 0.03 0.04
DTMABP7819VG12A	C	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	0.98 1.10 1.23	0.34 0.42 0.51	0.02 0.03 0.04
DC6-48-60-18-8F	A	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
DC6-48-60-18-8F	B	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1/2" Ice Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06

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
						1" Ice			
RRUS 11	A	From Leg	4.00	0.0000	115.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			0.00			Ice	3.21	1.50	0.10
						1" Ice			
RRUS 11	B	From Leg	4.00	0.0000	115.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			0.00			Ice	3.21	1.50	0.10
						1" Ice			
RRUS 11	C	From Leg	4.00	0.0000	115.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			0.00			Ice	3.21	1.50	0.10
						1" Ice			
WCS RRUS-32-B30	A	From Leg	4.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice			
WCS RRUS-32-B30	B	From Leg	4.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice			
WCS RRUS-32-B30	C	From Leg	4.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice			
(2) TPX-070821	A	From Leg	4.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
						1" Ice			
(2) TPX-070821	B	From Leg	4.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
						1" Ice			
(2) TPX-070821	C	From Leg	4.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
						1" Ice			
RRUS 12 B2	A	From Leg	4.00	0.0000	115.00	No Ice	3.14	1.28	0.05
			0.00			1/2"	3.36	1.43	0.07
			0.00			Ice	3.59	1.60	0.10
						1" Ice			
RRUS 12 B2	B	From Leg	4.00	0.0000	115.00	No Ice	3.14	1.28	0.05
			0.00			1/2"	3.36	1.43	0.07
			0.00			Ice	3.59	1.60	0.10
						1" Ice			
RRUS 12 B2	C	From Leg	4.00	0.0000	115.00	No Ice	3.14	1.28	0.05
			0.00			1/2"	3.36	1.43	0.07
			0.00			Ice	3.59	1.60	0.10
						1" Ice			
Platform Mount [LP 303-1]	C	None		0.0000	115.00	No Ice	14.66	14.66	1.25
						1/2"	18.87	18.87	1.48
						Ice	23.08	23.08	1.71
						1" Ice			
***									
APXV18-206517S-C w/ Mount Pipe	A	From Leg	1.00	0.0000	105.00	No Ice	5.40	4.70	0.05
			0.00			1/2"	5.96	5.86	0.10
			0.00			Ice	6.48	6.73	0.15
						1" Ice			
APXV18-206517S-C w/ Mount Pipe	B	From Leg	1.00	0.0000	105.00	No Ice	5.40	4.70	0.05
			0.00			1/2"	5.96	5.86	0.10
			0.00			Ice	6.48	6.73	0.15
						1" Ice			
APXV18-206517S-C w/ Mount Pipe	C	From Leg	1.00	0.0000	105.00	No Ice	5.40	4.70	0.05
			0.00			1/2"	5.96	5.86	0.10
			0.00			Ice	6.48	6.73	0.15

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
Pipe Mount [PM 601-3]	C	None			0.0000	105.00	1" Ice No Ice 1/2" Ice 1" Ice	4.39 5.48 6.57	4.39 5.48 6.57	0.20 0.24 0.28
***										
DB810T3E-XT	A	From Leg	4.00 0.00 9.00		0.0000	74.00	No Ice 1/2" Ice 1" Ice	4.53 6.07 7.63	4.53 6.07 7.63	0.05 0.08 0.12
Side Arm Mount [SO 306-1]	C	None			0.0000	74.00	No Ice 1/2" Ice 1" Ice	0.98 1.70 2.42	2.18 3.80 5.42	0.04 0.06 0.08

Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 169.00-164.25	166.48	1.409	29.64	8.843	A	0.000	8.843	8.843	100.00	0.000	0.000
					B	0.000	8.843		100.00	0.000	0.000
					C	0.000	8.843		100.00	0.000	0.000
L2 164.25-129.13	145.57	1.37	28.80	83.755	A	0.000	83.755	83.755	100.00	0.000	0.000
					B	0.000	83.755		100.00	0.000	0.000
					C	0.000	83.755		100.00	0.000	0.000
L3 129.13-95.46	111.78	1.296	27.23	106.677	A	0.000	106.677	106.677	100.00	0.000	0.000
					B	0.000	106.677		100.00	0.000	0.000
					C	0.000	106.677		100.00	0.000	9.659
L4 95.46-62.63	78.73	1.203	25.28	125.040	A	0.000	125.040	125.040	100.00	0.000	0.000
					B	0.000	125.040		100.00	0.000	0.000
					C	0.000	125.040		100.00	0.000	15.595
L5 62.63-30.63	46.52	1.077	22.57	141.381	A	0.000	141.381	141.381	100.00	0.000	0.000
					B	0.000	141.381		100.00	0.000	0.000
					C	0.000	141.381		100.00	0.000	15.200
L6 30.63-0.00	15.32	0.853	18.67	153.317	A	0.000	153.317	153.317	100.00	0.000	0.000
					B	0.000	153.317		100.00	0.000	0.000
					C	0.000	153.317		100.00	0.000	14.547

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 169.00-164.25	166.48	1.409	5.48	2.3513	10.704	A	0.000	10.704	10.704	100.00	0.000	0.000
						B	0.000	10.704		100.00	0.000	0.000
						C	0.000	10.704		100.00	0.000	0.000
L2 164.25-129.13	145.57	1.37	5.33	2.3200	97.520	A	0.000	97.520	97.520	100.00	0.000	0.000
						B	0.000	97.520		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	0.000	97.520		100.00	0.000	0.000
L3 129.13-95.46	111.78	1.296	5.04	2.2595	119.696	A	0.000	119.696	119.696	100.00	0.000	0.000
						B	0.000	119.696		100.00	0.000	0.000
						C	0.000	119.696		100.00	0.000	30.581
L4 95.46-62.63	78.73	1.203	4.68	2.1817	137.403	A	0.000	137.403	137.403	100.00	0.000	0.000
						B	0.000	137.403		100.00	0.000	0.000
						C	0.000	137.403		100.00	0.000	45.266
L5 62.63-30.63	46.52	1.077	4.18	2.0699	153.016	A	0.000	153.016	153.016	100.00	0.000	0.000
						B	0.000	153.016		100.00	0.000	0.000
						C	0.000	153.016		100.00	0.000	43.125
L6 30.63-0.00	15.32	0.853	3.45	1.8523	163.882	A	0.000	163.882	163.882	100.00	0.000	0.000
						B	0.000	163.882		100.00	0.000	0.000
						C	0.000	163.882		100.00	0.000	39.903

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 169.00-164.25	166.48	1.409	11.04	8.843	A	0.000	8.843	8.843	100.00	0.000	0.000
					B	0.000	8.843		100.00	0.000	0.000
					C	0.000	8.843		100.00	0.000	0.000
L2 164.25-129.13	145.57	1.37	10.73	83.755	A	0.000	83.755	83.755	100.00	0.000	0.000
					B	0.000	83.755		100.00	0.000	0.000
					C	0.000	83.755		100.00	0.000	0.000
L3 129.13-95.46	111.78	1.296	10.14	106.677	A	0.000	106.677	106.677	100.00	0.000	0.000
					B	0.000	106.677		100.00	0.000	0.000
					C	0.000	106.677		100.00	0.000	9.659
L4 95.46-62.63	78.73	1.203	9.41	125.040	A	0.000	125.040	125.040	100.00	0.000	0.000
					B	0.000	125.040		100.00	0.000	0.000
					C	0.000	125.040		100.00	0.000	15.595
L5 62.63-30.63	46.52	1.077	8.41	141.381	A	0.000	141.381	141.381	100.00	0.000	0.000
					B	0.000	141.381		100.00	0.000	0.000
					C	0.000	141.381		100.00	0.000	15.200
L6 30.63-0.00	15.32	0.853	6.95	153.317	A	0.000	153.317	153.317	100.00	0.000	0.000
					B	0.000	153.317		100.00	0.000	0.000
					C	0.000	153.317		100.00	0.000	14.547

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice

Comb. No.	Description
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	169 - 164.25	Pole	Max Tension	20	0.00	-0.00	-0.00
			Max. Compression	26	-0.51	0.00	-0.00
			Max. Mx	20	-0.24	0.40	0.00
			Max. My	2	-0.24	-0.00	0.40
			Max. Vy	20	-0.22	0.40	0.00
			Max. Vx	2	-0.22	-0.00	0.40
			Max. Torque	32			0.00
L2	164.25 - 129.125	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.66	-0.24	-0.08
			Max. Mx	8	-12.63	-311.22	-1.36
			Max. My	14	-12.64	-1.26	-310.58
			Max. Vy	20	-16.06	311.11	1.16
			Max. Vx	2	-16.00	1.27	310.46
			Max. Torque	24			-1.24
L3	129.125 - 95.455	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.61	7.92	-4.50
			Max. Mx	20	-23.94	972.66	1.29
			Max. My	14	-23.95	-1.21	-970.03
			Max. Vy	20	-25.21	972.66	1.29
			Max. Vx	2	-25.15	1.93	969.62
			Max. Torque	24			-0.82
L4	95.455 - 62.625	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.58	25.82	-13.13
			Max. Mx	20	-33.78	1849.07	1.32

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-33.78	-0.47	-1843.73
			Max. Vy	20	-29.58	1849.07	1.32
			Max. Vx	2	-29.52	3.27	1842.92
			Max. Torque	17			-0.79
L5	62.625 - 30.625	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-110.92	46.03	-24.75
			Max. Mx	20	-44.95	2835.91	0.88
			Max. My	14	-44.95	0.51	-2828.17
			Max. Vy	20	-33.39	2835.91	0.88
			Max. Vx	2	-33.33	4.82	2826.02
			Max. Torque	15			-1.72
L6	30.625 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-141.40	69.83	-38.47
			Max. Mx	20	-59.81	4140.74	0.22
			Max. My	14	-59.81	1.88	-4130.15
			Max. Vy	20	-37.10	4140.74	0.22
			Max. Vx	2	-37.05	6.83	4126.18
			Max. Torque	13			-2.99

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	141.40	-0.00	0.00
	Max. H_x	21	44.87	37.07	0.01
	Max. H_z	2	59.83	0.01	37.02
	Max. M_x	2	4126.18	0.01	37.02
	Max. M_z	8	4132.04	-37.07	-0.01
	Max. Torsion	25	2.99	18.55	32.07
	Min. Vert	21	44.87	37.07	0.01
	Min. H_x	9	44.87	-37.07	-0.01
	Min. H_z	15	44.87	-0.01	-37.02
	Min. M_x	14	-4130.15	-0.01	-37.02
	Min. M_z	20	-4140.74	37.07	0.01
	Min. Torsion	13	-2.99	-18.55	-32.07

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	49.86	-0.00	0.00	1.82	3.52	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	59.83	-0.01	-37.02	-4126.18	6.83	-2.96
0.9 Dead+1.6 Wind 0 deg - No Ice	44.87	-0.01	-37.02	-4086.34	5.68	-2.96
1.2 Dead+1.6 Wind 30 deg - No Ice	59.83	18.53	-32.06	-3572.13	-2062.14	-2.14
0.9 Dead+1.6 Wind 30 deg - No Ice	44.87	18.53	-32.06	-3537.94	-2043.16	-2.14
1.2 Dead+1.6 Wind 60 deg - No Ice	59.83	32.11	-18.50	-2059.99	-3577.39	-0.75
0.9 Dead+1.6 Wind 60 deg - No Ice	44.87	32.11	-18.50	-2040.51	-3543.66	-0.75
1.2 Dead+1.6 Wind 90 deg - No Ice	59.83	37.07	0.01	4.73	-4132.04	0.84
0.9 Dead+1.6 Wind 90 deg - No Ice	44.87	37.07	0.01	4.11	-4093.18	0.85
1.2 Dead+1.6 Wind 120 deg	59.83	32.11	18.52	2068.77	-3579.85	2.21

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.6 Wind 120 deg - No Ice	44.87	32.11	18.52	2048.08	-3546.08	2.21
1.2 Dead+1.6 Wind 150 deg - No Ice	59.83	18.55	32.07	3579.09	-2066.42	2.99
0.9 Dead+1.6 Wind 150 deg - No Ice	44.87	18.55	32.07	3543.72	-2047.37	2.99
1.2 Dead+1.6 Wind 180 deg - No Ice	59.83	0.01	37.02	4130.15	1.88	2.96
0.9 Dead+1.6 Wind 180 deg - No Ice	44.87	0.01	37.02	4089.69	0.80	2.96
1.2 Dead+1.6 Wind 210 deg - No Ice	59.83	-18.53	32.06	3576.63	2070.84	2.14
0.9 Dead+1.6 Wind 210 deg - No Ice	44.87	-18.53	32.06	3541.29	2049.63	2.14
1.2 Dead+1.6 Wind 240 deg - No Ice	59.83	-32.11	18.50	2064.49	3586.09	0.75
0.9 Dead+1.6 Wind 240 deg - No Ice	44.87	-32.11	18.50	2043.86	3550.13	0.75
1.2 Dead+1.6 Wind 270 deg - No Ice	59.83	-37.07	-0.01	-0.22	4140.74	-0.85
0.9 Dead+1.6 Wind 270 deg - No Ice	44.87	-37.07	-0.01	-0.76	4099.65	-0.85
1.2 Dead+1.6 Wind 300 deg - No Ice	59.83	-32.11	-18.52	-2064.27	3588.56	-2.21
0.9 Dead+1.6 Wind 300 deg - No Ice	44.87	-32.11	-18.52	-2044.73	3552.56	-2.22
1.2 Dead+1.6 Wind 330 deg - No Ice	59.83	-18.55	-32.07	-3574.59	2075.13	-2.99
0.9 Dead+1.6 Wind 330 deg - No Ice	44.87	-18.55	-32.07	-3540.37	2053.85	-2.99
1.2 Dead+1.0 Ice+1.0 Temp	141.40	0.00	-0.00	38.47	69.83	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	141.40	0.01	-8.92	-1010.92	68.57	-1.11
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	141.40	4.47	-7.73	-871.03	-456.73	-0.90
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	141.40	7.73	-4.47	-487.41	-840.88	-0.46
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	141.40	8.93	-0.01	37.14	-980.97	0.11
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	141.40	7.73	4.45	562.06	-839.46	0.65
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	141.40	4.46	7.72	946.72	-454.26	1.02
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	141.40	-0.01	8.92	1088.03	71.41	1.11
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	141.40	-4.47	7.73	948.23	596.76	0.90
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	141.40	-7.73	4.47	564.58	980.95	0.46
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	141.40	-8.93	0.01	39.98	1120.94	-0.11
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	141.40	-7.73	-4.45	-484.95	979.43	-0.65
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	141.40	-4.46	-7.72	-869.60	594.23	-1.01
Dead+Wind 0 deg - Service	49.86	-0.00	-8.62	-953.46	4.19	0.23
Dead+Wind 30 deg - Service	49.86	4.31	-7.46	-825.19	-474.54	0.03
Dead+Wind 60 deg - Service	49.86	7.47	-4.31	-475.30	-825.14	-0.17
Dead+Wind 90 deg - Service	49.86	8.63	0.00	2.44	-953.68	-0.33
Dead+Wind 120 deg - Service	49.86	7.47	4.31	480.03	-825.72	-0.40
Dead+Wind 150 deg - Service	49.86	4.32	7.46	829.49	-475.53	-0.36
Dead+Wind 180 deg - Service	49.86	0.00	8.62	957.20	3.04	-0.23
Dead+Wind 210 deg - Service	49.86	-4.31	7.46	828.92	481.77	-0.03
Dead+Wind 240 deg -	49.86	-7.47	4.31	479.04	832.37	0.17

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Service						
Dead+Wind 270 deg - Service	49.86	-8.63	-0.00	1.30	960.91	0.33
Dead+Wind 300 deg - Service	49.86	-7.47	-4.31	-476.29	832.94	0.40
Dead+Wind 330 deg - Service	49.86	-4.32	-7.46	-825.76	482.76	0.36

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-49.86	0.00	0.00	49.86	-0.00	0.000%
2	-0.01	-59.83	-37.02	0.01	59.83	37.02	0.004%
3	-0.01	-44.87	-37.02	0.01	44.87	37.02	0.007%
4	18.53	-59.83	-32.06	-18.53	59.83	32.06	0.000%
5	18.53	-44.87	-32.06	-18.53	44.87	32.06	0.000%
6	32.11	-59.83	-18.50	-32.11	59.83	18.50	0.000%
7	32.11	-44.87	-18.50	-32.11	44.87	18.50	0.000%
8	37.08	-59.83	0.01	-37.07	59.83	-0.01	0.009%
9	37.08	-44.87	0.01	-37.07	44.87	-0.01	0.007%
10	32.11	-59.83	18.52	-32.11	59.83	-18.52	0.000%
11	32.11	-44.87	18.52	-32.11	44.87	-18.52	0.000%
12	18.55	-59.83	32.07	-18.55	59.83	-32.07	0.000%
13	18.55	-44.87	32.07	-18.55	44.87	-32.07	0.000%
14	0.01	-59.83	37.02	-0.01	59.83	-37.02	0.009%
15	0.01	-44.87	37.02	-0.01	44.87	-37.02	0.007%
16	-18.53	-59.83	32.06	18.53	59.83	-32.06	0.000%
17	-18.53	-44.87	32.06	18.53	44.87	-32.06	0.000%
18	-32.11	-59.83	18.50	32.11	59.83	-18.50	0.000%
19	-32.11	-44.87	18.50	32.11	44.87	-18.50	0.000%
20	-37.08	-59.83	-0.01	37.07	59.83	0.01	0.009%
21	-37.08	-44.87	-0.01	37.07	44.87	0.01	0.007%
22	-32.11	-59.83	-18.52	32.11	59.83	18.52	0.000%
23	-32.11	-44.87	-18.52	32.11	44.87	18.52	0.000%
24	-18.55	-59.83	-32.07	18.55	59.83	32.07	0.000%
25	-18.55	-44.87	-32.07	18.55	44.87	32.07	0.000%
26	0.00	-141.40	0.00	-0.00	141.40	0.00	0.000%
27	0.01	-141.40	-8.92	-0.01	141.40	8.92	0.001%
28	4.47	-141.40	-7.73	-4.47	141.40	7.73	0.001%
29	7.73	-141.40	-4.47	-7.73	141.40	4.47	0.001%
30	8.93	-141.40	-0.01	-8.93	141.40	0.01	0.001%
31	7.73	-141.40	4.45	-7.73	141.40	-4.45	0.001%
32	4.46	-141.40	7.72	-4.46	141.40	-7.72	0.001%
33	-0.01	-141.40	8.92	0.01	141.40	-8.92	0.001%
34	-4.47	-141.40	7.73	4.47	141.40	-7.73	0.000%
35	-7.73	-141.40	4.47	7.73	141.40	-4.47	0.000%
36	-8.93	-141.40	0.01	8.93	141.40	-0.01	0.001%
37	-7.73	-141.40	-4.45	7.73	141.40	4.45	0.001%
38	-4.46	-141.40	-7.72	4.46	141.40	7.72	0.001%
39	-0.00	-49.86	-8.62	0.00	49.86	8.62	0.002%
40	4.31	-49.86	-7.46	-4.31	49.86	7.46	0.002%
41	7.47	-49.86	-4.31	-7.47	49.86	4.31	0.002%
42	8.63	-49.86	0.00	-8.63	49.86	-0.00	0.002%
43	7.48	-49.86	4.31	-7.47	49.86	-4.31	0.002%
44	4.32	-49.86	7.46	-4.32	49.86	-7.46	0.002%
45	0.00	-49.86	8.62	-0.00	49.86	-8.62	0.002%
46	-4.31	-49.86	7.46	4.31	49.86	-7.46	0.002%
47	-7.47	-49.86	4.31	7.47	49.86	-4.31	0.002%
48	-8.63	-49.86	-0.00	8.63	49.86	0.00	0.002%
49	-7.48	-49.86	-4.31	7.47	49.86	4.31	0.002%
50	-4.32	-49.86	-7.46	4.32	49.86	7.46	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	14	0.00005598	0.00006731
3	Yes	13	0.00009295	0.00013616
4	Yes	17	0.00000001	0.00011862
5	Yes	17	0.00000001	0.00008981
6	Yes	17	0.00000001	0.00012058
7	Yes	17	0.00000001	0.00009132
8	Yes	13	0.00013532	0.00011026
9	Yes	13	0.00009293	0.00010331
10	Yes	17	0.00000001	0.00012149
11	Yes	17	0.00000001	0.00009196
12	Yes	17	0.00000001	0.00011951
13	Yes	17	0.00000001	0.00009043
14	Yes	13	0.00013533	0.00014758
15	Yes	13	0.00009294	0.00013156
16	Yes	17	0.00000001	0.00012162
17	Yes	17	0.00000001	0.00009202
18	Yes	17	0.00000001	0.00011983
19	Yes	17	0.00000001	0.00009061
20	Yes	13	0.00013531	0.00011022
21	Yes	13	0.00009293	0.00010334
22	Yes	17	0.00000001	0.00012028
23	Yes	17	0.00000001	0.00009098
24	Yes	17	0.00000001	0.00012209
25	Yes	17	0.00000001	0.00009241
26	Yes	12	0.00000001	0.00005710
27	Yes	15	0.00011017	0.00012419
28	Yes	15	0.00011017	0.00013389
29	Yes	15	0.00011020	0.00013398
30	Yes	15	0.00011024	0.00012061
31	Yes	15	0.00011010	0.00014059
32	Yes	15	0.00011003	0.00014164
33	Yes	15	0.00011002	0.00013202
34	Yes	16	0.00000001	0.00007378
35	Yes	16	0.00000001	0.00007361
36	Yes	15	0.00010997	0.00013489
37	Yes	15	0.00010995	0.00014842
38	Yes	15	0.00011000	0.00014747
39	Yes	13	0.00010967	0.00003295
40	Yes	13	0.00010959	0.00004258
41	Yes	13	0.00010960	0.00004273
42	Yes	13	0.00010968	0.00003304
43	Yes	13	0.00010960	0.00003674
44	Yes	13	0.00010959	0.00004768
45	Yes	13	0.00010967	0.00003309
46	Yes	13	0.00010957	0.00004038
47	Yes	13	0.00010957	0.00004044
48	Yes	13	0.00010966	0.00003326
49	Yes	13	0.00010958	0.00004808
50	Yes	13	0.00010959	0.00003691

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164.25	20.237	48	0.9590	0.0022
L2	166.625 - 129.125	19.760	48	0.9590	0.0022
L3	132.955 - 95.455	13.174	48	0.8808	0.0009
L4	100.125 - 62.625	7.647	48	0.7073	0.0006

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L5	68.125 - 30.625	3.584	48	0.4872	0.0004
L6	36.875 - 0	1.076	48	0.2615	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
164.00	LNX-6515DS-VTM w/ Mount Pipe	48	19.233	0.9581	0.0022	120419
155.00	APXVTM14-C-120 w/ Mount Pipe	48	17.434	0.9476	0.0019	36279
144.00	(2) LPA-80080/6CF w/ Mount Pipe	48	15.271	0.9207	0.0014	19523
121.00	201-4	48	11.024	0.8262	0.0007	11323
115.00	7770.00 w/ Mount Pipe	48	10.001	0.7948	0.0006	10525
105.00	APXV18-206517S-C w/ Mount Pipe	48	8.388	0.7374	0.0006	9413
74.00	DB810T3E-XT	48	4.224	0.5294	0.0004	8633

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164.25	87.364	20	4.1493	0.0052
L2	166.625 - 129.125	85.303	20	4.1493	0.0052
L3	132.955 - 95.455	56.858	20	3.8069	0.0010
L4	100.125 - 62.625	32.997	20	3.0548	0.0017
L5	68.125 - 30.625	15.459	20	2.1030	0.0016
L6	36.875 - 0	4.640	20	1.1281	0.0010

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
164.00	LNX-6515DS-VTM w/ Mount Pipe	20	83.026	4.1455	0.0051	29310
155.00	APXVTM14-C-120 w/ Mount Pipe	20	75.253	4.0993	0.0040	8553
144.00	(2) LPA-80080/6CF w/ Mount Pipe	20	65.915	3.9811	0.0020	4571
121.00	201-4	20	47.577	3.5692	0.0010	2638
115.00	7770.00 w/ Mount Pipe	20	43.159	3.4333	0.0009	2450
105.00	APXV18-206517S-C w/ Mount Pipe	20	36.196	3.1849	0.0015	2188
74.00	DB810T3E-XT	20	18.222	2.2854	0.0018	2003

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	169 - 164.25 (1)	TP26x18x0.25	4.75	0.00	0.0	20.4326	-0.24	1506.86	0.000
L2	164.25 - 129.125 (2)	TP34.0625x21.5x0.3125	37.50	0.00	0.0	32.2032	-12.63	2369.54	0.005
L3	129.125 - 95.455 (3)	TP41.75x32.1545x0.375	37.50	0.00	0.0	47.8243	-23.94	3489.98	0.007
L4	95.455 - 62.625 (4)	TP49.0625x39.805x0.375	37.50	0.00	0.0	56.3342	-33.78	3910.90	0.009
L5	62.625 - 30.625 (5)	TP56.125x46.9547x0.375	37.50	0.00	0.0	64.5373	-44.95	4259.41	0.011
L6	30.625 - 0 (6)	TP62.9375x53.8466x0.375	36.88	0.00	0.0	74.4650	-59.81	4606.06	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	169 - 164.25 (1)	TP26x18x0.25	0.40	796.43	0.001	0.00	796.43	0.000
L2	164.25 - 129.125 (2)	TP34.0625x21.5x0.3125	312.25	1579.20	0.198	0.00	1579.20	0.000
L3	129.125 - 95.455 (3)	TP41.75x32.1545x0.375	973.42	2879.33	0.338	0.00	2879.33	0.000
L4	95.455 - 62.625 (4)	TP49.0625x39.805x0.375	1849.53	3806.06	0.486	0.00	3806.06	0.000
L5	62.625 - 30.625 (5)	TP56.125x46.9547x0.375	2835.91	4753.58	0.597	0.00	4753.58	0.000
L6	30.625 - 0 (6)	TP62.9375x53.8466x0.375	4140.74	5936.64	0.697	0.00	5936.64	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	169 - 164.25 (1)	TP26x18x0.25	0.22	753.43	0.000	0.00	1594.80	0.000
L2	164.25 - 129.125 (2)	TP34.0625x21.5x0.3125	16.06	1184.77	0.014	0.62	3162.27	0.000
L3	129.125 - 95.455 (3)	TP41.75x32.1545x0.375	25.21	1744.99	0.014	0.36	5765.70	0.000
L4	95.455 - 62.625 (4)	TP49.0625x39.805x0.375	29.58	1955.45	0.015	0.20	7621.42	0.000
L5	62.625 - 30.625 (5)	TP56.125x46.9547x0.375	33.39	2129.70	0.016	0.13	9518.75	0.000
L6	30.625 - 0 (6)	TP62.9375x53.8466x0.375	37.10	2303.03	0.016	0.85	11887.83	0.000

Pole Interaction Design Data

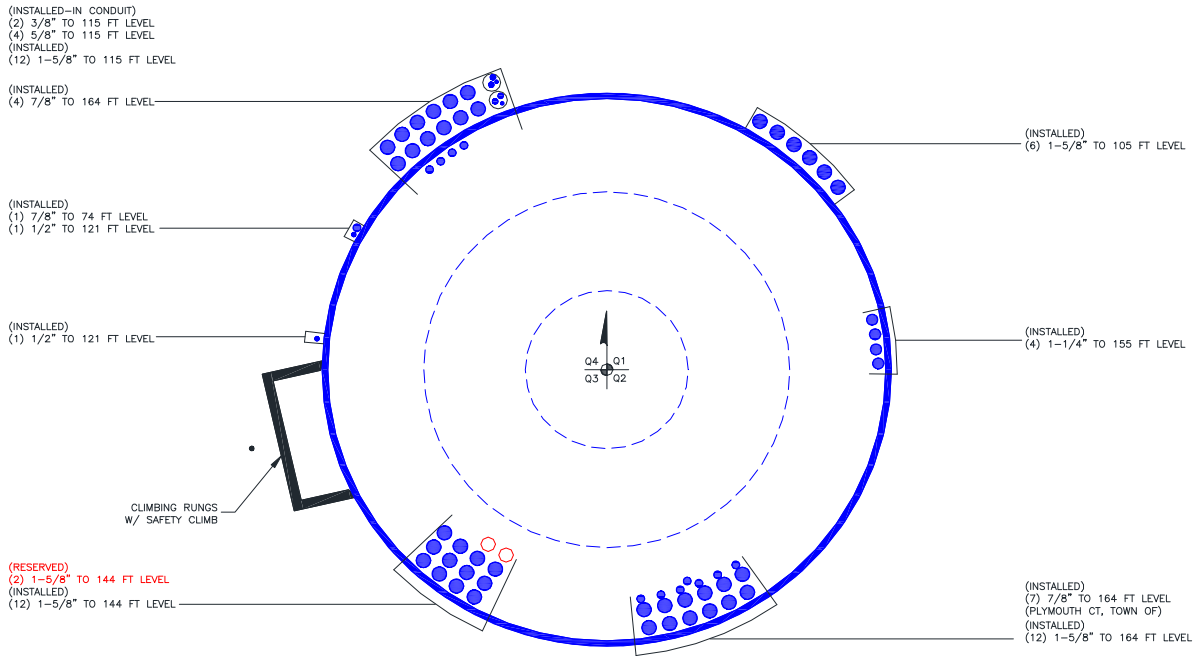
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	169 - 164.25 (1)	0.000	0.001	0.000	0.000	0.000	0.001 ✔	1.000	4.8.2 ✔
L2	164.25 - 129.125 (2)	0.005	0.198	0.000	0.014	0.000	0.203 ✔	1.000	4.8.2 ✔
L3	129.125 - 95.455 (3)	0.007	0.338	0.000	0.014	0.000	0.345 ✔	1.000	4.8.2 ✔
L4	95.455 - 62.625 (4)	0.009	0.486	0.000	0.015	0.000	0.495 ✔	1.000	4.8.2 ✔
L5	62.625 - 30.625 (5)	0.011	0.597	0.000	0.016	0.000	0.607 ✔	1.000	4.8.2 ✔
L6	30.625 - 0 (6)	0.013	0.697	0.000	0.016	0.000	0.711 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	169 - 164.25	Pole	TP26x18x0.25	1	-0.24	1506.86	0.1	Pass
L2	164.25 - 129.125	Pole	TP34.0625x21.5x0.3125	2	-12.63	2369.54	20.3	Pass
L3	129.125 - 95.455	Pole	TP41.75x32.1545x0.375	3	-23.94	3489.98	34.5	Pass
L4	95.455 - 62.625	Pole	TP49.0625x39.805x0.375	4	-33.78	3910.90	49.5	Pass
L5	62.625 - 30.625	Pole	TP56.125x46.9547x0.375	5	-44.95	4259.41	60.7	Pass
L6	30.625 - 0	Pole	TP62.9375x53.8466x0.375	6	-59.81	4606.06	71.1	Pass
							Summary	
						Pole (L6)	71.1	Pass
						RATING =	**71.1**	**Pass**

APPENDIX B

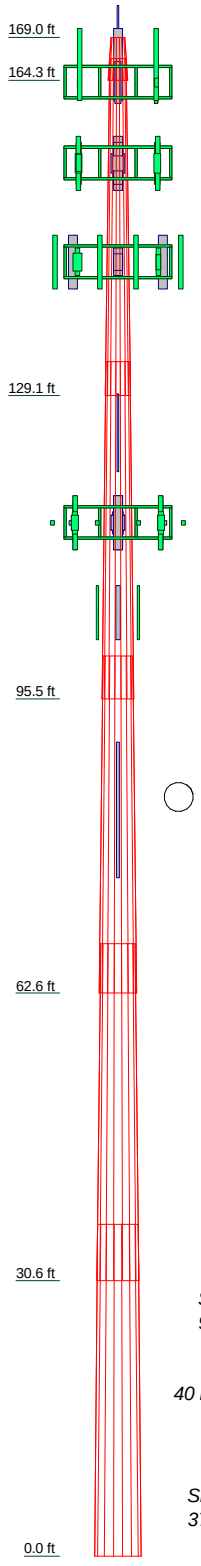
BASE LEVEL DRAWING


(INSTALLED–IN CONDUIT)
(2) 3/8" TO 115 FT LEVEL
(4) 5/8" TO 115 FT LEVEL
(INSTALLED)
(12) 1–5/8" TO 115 FT LEVEL
(INSTALLED)
(4) 7/8" TO 164 FT LEVEL
(INSTALLED)
(1) 7/8" TO 74 FT LEVEL
(1) 1/2" TO 121 FT LEVEL
(INSTALLED)
(1) 1/2" TO 121 FT LEVEL
CLIMBING RUNGS
W/ SAFETY CLIMB
(RESERVED)
(2) 1–5/8" TO 144 FT LEVEL
(INSTALLED)
(12) 1–5/8" TO 144 FT LEVEL
(INSTALLED)
(6) 1–5/8" TO 105 FT LEVEL
(INSTALLED)
(4) 1–1/4" TO 155 FT LEVEL
(INSTALLED)
(7) 7/8" TO 164 FT LEVEL
(PLYMOUTH CT, TOWN OF)
(INSTALLED)
(12) 1–5/8" TO 164 FT LEVEL
Q4
Q1
Q3
Q2

APPENDIX C

ADDITIONAL CALCULATIONS

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	4.75	18	0.2500	2.38	18.0000	26.0000		0.3
2	37.50	18	0.3125	3.83	21.5000	34.0625		3.5
3	37.50	18	0.3750	4.67	32.1544	41.7500		5.6
4	37.50	18	0.3750	5.50	39.8050	49.0625		6.7
5	37.50	18	0.3750	6.25	46.9547	56.1250		7.8
6	36.88	18	0.3750		53.8466	62.9375		8.7
							A572-65	32.4



ALL REACTIONS ARE FACTORED

AXIAL 141 K

SHEAR 9 K

MOMENT 1132 kip-ft

TORQUE 1 kip-ft
40 mph WIND - 1.0000 in ICE

AXIAL 60 K

SHEAR 37 K

MOMENT 4141 kip-ft

TORQUE 3 kip-ft
REACTIONS - 93 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
LNX-6515DS-VTM w/ Mount Pipe	164	RRH2X60-AWS	144
LNX-6515DS-VTM w/ Mount Pipe	164	RRH2X60-AWS	144
LNX-6515DS-VTM w/ Mount Pipe	164	RRH2X60-AWS	144
(2) COL45-70	164	DB-T1-6Z-8AB-0Z	144
COL45-70	164	Platform Mount [LP 403-1]	144
RR90-17-02DP w/ Mount Pipe	164	201-4	121
RR90-17-02DP w/ Mount Pipe	164	Pipe Mount [PM 601-1]	121
RR90-17-02DP w/ Mount Pipe	164	7770.00 w/ Mount Pipe	115
ATBT-BOTTOM-24V	164	7770.00 w/ Mount Pipe	115
ATBT-BOTTOM-24V	164	7770.00 w/ Mount Pipe	115
ATBT-BOTTOM-24V	164	AM-X-CD-16-65-00T-RET w/ Mount Pipe	115
ATMAA1412D-1A20	164		
ATMAA1412D-1A20	164	AM-X-CD-16-65-00T-RET w/ Mount Pipe	115
ATMAA1412D-1A20	164		
Platform Mount [LP 403-1]	164	AM-X-CD-16-65-00T-RET w/ Mount Pipe	115
APXVTM14-C-120 w/ Mount Pipe	155		
APXVTM14-C-120 w/ Mount Pipe	155	QS66512-3 w/ Mount Pipe	115
APXVTM14-C-120 w/ Mount Pipe	155	QS66512-3 w/ Mount Pipe	115
APXVSPP18-C-A20 w/ Mount Pipe	155	QS66512-3 w/ Mount Pipe	115
APXVSPP18-C-A20 w/ Mount Pipe	155	DTMABP7819VG12A	115
APXVSPP18-C-A20 w/ Mount Pipe	155	DTMABP7819VG12A	115
TD-RRH8x20-25	155	DTMABP7819VG12A	115
TD-RRH8x20-25	155	DC6-48-60-18-8F	115
TD-RRH8x20-25	155	DC6-48-60-18-8F	115
800MHZ RRH	155	RRUS 11	115
800MHZ RRH	155	RRUS 11	115
800MHZ RRH	155	RRUS 11	115
1900MHz RRH	155	WCS RRUS-32-B30	115
1900MHz RRH	155	WCS RRUS-32-B30	115
1900MHz RRH	155	WCS RRUS-32-B30	115
Platform Mount [LP 405-1]	155	(2) TPX-070821	115
(2) LPA-80080/6CF w/ Mount Pipe	144	(2) TPX-070821	115
(2) LPA-80080/6CF w/ Mount Pipe	144	(2) TPX-070821	115
(2) LPA-80080/6CF w/ Mount Pipe	144	RRUS 12 B2	115
(2) SBNHH-1D65B w/ Mount Pipe	144	RRUS 12 B2	115
(2) SBNHH-1D65B w/ Mount Pipe	144	RRUS 12 B2	115
(2) SBNHH-1D65B w/ Mount Pipe	144	Platform Mount [LP 303-1]	115
RRH2X60-PCS	144	APXV18-206517S-C w/ Mount Pipe	105
RRH2X60-PCS	144	APXV18-206517S-C w/ Mount Pipe	105
RRH2X60-PCS	144	APXV18-206517S-C w/ Mount Pipe	105
RRH2x60-700	144	Pipe Mount [PM 601-3]	105
RRH2x60-700	144	DB810T3E-XT	74
RRH2x60-700	144	Side Arm Mount [SO 306-1]	74

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 93 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 71.1%

Paul J. Ford and Company
250 E Broad St, Suite 600
Columbus, OH 43215
Phone: (614) 221-6679
FAX: (555) 555-1235

Job:	***169-Ft. Monopole / Plymouth/Rt.6***		
Project:	***37516-3909.001 / BU# 826768***		
Client: Crown Castle	Drawn by: mherbert		App'd:
Code: TIA-222-G	Date: 12/28/16		Scale: NTS
Path: G:\TOWER\375_Crown_Castle\2016\37516-3909_826768_PLYMOUTH-RT 6\37516-3909.001.7805_SA_133932\37516-3909.001.7805.eri			Dwg No. E-1

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: *826768*
Site Name: *Plymouth/Rt.6*
App #:

Pole Manufacturer:	*Pirod*

Anchor Rod Data		
Qty:	45	
Diam:	1.25	in
Rod Material:	Other	
Strength (Fu):	125	ksi
Yield (Fy):	105	ksi
Bolt Circle:	68	in

Plate Data		
Diam:	73	in
Thick:	1.75	in
Grade:	60	ksi
Single-Rod B-eff:	4.44	in

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data		
Diam:	63	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions		
Mu:	4141	ft-kips
Axial, Pu:	60	kips
Shear, Vu:	37	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria: AISC LRFD <-Only Applcable to Unstiffened Cases

Anchor Rod Results

Max Rod (Cu+ Vu/ή):	67.9 Kips	Rigid
Allowable Axial, Φ*Fu*Anet:	96.9 Kips	AISC LRFD
Anchor Rod Stress Ratio:	70.1% **Pass**	φ*Tn

Base Plate Results Flexural Check

Base Plate Stress:	Rohn/Pirod, OK	Rigid
Allowable Plate Stress:	54.0 ksi	AISC LRFD
Base Plate Stress Ratio:	Rohn/Pirod, OK	φ*Fy
		Y.L. Length: 25.59

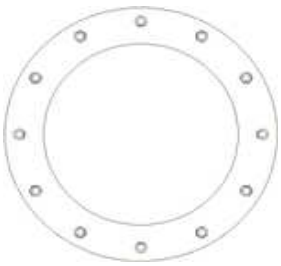
n/a

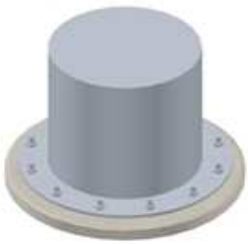
Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Results

Pole Punching Shear Check: N/A





* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Factored Foundation Loads:

	LC1	LC2	
Factored Axial Load (+Comp, -Ten) =	**60**	**45**	kips
Factored Horiz. Load at Top of Pier =	**37**	**37**	kips
Factored OTM at Top of Pier =	**4141**	**4141**	kips

LRFD Resistance and Load Factors:

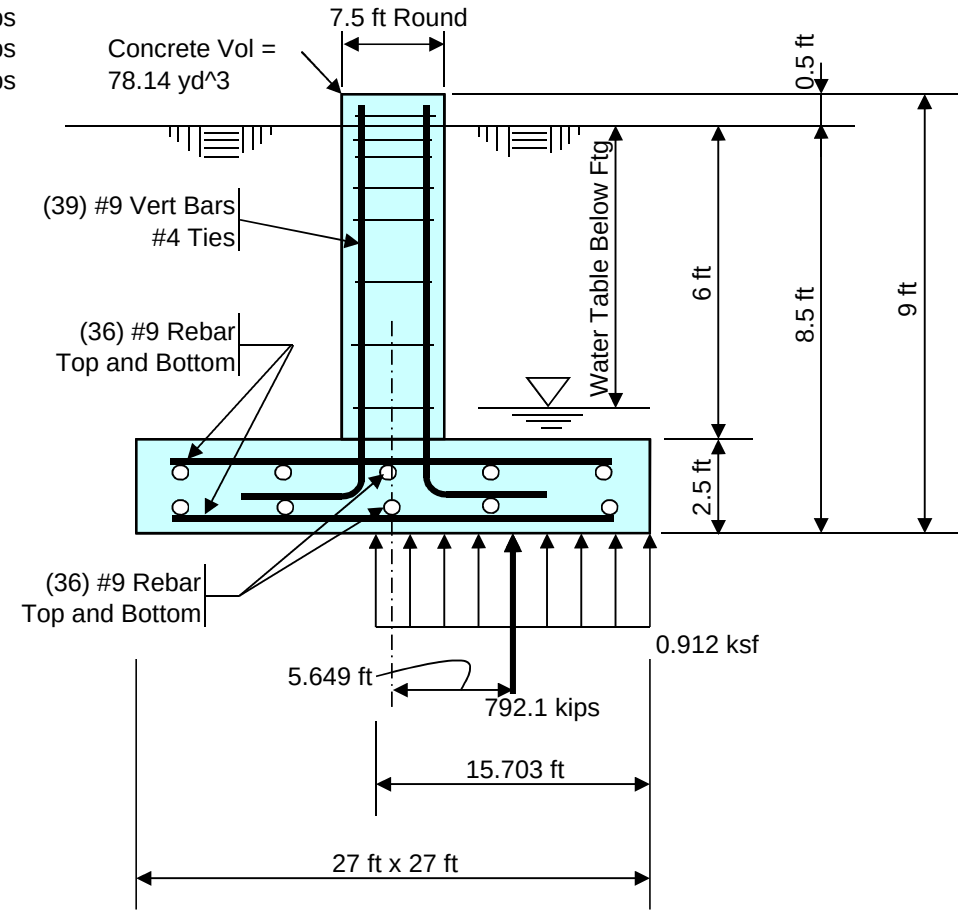
	Φ	Dead Load Factors	
Soil Bearing =	**0.75**		
Soil Weight =	**0.75**	1.2	0.9
Concrete Weight =	**0.75**	1.2	0.9

Soil Properties:

Depth to Water Table = **14** ft

Uplift Cone from **Top** of footing

Layer Thk ft	Soil Density pcf	Cohesion ksf	Friction Angle degrees	Ult Bearing ksf	Depth ft
8.5	**125**	**0**	**34**	**12**	**8.50**



Dimensions:

Pier Shape =	**Round**	
Pier Width =	**7.5**	ft Diameter
Pier Height above Grade =	**0.5**	ft
Depth to Bottom of Footing =	**8.5**	ft
Footing Thickness =	**2.5**	ft
Footing Width, B =	**27**	ft
Footing Length, L =	**27**	ft

Concrete:

Concrete Strength =	**4**	ksi
Rebar Strength =	**60**	ksi

Total Pad Reinf Stl =	**72.00**	in^2 >= 17.5 in^2 = Min Stl, OK
Total Pier Reinf Stl =	**39.00**	in^2 >= 31.81 in^2 = Min Stl, OK
Footing Thickness =	**2.50**	ft >= 1.5 ft = Min Ftg Thk, OK

Summary Results:

	Required		Available			
Maximum Net Soil Bearing =	**0.992**	ksf	**9.000**	ksf	Stress Ratio =	**11.0%** in Soil Bearing
Uplift =	**0.0**	kips	**757.8**	kips	Stress Ratio =	**0.0%** in Uplift
Punching Shear Stress =	**0.062**	ksi	**0.190**	ksi	Stress Ratio =	**32.7%** in Punching Shear
Bending Shear Stress =	**222.1**	kips	**777.9**	kips	Stress Ratio =	**28.6%** in Bending Shear
Bending Moment =	**1456.2**	k-ft	**3941.1**	k-ft	Stress Ratio =	**36.9%** in Bending Moment
Conc Pier Reinforcing Steel =	**4381.5**	k-ft	**6929.7**	k-ft	Stress Ratio =	**63.2%** in Pier Rebar

Plymouth, CT : Commercial Property Record Card

[Back to Search Results] [Start a New Search][Help with Printing]

Search For Properties

Map-Block-Lot **Name** **Street Name**

TOWN HILL RD

Search Reset

Map-Block-Lot	Card	Account	Location	Zoning	State Class	Acres
00041600	1	048-073B-012	171 TOWN HILL RD	RA1	903 - City/Town Property	20.460

Living Units
0

Owner Information

Terryville Country Fair Inc Terryville Lions Club
Po Box 72
Terryville CT 06786

Property Picture

Deed Information

Book/Page: 152/643
Deed Date: n/a

Building Information

Building No: 0
Year Built: 0
No of Units: 0
Structure Type:
Grade:
Identical Units: 0

Valuation

Land: $855,400
Building: $240,140
Total: $1,095,540
Net Assessment: $766,880

Sales History

Book/Page	Date	Price	Type	Validity

Out Building Information

Structure Code	Width	Lgth/SqFt	Year	RCNLD
Garage Frame			1908	$9,860
Canopy Only			0	$6,730
Utility Frame			0	$4,110
Garage Masonry			1903	$50,470
Garage Masonry			1920	$28,390
Utility Frame			0	$11,550

Exterior/Interior Information

Levels	Size	Use Type	Ext. Walls	Const. Type	Partitions	Heating	A/C	Plumbing	Condition	Func. Utility	Unadj. RCNLD

Building Sketch

	Descriptor/Area

Notice

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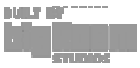
Currently All Values Have Not Been Finalized and Are Subject To Change.

Comments regarding this service should be directed to: rwalcott@plymouthct.us



Map: 048

Disclaimer:
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Print Date
October 2014

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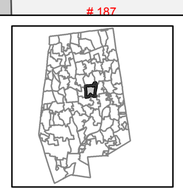

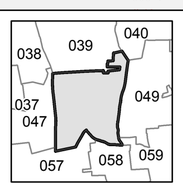

Town of Plymouth, Connecticut 2013
Assessment Parcel Map

0 100 200 400 600 800
Feet
1 inch = 200 feet

13	Parcel Lot
# 17	Address
2.4 Ac	Acres
13	Block Number
Map 13	Map Number
	Water
	Wetlands
	Intermittent Water
	Inundated Area
	Parcels
	Intermittent Stream
	Railroad

Map Coordinates based on NAD 83 Connecticut State Plane Feet.
Parcel Features based on areial photography dated 2012.

TOWN OF PLYMOUTH, CONNECTICUT

ZONING PERMIT NO. 00-201
Fee Paid: $ 100.00 # 058194
Date: July 5 19 2000

Permission is hereby granted to Terryville Lions Club & Omnipoint to erect a Telecommunication Tower on the east side of Town Hill Rd (fair grounds) as follows: Size ____ ft. long, ____ ft. wide, ____ stories high; distance from road center line ____ ft; distance from each lot line: E ____ ft.; W ____ ft.; S ____ ft.; N ____ ft.; for the use of the facility as a Telecommunication Tower as approved by P+Z on 6/22/2000 with stipulations

PLANNING AND ZONING COMMISSION, TOWN OF PLYMOUTH CONNECTICUT

Ronald J Mounds
Agent of the Planning and Zoning Commission

* see approved Site Plan dated 3/2000 3/8/2000 3/16/2006 Received 6/22/2000

The recipient of this permit accepts this permit on the condition that he, as owner or as representing the owner, agrees to comply with all applicable ordinances and regulations of the Town of Plymouth and the State of Connecticut regarding the use, occupancy and type of activity to be instituted. It is furthermore understood that the facility can not be used until a Certificate of Occupancy has been issued by the Planning and Zoning Commission and that any change of use similarly does require a new Certificate of Occupancy. Before a Certificate of Occupancy will be issued a plot plan drawn to a scale of 1" - 50' prepared and certified by a licensed engineer or land surveyor must be submitted to the Planning and Zoning Commission showing all boundaries of the line of any public or private right-of-way, sanitary facilities and water supply. This permit shall be valid for one year.

MOTION: Gaye Zukauskas made a motion to add Town Hill Road/Lions back on the agenda. Steve Panasuk seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.

MOTION: Patrick Herzing made a motion for a 5-minute recess at 9:23 p.m. VOTE: All in favor.

Chairman Patrick Herzing called the meeting back to order at 9:28 p.m.

Town Hill Road/Lions - Special Permit – Telecommunication Tower – Omnipoint – MOTION: Gaye Zukauskas made a motion to approve the application for the telecommunication tower-Town Hill Road-Lions Club and Omnipoint-State ID #CT-11417C consisting of 5 sheets, cover dated 6/20/00, vicinity plan dated 3/8/00, sheet C-1, C-2 and C-3 all dated 6/20/00 with the only stipulation that Plymouth emergency services to have free access as needed with no charge to the Town. Any additional carriers to come in for a special permit. Bond to be set by Public Works in the event of abandonment. Steve Panasuk seconded. VOTE: S. Panasuk - Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.

11. Town Hill/Washington Roads – Pines Subdivision – Bond Reduction – CT Water Co. – CT Water Co. has sold most of the lots in the subdivision to Mr. Zappone. Discussion was had. **MOTION:** Wayne Radke made a motion to reduce the bond as requested and get a new bond from Mr. Zappone before reduction of CT Water Co.'s bond. Gaye Zukauskas seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.

16. Plymouth Housing Authority – Section 8-24 Review – Yefko Property – Mr. Kuehn read the memo dated 6/21 from Anthony A. Lorenzetti, PE into the record. He is in support of this proposal. It would be a solution to the parking situation at Gosinski Park. Half of it would be for off street parking and the other half for a minimum 20,000 sq. ft. residential parcel for a low/moderate income housing. The resolution should be 39,100 not 29,100. Mr. Kuehn read the resolution into the record. **MOTION:** Gaye Zukauskas made a motion to accept the resolution for an 8-24 review. Wayne Radke seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.

18. Land Use Corner – Gaye strikes again. The final revision has been faxed to the Plymouth News. Gaye suggested that Mr. Kuehn do one next month on industrial property.

21. Correspondence from ZBA Chairman Mike Cole – Patrick Herzing will call Mike Cole and get a time set up – probably in September to get together to discuss the zoning regulations. It was suggested to have Mike come up with an agenda of issues to look at ahead of time.

22. Proposed ordinance for zoning violations – The Town Council tabled this item at their last meeting so no public hearing has been scheduled. It recommends a $150 fine per violation. Maybe we can not issue any permits to people who have not finished and cleaned up their last items.

STAFF COMMENTS –Mr. Kuehn informed the Commission that 36 signs will be going up in the industrial park for the public hearing.