



NSS
MASS

NORTHEAST
SITE SOLUTIONS

Turnkey Wireless Development

Northeast Site Solutions
420 Main Street, Unit 2
Sturbridge MA 01566

March 29, 2019

Ms. Melanie Bachman
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application
641 Maple Hill Road, Naugatuck, CT 06770
Latitude: 41-29-17.24 N
Longitude: -73-01-12.73 W
T-Mobile Site Number: CTNH325D- NSD

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of T-Mobile Northeast LLC (“T-Mobile”). T-Mobile plans to install antennas and related equipment at the tower site located at 641 Maple Hill Road in Naugatuck, Connecticut. The existing monopole is owned by Tarpon Towers and was approved by the Borough of Naugatuck on October 10, 2018. The tower will be used by the Borough of Naugatuck emergency services, whose antennas will be located at the top of the tower.

T-Mobile will install four (4) 600/700MHz antennas, four (4) 1900/2100 MHz antennas, four (4) 2100 MHz antennas and twelve (12) remote radio units (‘RRUs’) at a centerline height of 167 feet on the existing 180-foot monopole tower. Three (3) hybrid cables and additional ancillary coax between the antennas & RRU’s will also be installed on the tower. T-Mobile’s equipment cabinets and one (1) Delta 25KW DC Generator – 250 gallon double walled self-contained tank with fuel sensor will be placed within T-Mobile’s 260 sq ft lease area. The generator requires two (2) 20 minute run cycles annually. As shown, in the included are plans by Proterra Design Group, dated March 12, 2019, attached as **Exhibit A**. Also included is a structural letter prepared by Proterra dated March 28, 2019, confirming that the existing tower is structurally capable of supporting the proposed equipment, attached as **Exhibit B**.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of T-Mobile’s intent to share telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Honorable N. Wendell Hess III, Mayor, Borough of Naugatuck, Ed Carter, Zoning Enforcement Officer, Borough of Naugatuck. The Borough of Naugatuck is also the property owner. Tarpon Towers is tower owner

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the monopole tower is 180-feet; T- Mobile’s proposed antennas will be located at a center line height of 167-feet.

2. The proposed modifications will not result in the increase of the site boundary as depicted on the attached site plan.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.
4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached Radio Frequency Emissions Analysis Report prepared by EBI Consulting, dated February 4, 2019, the combined site operations will result in a total power density of 2.13% MPE as evidenced by Exhibit C.

Connecticut General Statutes 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, T-Mobile respectfully indicates that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting T-Mobile's proposed loading. The structural analysis is included as Exhibit B.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this monopole tower in Naugatuck. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit T-Mobile to obtain a building permit for the proposed installation. Further, a Letter of Authorization from the tower owner is included as Exhibit D, authorizing T-Mobile to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of T-Mobile equipment at the 167-foot level of the existing 180-foot tower would have an insignificant visual impact on the area around the tower. T-Mobile's ground equipment would be installed within the existing facility compound. T-Mobile's shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit C, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. T-Mobile will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist T-Mobile with this tower sharing application.

E. Public Safety Concerns. As discussed above, the monopole tower is structurally capable of supporting T-Mobile's proposed loading. T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing monopole tower. T-Mobile's intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Naugatuck.

Sincerely,

Denise Sabo
Mobile: 860-209-4690
Office: 35 Griffin Road South, Bloomfield, CT 06002
Email: denise@northeastsitesolutions.com

cc: Honorable N. Warren Hess III, Mayor, Borough of Naugatuck
Ed Carter, Zoning Enforcement Officer, Borough of Naugatuck
Borough of Naugatuck, Town Clerk (Owner)
Tarpon Towers, (Tower owner)

**BOROUGH OF NAUGATUCK
LAND USE DEPARTMENT**

Phone 203-720-7042
Fax 203-720-5026

229 Church St. 2nd Fl
Naugatuck, CT. 06770

ZONING COMPLIANCE PERMIT

#074-8610

PERMIT NO: 2018-133

DATE 10/9/2018

2/17/2019

Type of Permit:

180' 100' monopole
Size: 60' x 60' Fenced Compound

- Addition \$150/\$60
- Change of Use \$75/\$60
- Deck \$75/\$60
- Detached Garage \$75/\$60
- Fence \$25/\$60
- Shed \$75/\$60
- Sign \$75/\$60
- Swimming Pool \$75/\$60
- Other Cell Tower municipal Tower

Old Use _____ New Use _____

DESCRIPTION OF PREMISES:

Single Family _____ Multi Family _____ Other ZONE R-15

PROPERTY OWNER: Borough of Naugatuck

ADDRESS: 641 Maple Hill Road PHONE: 203-623-3287

APPLICANT: Tarpon Towers II, LLC (Keith Coppins)

The applicant states that the proposed structure is not located within:

1. A wetlands or water course area;
2. 100 feet of a stream or wetlands area;
3. A stream encroachment area
4. A flood plain area.

Signature of Applicant *[Signature]* Keith Coppins

I hereby certify that the information herein and the attached plot plan are accurate.

Applicable Zoning Regulation to apply: Conforms to all setbacks

Date Granted: 10/10/18 Fee: \$75 + \$60 Variance # _____

ZONING ENFORCMENT OFFICER: *[Signature]*

This approval is subject to compliance (prior to occupancy) with the provisions of the zoning and subdivision regulations of the Borough of Naugatuck and as authorized under section 8 of the Connecticut General Statutes, as amended. This permit is based upon the plot plan submitted. Falsification, misrepresentation or omission shall constitute a violation of the borough regulations.

*CK# 1125-75
CK # 112696*



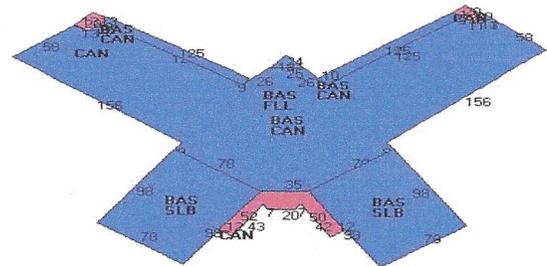
Property Information

Property Location	641 MAPLE HILL RD
Owner	BOROUGH OF NAUGATUCK
Co-Owner	MAPLE HILL SCHOOL
Mailing Address	229 CHURCH ST NAUGATUCK CT 06770
Land Use	902C GRADE SCH
Land Class	E
Zoning Code	
Census Tract	
Sub Lot	
Neighborhood	6
Acreage	14.32
Utilities	
Lot Setting/Desc	
Survey Map	
Additional Info	

Photo



Sketch



Primary Construction Details

Year Built	1990
Stories	1
Building Style	Schools-Public
Building Use	Comm/Ind
Building Condition	C
Floors	Vinyl
Total Rooms	

Bedrooms	
Full Bathrooms	0
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	Flat
Roof Cover	T+G/Rubber

Exterior Walls	Brick
Interior Walls	Drywall
Heating Type	Forced Hot Air
Heating Fuel	Gas
AC Type	None
Gross Bldg Area	106639
Total Living Area	86816



Borough of Naugatuck, CT

Property Listing Report

Map Block Lot

Q-18E24

Account

074-8610

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	7700100	5390070
Extras	75540	52880
Outbuildings	52530	36790
Land	944700	661290
Total	8772870	6141030

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	52250	52250
Canopy	4540	0
Slab	15283	0
Lower Level,Finished	34566	34566
Total Area	106639	86816

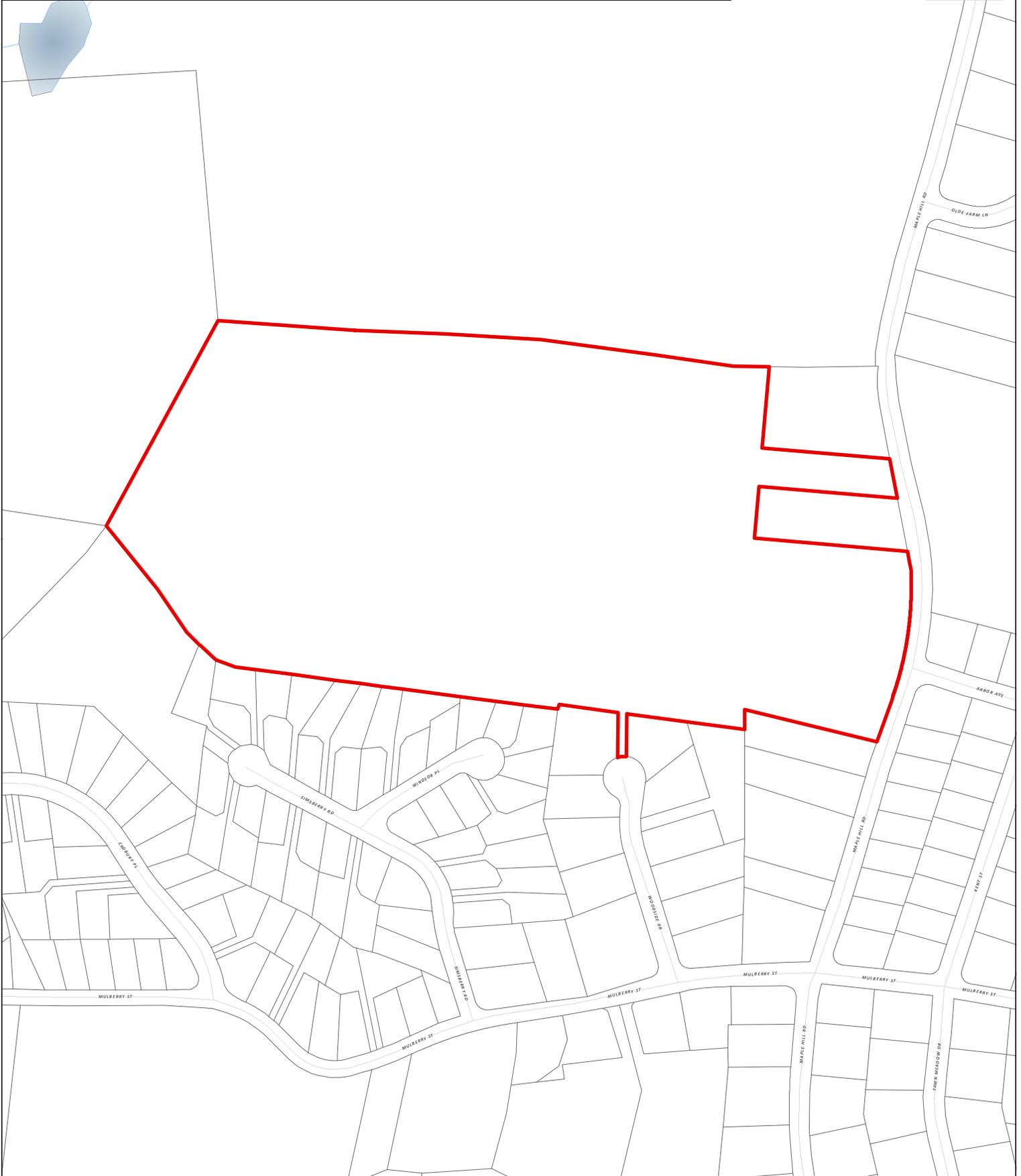
Outbuilding and Extra Items

Type	Description
Shed Good	192 S.F.
Freight Elev	2 STOPS
Sprnklr Enclos	86800 S.F.
W/DOUBLE LIGHT	2 UNITS
W/TRIPLE LIGHT	1 UNITS
Lights (1)	7 UNITS
MERC VAP/FLU	2 UNITS
Paving Asphalt	25000 S.F.
CENTRAL AC	4450 S.F.

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
BOROUGH OF NAUGATUCK	327/ 90	1/27/1989	0

Borough of Naugatuck, Connecticut - Assessment Parcel Map
Parcel Account Number: 074-8610
Address: 641 MAPLE HILL RD



Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Borough of Naugatuck and its mapping contractors
assume no legal responsibility for the information contained herein.

Map Produced March 2017

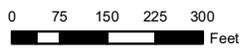


Exhibit A

Proterra plans

DRAWING INDEX

SHEET	DESCRIPTION	REVISION
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
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GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE NORTHEAST, LLC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER & APPLICANT REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
- ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE LATEST T-MOBILE CONSTRUCTION GUIDELINES.
- THIS SHEET WAS ORIGINALLY PRINTED TO ANSI D (22"x34") WITH 1" MARGINS. PRINTING TO ANSI B (11"x17") WILL RESULT IN A HALF-SCALE (1:2) SHEET SET WITH 1/2" MARGINS. CONFIRM ALL SCALED DISTANCES WITH GRAPHICAL SCALES SHOWN HEREIN.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE (IBC 2015) WITH AMENDMENTS
 - ELECTRICAL CODE: NEC 2017 WITH AMENDMENTS
- THE CONSTRUCTION SHOWN HEREIN MAY REQUIRE SPECIAL INSPECTIONS PER THE BUILDING CODE. APPLICANT/CONTRACTOR SHALL VERIFY WITH THE AUTHORITIES HAVING JURISDICTION (AHJ) PRIOR TO CONSTRUCTION AND ENGAGE THE INSPECTOR AND/OR APPROPRIATE 3RD PARTIES AS MAY BE REQUIRED.

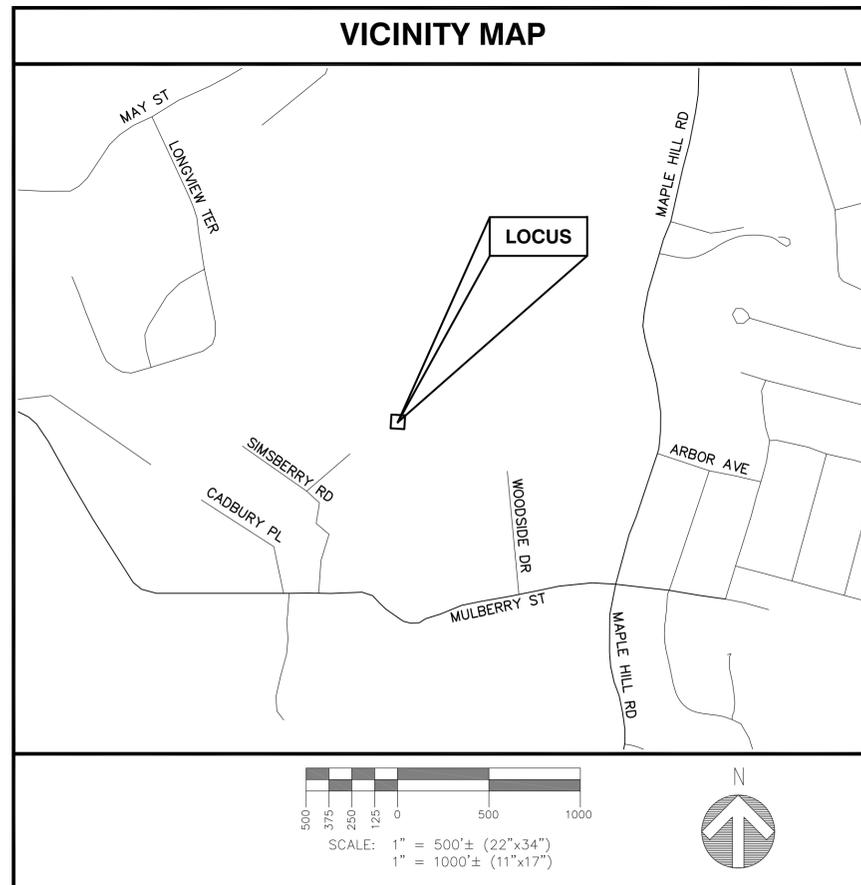
SPECIAL CONSTRUCTION NOTES

- TOWER OWNER SHALL PROVIDE GLOBAL STRUCTURAL STABILITY ANALYSIS OF EXISTING ANTENNA SUPPORT STRUCTURE. GENERAL CONTRACTOR SCOPE OF WORK SHALL INCLUDE TO FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS, RE-BUNDLING OF COAXIAL CABLES OR OTHER SPECIAL MODIFICATIONS AS OUTLINED THEREIN.
- GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM TOWER OWNER-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.
- PROTERRA DESIGN GROUP ASSUMES THAT THE MONOPOLE IS PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTION ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES.

T-Mobile

SITE NAME: CTNH325D (MAPLE HILL)
SITE NUMBER: CTNH325D
ADDRESS: 641 MAPLE HILL ROAD
NAUGATUCK, CT 06770

CONFIGURATION: 4Sec-6797DB2



DIG SAFE SYSTEM
 (MA, ME, NH, RI, VT):
 1-888-344-7233
 CALL BEFORE YOU DIG
 (CT): 1-800-922-4455



UNDERGROUND SERVICE ALERT

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
ANTENNA/RRU/TMA	
SECTOR A:	ACCESS NOT PERMITTED
SECTOR B:	ACCESS NOT PERMITTED
SECTOR C:	ACCESS NOT PERMITTED
SECTOR D:	ACCESS NOT PERMITTED
GPS/LMU:	UNRESTRICTED*
	(*CAUTION: OSHA-APPROVED PORTABLE 8' STEP-LADDER REQUIRED)
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

PROJECT INFORMATION

SITE TYPE:	CO-LOCATION ON FUTURE WIRELESS COMMUNICATION FACILITY
SCOPE OF WORK:	PROPOSED T-MOBILE GROUND EQUIPMENT WITHIN 10'x26' LEASE AREA AND TOWER MOUNTED T-MOBILE EQUIPMENT ON FUTURE MONOPOLE
SITE NAME:	CTNH325D (MAPLE HILL)
SITE NUMBER:	CTNH325D
ZONING JURISDICTION:	BOROUGH OF NAUGATUCK / CONNECTICUT SITING COUNCIL
LATITUDE:	41° 29' 17.24"± N (RECORD 1A)
LONGITUDE:	73° 01' 12.73"± W (RECORD 1A)
DATUM:	NAD83 / NAVD88
APPLICANT:	T-MOBILE NORTHEAST, LLC 35 SOUTH GRIFFIN ROAD BLOOMFIELD, CT 06002
TOWER OWNER:	TARPON TOWERS II, LLC 1001 3RD AVENUE WEST SUITE 420 BRADENTON, FL 34205
TOWER OWNER ID:	CT 1008
TOWER OWNER NAME:	NAUGATUCK
SITE ENGINEER:	PROTERRA DESIGN GROUP, LLC 4 BAY ROAD BUILDING A, SUITE 200 HADLEY, MA 01035 TEL: (413) 320-4918

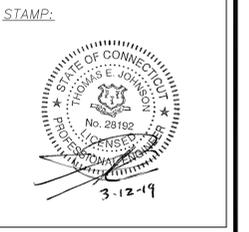
CONSTRUCTION REVISED

CONSULTANTS:

NO.	DATE	REVISIONS
0	02/26/19	ISSUED FOR CONSTRUCTION
1	03/12/19	CONSTRUCTION REVISED

TITLE: **SITE NAME: CTNH325D (MAPLE HILL)**
SITE NUMBER: CTNH325D
ADDRESS: 641 MAPLE HILL ROAD
NAUGATUCK, CT 06770

APPLICANT: **T-Mobile**
T-MOBILE NORTHEAST LLC
35 SOUTH GRIFFIN ROAD
BLOOMFIELD, CT 06002



DATE: 02/13/19
 DRAWN: BM/PN
 CHECK: JMM/TEJ
 SCALE: SEE PLAN
 JOB NO.: -----
 SHEET TITLE:

TITLE SHEET

T-1

GROUNDING NOTES

1. THE SUBCONTRACTOR 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) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR 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 IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. 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 SURCIRTS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – CENTERLINE COMMUNICATIONS
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – T-MOBILE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR 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 CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR 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. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR 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 SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR 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. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (FY = 36 KSI) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (FY = 35 KSI). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. 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.
20. APPLICABLE BUILDING CODES:
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

- AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), STEEL CONSTRUCTION MANUAL, 14TH EDITION;
- TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL
- ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

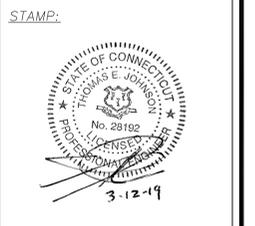
ABBREVIATIONS

AGL ABOVE GRADE LEVEL	EQ EQUAL	REQ REQUIRED
AWG AMERICAN WIRE GAUGE	G.C. GENERAL CONTRACTOR	RF RADIO FREQUENCY
BTCW BARE TINNED SOLID COPPER WIRE	GRC GALVANIZED RIGID CONDUIT	TBD TO BE DETERMINED
BGR BURIED GROUND RING	MGB MASTER GROUND BAR	TBR TO BE REMOVED
BTS BASE TRANSCEIVER STATION	MIN MINIMUM	TBRR TO BE REMOVED AND REPLACED
EXISTING EXISTING OR (E)	PROPOSED NEW OR (P)	TYP TYPICAL
EGB EQUIPMENT GROUND BAR	N.T.S. NOT TO SCALE	VIF VERIFY IN FIELD
EGR EQUIPMENT GROUND RING	RAD RADIATION CENTERLINE (ANTENNA)	
	REF REFERENCE	

CONSULTANTS:

NO.	DATE	REVISIONS	ISSUED FOR CONSTRUCTION	CONSTRUCTION REVISED					
0	02/26/19								
1	03/12/19								

TITLE: SITE NAME: CTNH35D (MAPLE HILL)
 SITE NUMBER: CTNH35D
 ADDRESS: 641 MAPLE HILL ROAD
 NAUGATUCK, CT 06770
APPLICANT: T-Mobile
T-MOBILE NORTHEAST LLC
 86 SOUTH CRIFFIN ROAD
 BLOOMFIELD, CT 06002



DATE: 02/13/19
DRAWN: BM/PN
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: -----
SHEET TITLE:

GENERAL NOTES

GN-1

CONSULTANTS:

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TITLE: **SITE NAME: CTNH395D (MAPLE HILL)**
SITE NUMBER: CTNH395D
ADDRESS: 641 MAPLE HILL ROAD
NAUGATUCK, CT 06770

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
36 SOUTH CRIFFIN ROAD
BLOOMFIELD, CT 06002

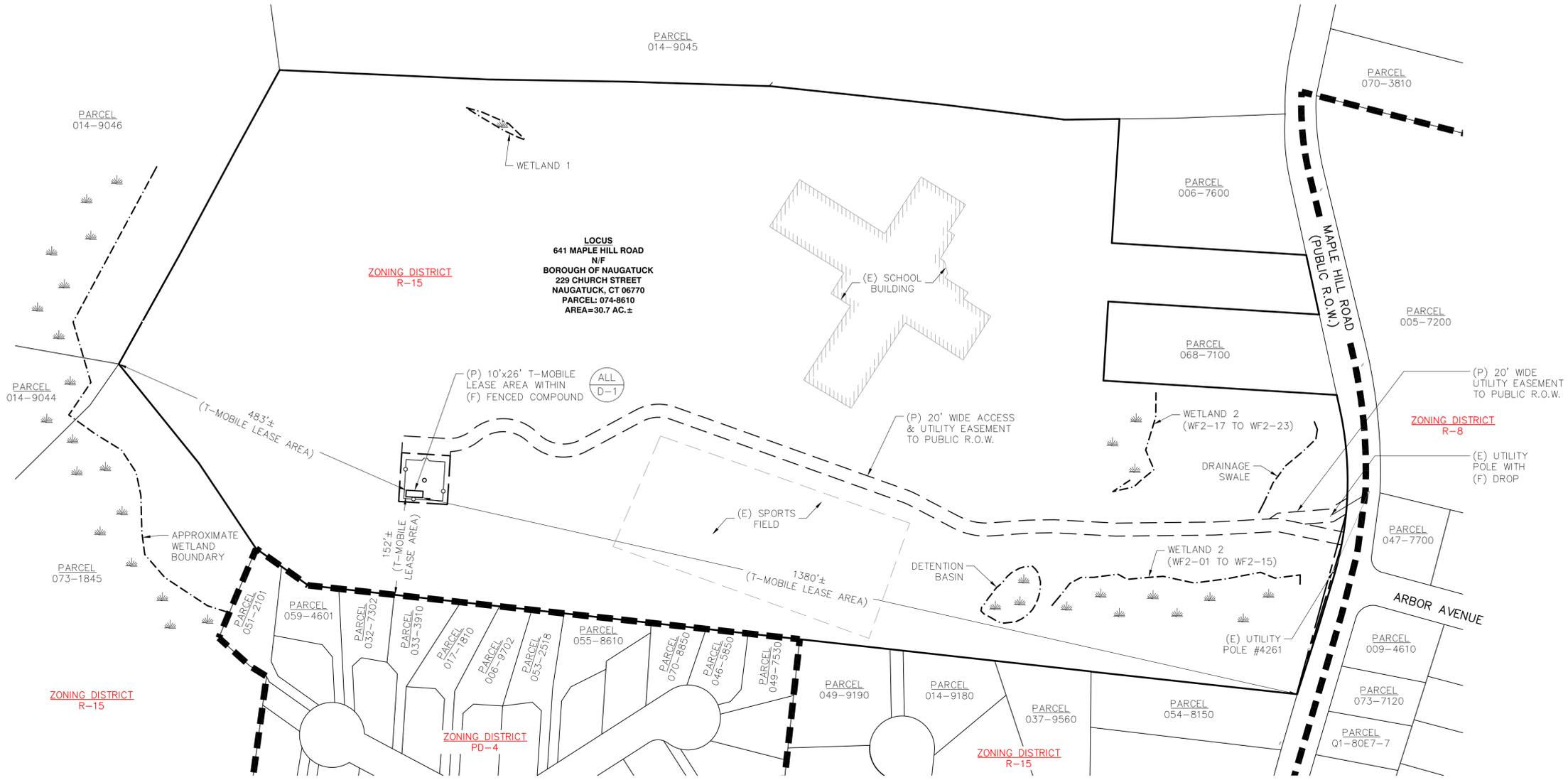
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JOB NO.: -----
SHEET TITLE:

COMPILED SITE PLAN

A-1



COMPILED SITE PLAN
SCALE: 1"=100' (22x34)
1"=200' (11x17)

(E) EXISTING
(P) PROPOSED
(F) FUTURE

GENERAL NOTES	REFERENCES	ZONING SUMMARY																								
<p>1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND POSITIONS OF ALL PROJECT OWNER'S EQUIPMENT ARE SHOWN IN ILLUSTRATIVE FASHION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.</p> <p>2. THE PROJECT OWNER'S PCS FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.</p> <p>3. THE DESIGN OF THE TOWER, FOUNDATION AND ANTENNA MOUNTING HARDWARE WILL MEET THE ANSI/EIA/TIA-222-G STANDARDS FOR STRUCTURAL STEEL ANTENNA SUPPORTING STRUCTURES AND STATE BUILDING CODE REQUIREMENTS. DETAILED CONSTRUCTION DRAWINGS AND STRUCTURAL CALCULATIONS WILL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED WITH A BUILDING PERMIT APPLICATION FOR REVIEW AND APPROVAL BY THE LOCAL BUILDING CODE ENFORCEMENT OFFICIAL. PROTERRA IS NOT DESIGNING, BUILDING, INSPECTING, OR OTHERWISE INVOLVED WITH CONSTRUCTION OR MODIFICATION OF THE MONOPOLE AND IS THE RESPONSIBILITY OF THE TOWER OWNER.</p> <p>4. ONCE THE FACILITY BECOMES FULLY OPERATIONAL, NORMAL AND ROUTINE MAINTENANCE BY TOWER OWNER'S AND CARRIER'S TECHNICIANS WILL BE PERFORMED. THE ESTIMATED VEHICULAR TRAFFIC GENERATED BY THESE VISITS IS PREDICTED TO BE LESS THAN THE TYPICAL TRAFFIC GENERATED BY A SINGLE-FAMILY DWELLING.</p>	<p>PROPERTY & EXISTING FEATURES (DATA ACCUMULATION SURVEY) PERFORMED BY NORTHEAST SURVEY CONSULTANTS DATED OCTOBER 10, 2018. A PROPERTY LINE AND/OR BOUNDARY RETRACEMENT HAS NOT BEEN PERFORMED.</p> <p>ZONING DISTRICTS - "ZONING MAP OF THE BOROUGH OF NAUGATUCK, CONNECTICUT" EFFECTIVE JULY 17, 2017</p> <p>FLOODPLAIN - FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 09009C0257H EFFECTIVE DATE DECEMBER 17, 2010 PREPARED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), US DEPARTMENT OF HOMELAND SECURITY. ENTIRE AREA SHOWN IS WITHIN ZONE "X" UNSHADED: AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL FLOOD CHANCE FLOODPLAIN.</p> <p>TOWER OWNER CONSTRUCTION DRAWINGS PREPARED BY PROTERRA DESIGN GROUP, LLC DATED JANUARY 29, 2019.</p>	<p>ZONING DISTRICT(S): RESIDENCE DISTRICT (R-15)</p> <p>ASSESSOR'S ID#: 074-8610 (P) USE: COMMUNICATIONS TOWER</p> <table border="1"> <thead> <tr> <th>DIMENSION</th> <th>PROVIDED</th> <th>CONSTRAINT</th> </tr> </thead> <tbody> <tr> <td>LOT - AREA</td> <td>30.7± ACRES</td> <td>15,000 SF MIN.</td> </tr> <tr> <td>LOT - FRONTAGE</td> <td>565'±</td> <td>95' MIN.</td> </tr> <tr> <td>LOT - (E) & (P) IMPERVIOUS COVERAGE</td> <td>13%±</td> <td>20% MAX.</td> </tr> <tr> <td>(P) T-MOBILE LEASE AREA - FRONT YARD</td> <td>1380'±</td> <td>30' MIN.</td> </tr> <tr> <td>(P) T-MOBILE LEASE AREA - REAR YARD</td> <td>483'±</td> <td>30' MIN.</td> </tr> <tr> <td>(P) T-MOBILE LEASE AREA - SIDE YARD</td> <td>152'±</td> <td>20' MIN.</td> </tr> <tr> <td>(P) T-MOBILE LEASE AREA - HEIGHT</td> <td>15'±</td> <td>40' MAX.</td> </tr> </tbody> </table>	DIMENSION	PROVIDED	CONSTRAINT	LOT - AREA	30.7± ACRES	15,000 SF MIN.	LOT - FRONTAGE	565'±	95' MIN.	LOT - (E) & (P) IMPERVIOUS COVERAGE	13%±	20% MAX.	(P) T-MOBILE LEASE AREA - FRONT YARD	1380'±	30' MIN.	(P) T-MOBILE LEASE AREA - REAR YARD	483'±	30' MIN.	(P) T-MOBILE LEASE AREA - SIDE YARD	152'±	20' MIN.	(P) T-MOBILE LEASE AREA - HEIGHT	15'±	40' MAX.
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T-MOBILE NORTHEAST LLC
36 SOUTH CRIFFIN ROAD
BLOOMFIELD, CT 06002

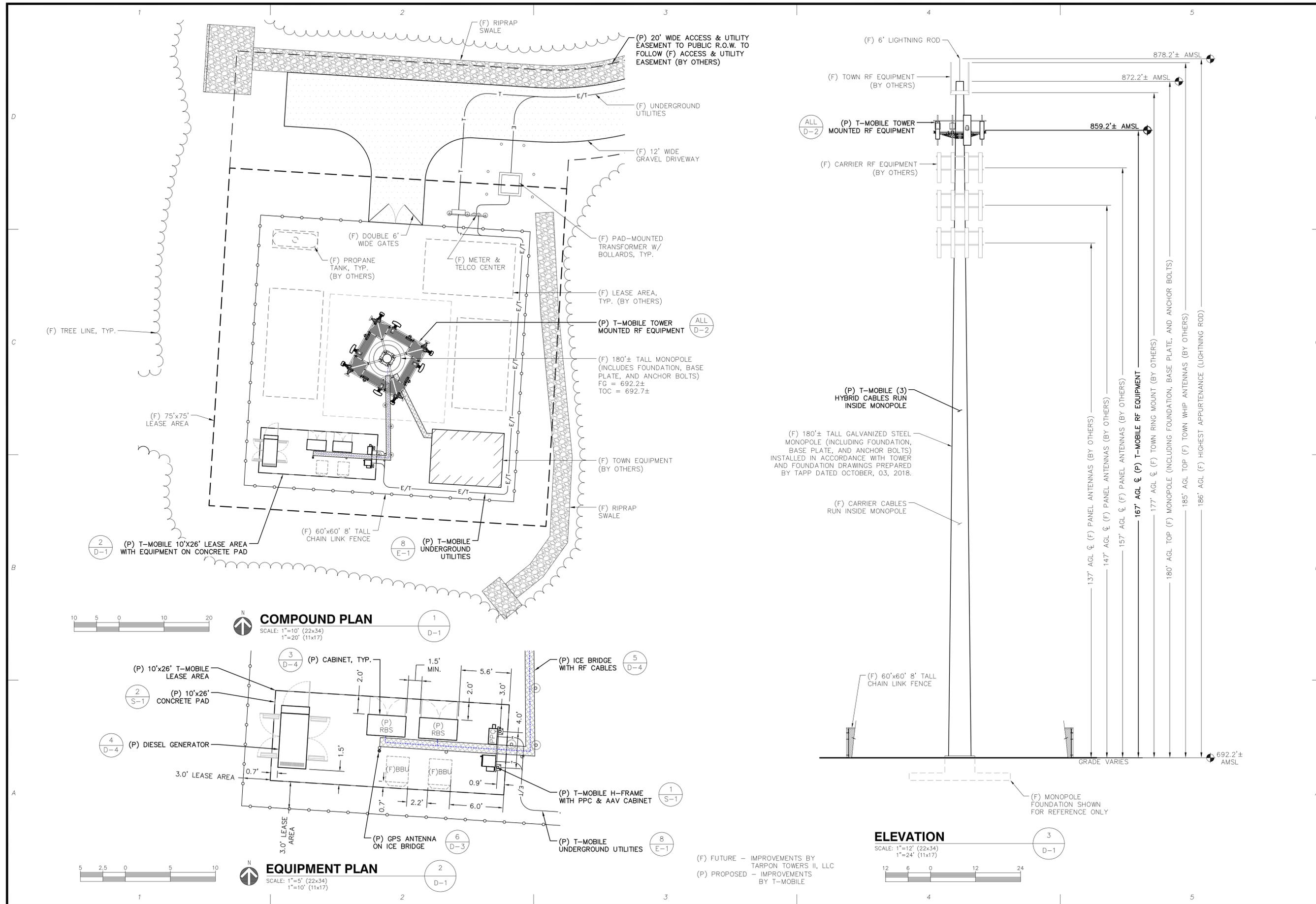
STAMP:



DATE: 02/13/19
DRAWN: BM/PN
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: -----
SHEET TITLE:

COMPOUND PLAN AND ELEVATION

D-1



BASED UPON RFDS DATED OCTOBER 29, 2018

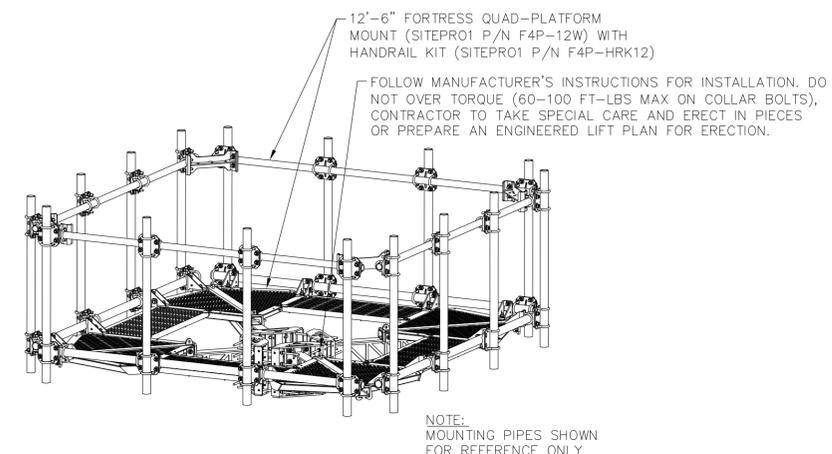
RF EQUIPMENT TABLE

SECTOR	PANEL ANTENNAS					FROM REMOTE RADIO UNIT				REMOTE RADIO UNIT		FROM GROUND EQUIPMENT	
	AZIMUTH	QTY.	MAKE & MODEL	RAD. CENTER (AGL)	DOWNTILT	COAX. QTY.	COAX. SIZE	COAX. LENGTH	RET. QTY.	QTY.	MAKE & MODEL	HYBRID CABLE QTY.	HYBRID CABLE LENGTH
ALPHA	30°	1	ERICSSON AIR32_B66A_B2A	167.0'	0M/2E	-	-	-	-	-	-	(P) 3 (6x12 HCS)	275'±EA
		1	RFS-APXVAA24_43-U-A20	167.0'	0M/2E	6	1/2"φ	15'±	-	-	RRUS11 B12 RADIO 4478 B71		
		1	RFS-APX16DW-16DW-S-E-A20(QUAD)	167.0'	0M/2E	2	1/2"φ	15'±	-	-	RRUS11B4		
BETA	120°	1	ERICSSON AIR32_B66A_B2A	167.0'	0M/2E	-	-	-	-	-	-		
		1	RFS-APXVAA24_43-U-A20	167.0'	0M/2E	6	1/2"φ	15'±	-	-	RRUS11 B12 RADIO 4478 B71		
		1	RFS-APX16DW-16DW-S-E-A20(QUAD)	167.0'	0M/2E	2	1/2"φ	15'±	-	-	RRUS11B4		
DELTA	210°	1	ERICSSON AIR32_B66A_B2A	167.0'	0M/2E	-	-	-	-	-	-		
		1	RFS-APXVAA24_43-U-A20	167.0'	0M/2E	6	1/2"φ	15'±	-	-	RRUS11 B12 RADIO 4478 B71		
		1	RFS-APX16DW-16DW-S-E-A20(QUAD)	167.0'	0M/2E	2	1/2"φ	15'±	-	-	RRUS11B4		
GAMMA	300°	1	ERICSSON AIR32_B66A_B2A	167.0'	0M/2E	-	-	-	-	-	-		
		1	RFS-APXVAA24_43-U-A20	167.0'	0M/2E	6	1/2"φ	15'±	-	-	RRUS11 B12 RADIO 4478 B71		
		1	RFS-APX16DW-16DW-S-E-A20(QUAD)	167.0'	0M/2E	2	1/2"φ	15'±	-	-	RRUS11B4		
GPS	N/A	1	TBD	12'	N/A	N/A	N/A	N/A	N/A	N/A	1/2"φ COAX	30'±	

CONTRACTOR TO VERIFY PORT LOCATIONS AND NOTIFY ENGINEER PRIOR TO ORDERING PLATFORM.

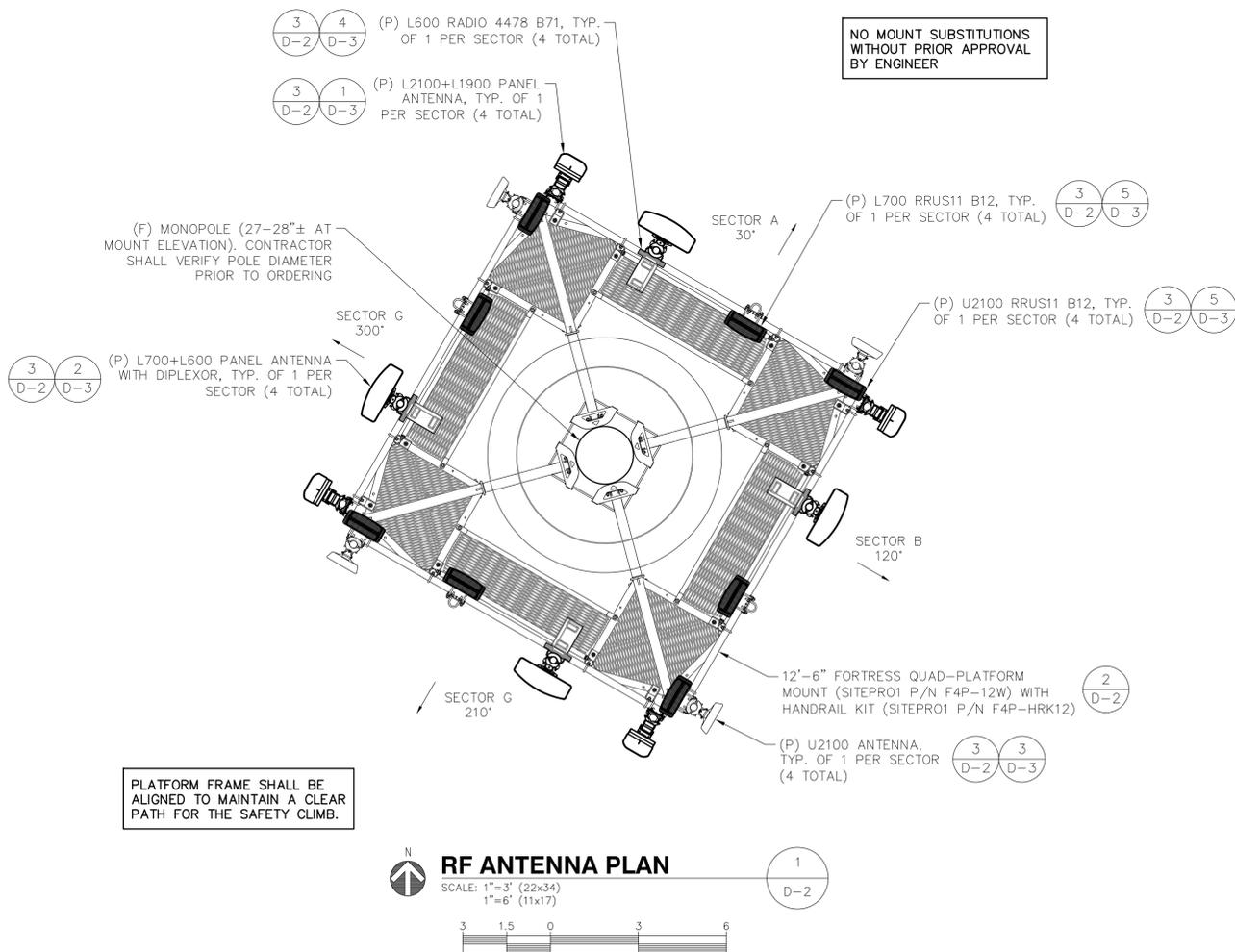
CONTRACTOR TO VERIFY POLE DIAMETER AT MOUNTING ELEVATION PRIOR TO ORDERING PLATFORM.

NO MOUNT SUBSTITUTIONS WITHOUT PRIOR APPROVAL BY ENGINEER



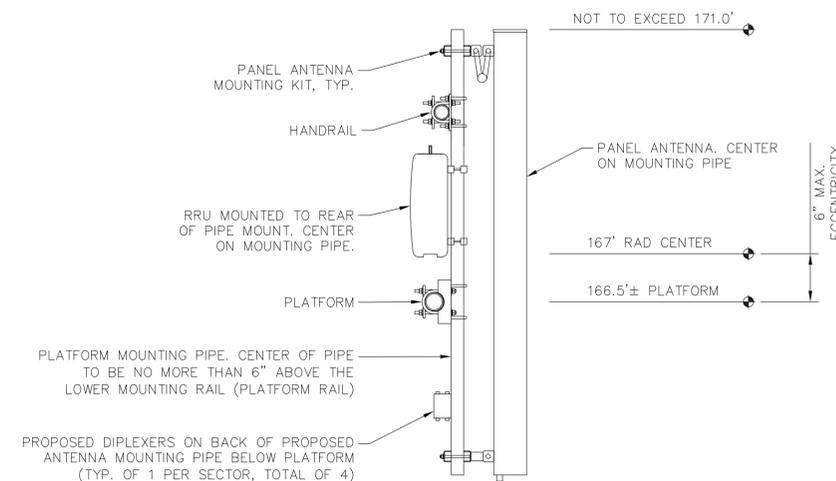
SECTOR FRAME DETAIL

SCALE: NONE



RF ANTENNA PLAN

SCALE: 1"=3' (22x34)
1"=6' (11x17)



TYPICAL MOUNTING ELEVATION

SCALE: NONE

4 Boy Road, Bldg. A,
Suite 200
Hadley, MA 01035
Ph: (413) 320-4918

CONSULTANTS:

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NAUGATUCK, CT 06770

APPLICANT:

T-Mobile
T-MOBILE NORTHEAST LLC
36 SOUTH CRIFFIN ROAD
BLOOMFIELD, CT 06002

STAMP:



DATE: 02/13/19

DRAWN: BM/PN

CHECK: JMM/TEJ

SCALE: SEE PLAN

JOB NO.: -----

SHEET TITLE:

ANTENNA PLAN & DETAILS

D-2

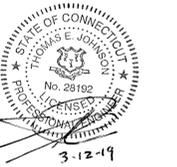
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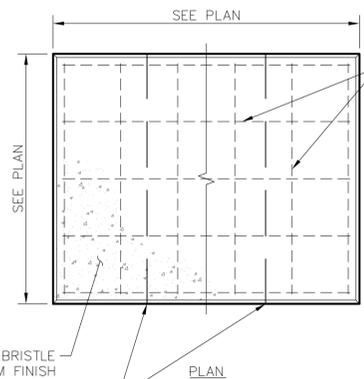
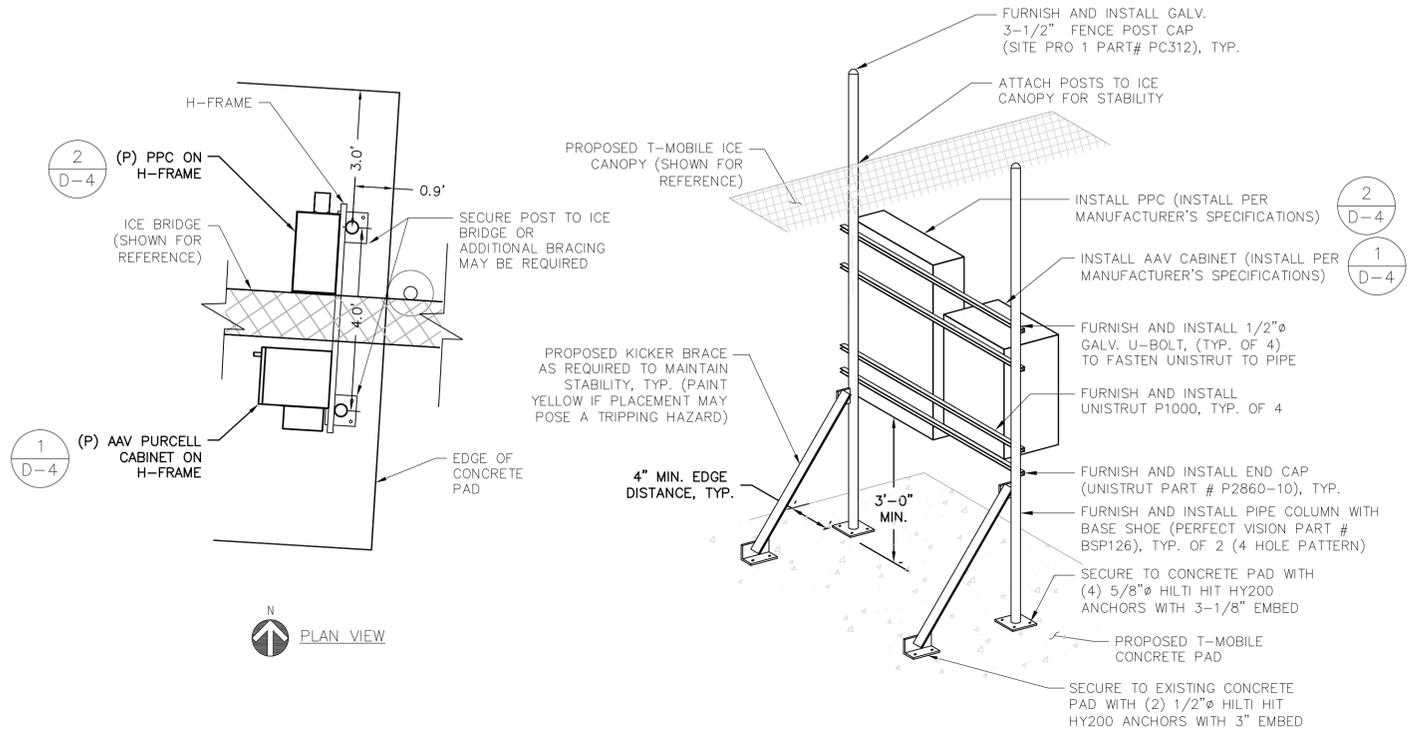
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DETAILS

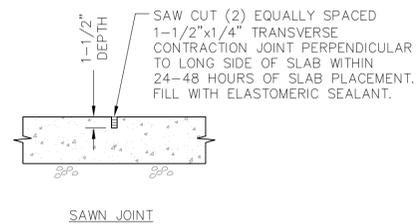
S-1

SITE CONCRETE & REINFORCING STEEL NOTES:

- 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.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4500PSI) MAY BE USED. SLUMP SHALL BE 4"±1" AND ALL EXPOSED CONCRETE SHALL BE AIR ENTRAINMENT 5%±1%. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 318 CODE REQUIREMENTS
- 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. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- 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 LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS1½ IN.
- A CHAMFER ¼" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS/EPOXY SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE 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 SIMPSON OR APPROVED EQUAL.
- CONCRETE CYLINDER TESTS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (ACI 318-14 SECTION 26.12.2 - FREQUENCY OF TESTING) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER TO PROVIDE THE BUILDING OFFICIAL:
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS 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 BY AN INDEPENDENT TESTING AGENCY
- 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.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS OR FOUNDATIONS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.



- NOTES:
- BEARING STRATA MEDIUM TO DENSE INSET GRANULAR MATERIAL OR COMPACTED FILL. 95% COMPACTION. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. NO DELETERIOUS MATERIALS OR ORGANICS TO BE USED.
 - CONCRETE FORM WORK SHALL BE CONSTRUCTED USING MINIMUM 2"x10" NOMINAL SIZE LUMBER. STRIP AND REMOVE UPON COMPLETION.
 - CONCRETE SHALL HAVE 4000PSI 28-DAY COMPRESSIVE STRENGTH WITH 5(±1)% AIR ENTRAINMENT, 4(±1)" SLUMP AND BRISTLE BROOM FINISH.
 - SEE CONCRETE NOTES ON GN-1.



CONCRETE PAD
SCALE: NONE

2
S-1

CONSULTANTS:

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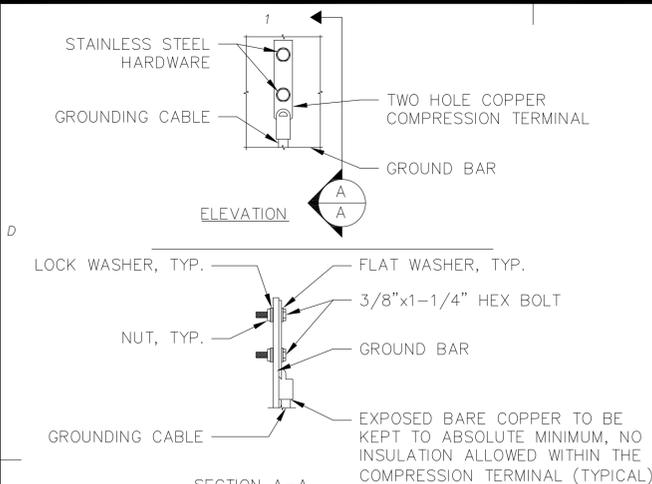
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(FOR SCHEMATIC ONLY)

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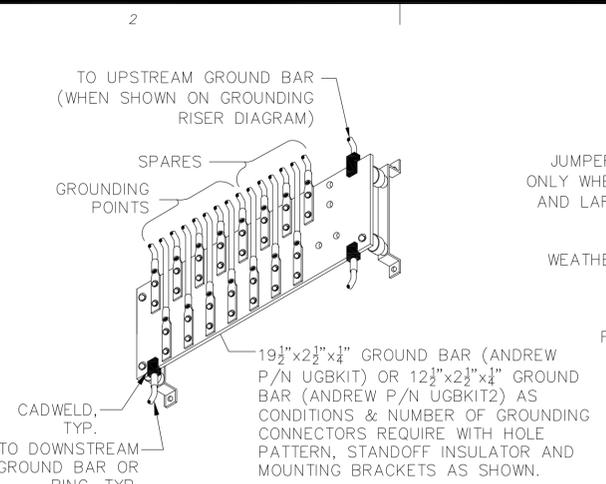
ELECTRICAL & GROUNDING DETAILS
E-1



NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

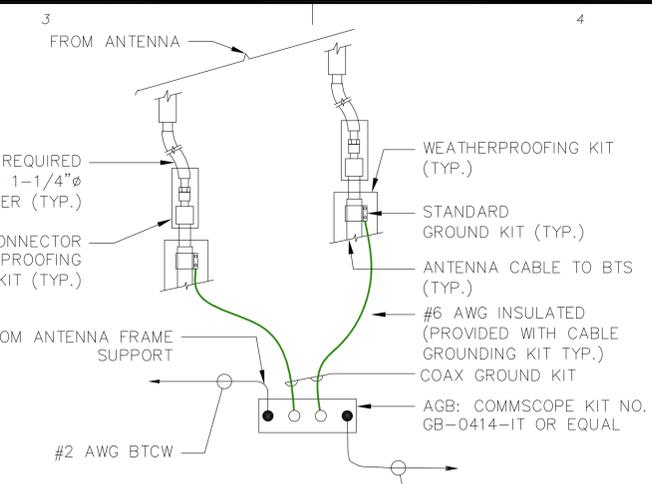
TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.



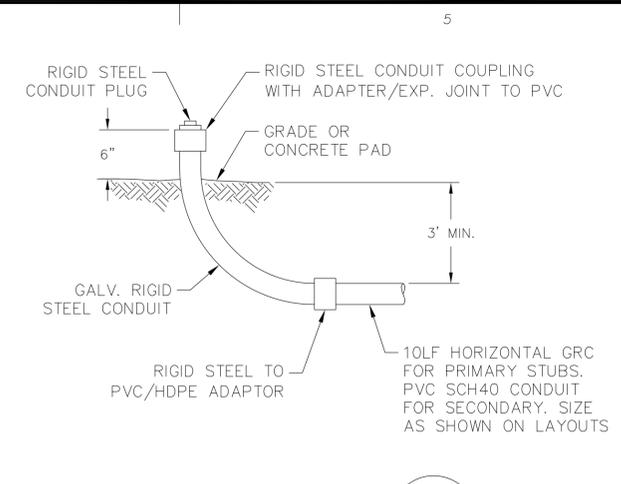
COAX GROUND BAR (MGB)

SCALE: NONE



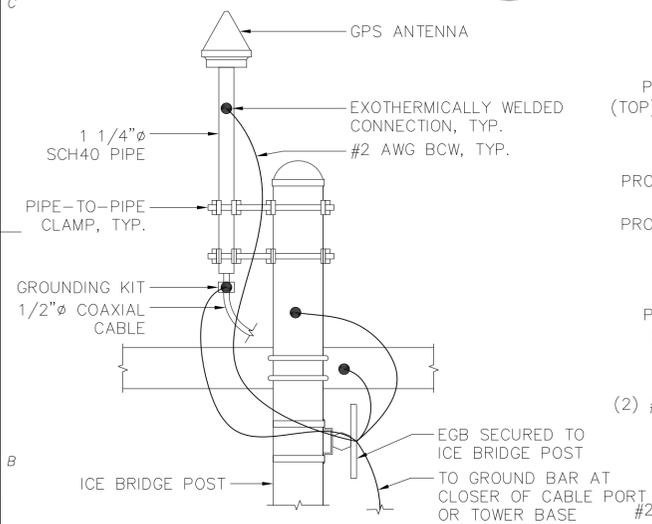
TOWER TOP CABLE GROUNDING DETAIL

SCALE: N.T.S.



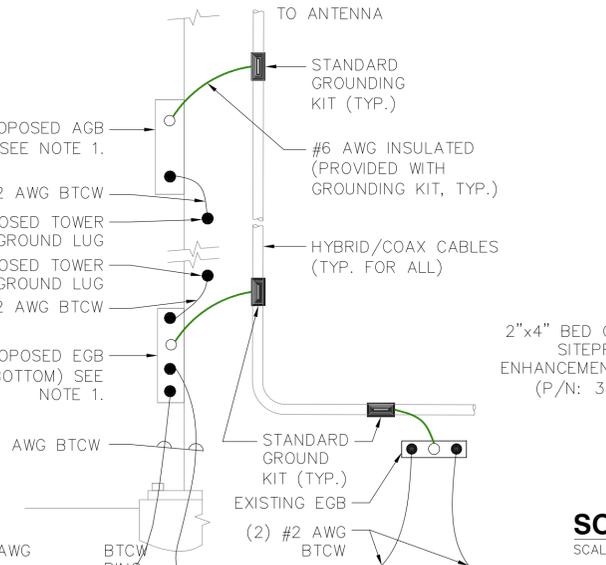
CONDUIT STUB UP

SCALE: NONE



GPS ANTENNA GROUNDING DETAIL

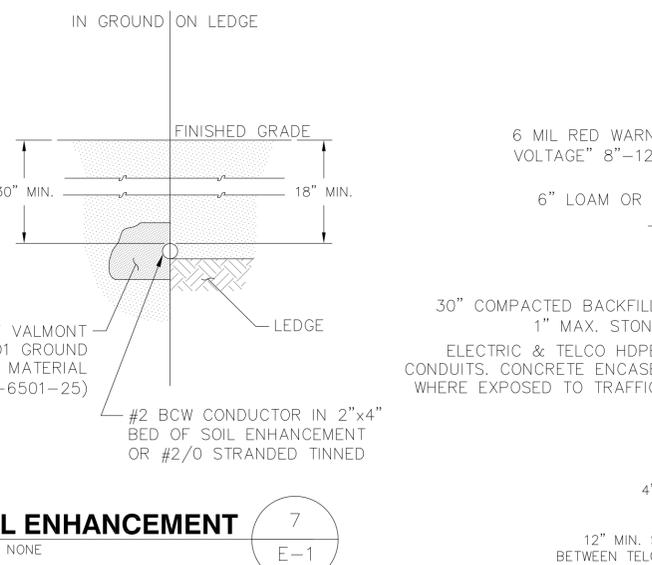
SCALE: N.T.S.



NOTE:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE ADDITIONAL AGB/EGB AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED

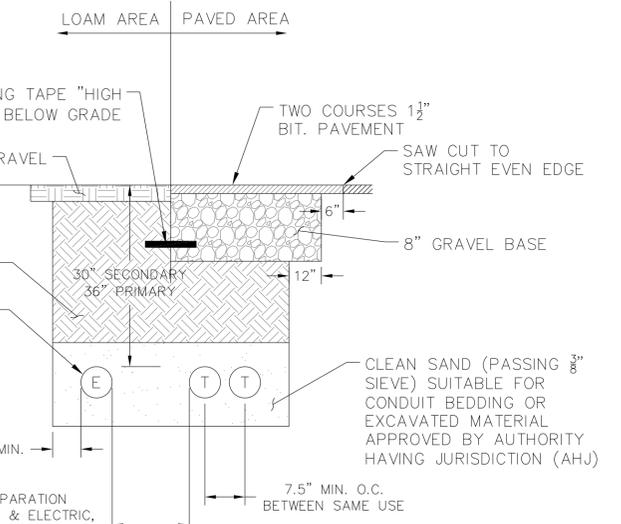
TOWER BOTTOM CABLE GROUNDING DETAIL

SCALE: N.T.S.



SOIL ENHANCEMENT

SCALE: NONE



MAKE ALL CONNECTIONS AS PER UTILITY COMPANY REQUIREMENTS

NOTES:
1. MAKE ALL CONNECTIONS AS PER UTILITY COMPANY REQUIREMENTS.
2. VERIFY CONDUIT SIZE WITH UTILITY COMPANY.
3. CONTRACTOR SHALL FURNISH AND INSTALL AN APPROVED 2,500 POUND TEST TAPE IN EACH PRIMARY CONDUIT RUN OR PER UTILITY COMPANY REQUIREMENTS.

BURIED CONDUIT SECTION

SCALE: NONE



ELECTRICAL LEGEND

A	AMPERE	○ MECHANICAL CONNECTION
V	VOLT	● CADWELD CONNECTION
KWH	KILOWATT - HOUR	
C	CONDUIT	
GRC	GALVANIZED RIGID CONDUIT	
BTCW	BARE TINNED (SOLID) COPPER WIRE (#2 AWG, UNLESS NOTES OTHERWISE)	
G	GROUND	
⊕	GROUND	
MGB	MASTER GROUND BAR	
AGB/EGB	EQUIPMENT GROUND BAR/ANTENNA GROUND BAR	
—	GROUND COPPER WIRE, SIZE AS NOTED	
—	EXPOSED WIRING	
—	INSULATED GROUNDING CONDUCTOR (#6 AWG STRANDED, UNLESS NOTED OTHERWISE)	
○	5/8"x10" COPPER CLAD STAINLESS STEEL GROUND ROD	
●	EXOTHERMIC (CAD WELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION	
PPC	POWER PROTECTION CABINET	
⊗	OMNI-DIRECTIONAL ELECTRIC MARKER SYSTEM (EMS) BALL	

ELECTRICAL & GROUNDING NOTES:

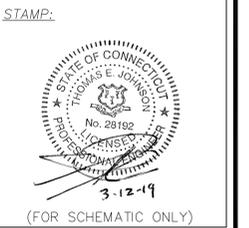
- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) 2017 AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION AS REQUIRED BY NEC.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- GROUNDING SHALL COMPLY WITH NEC ART. 250.
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
- CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LYGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
- BOND ANTENNA EGB'S AND MGB TO WATER MAIN/GROUND RING.
- TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
- VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

CONSULTANTS:

NO.	DATE	REVISIONS
0	02/26/19	ISSUED FOR CONSTRUCTION
1	03/12/19	CONSTRUCTION REVISED

SITE NAME: CTNH35D (MAPLE HILL)
SITE NUMBER: CTNH35D
ADDRESS: 641 MAPLE HILL ROAD
NAUGATUCK, CT 06770

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
36 SOUTH CRIFFIN ROAD
BLOOMFIELD, CT 06002



STAMP:
DATE: 02/13/19
DRAWN: BM/PN
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: -----
SHEET TITLE:

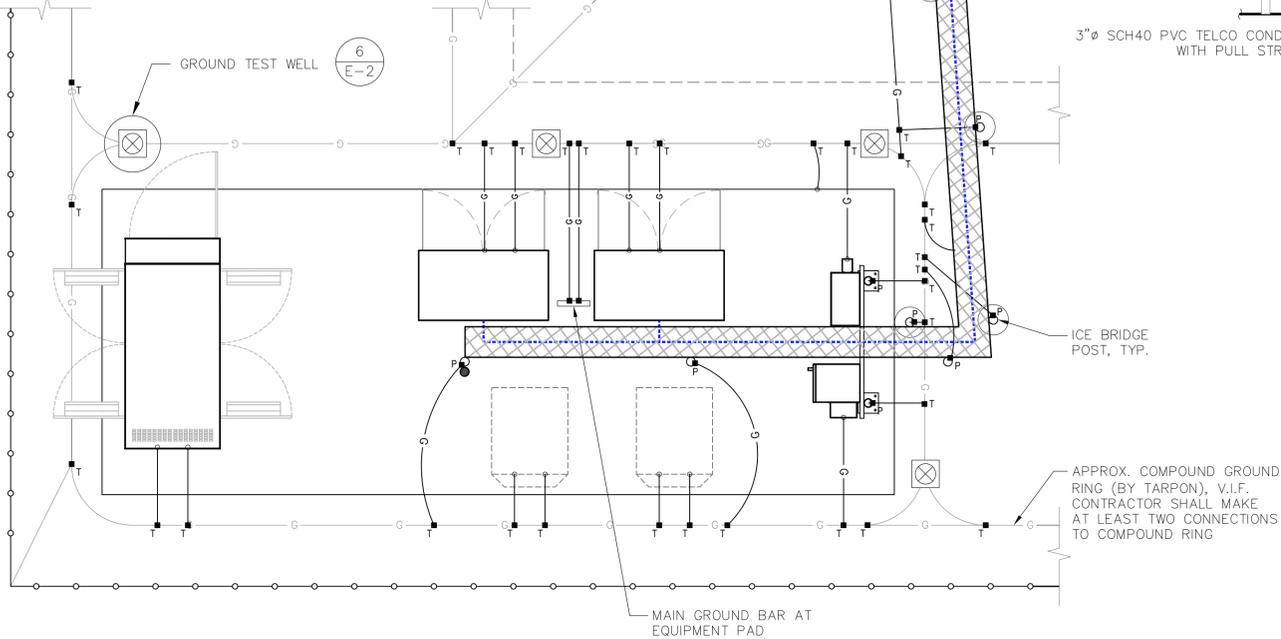
ELECTRICAL & GROUNDING DETAILS

E-2

LEGEND

- ☒ 5/8"Øx10' COPPER CLAD STEEL
- GROUND ROD DRIVE AT 45° (MAX.) OR 18"x18"x1/8" COPPER GROUND PLATE
- EXOTHERMIC WELD #2 BCW TO #2
- BCW CONDUCTOR PARALLEL
- EXOTHERMIC WELD TO #2 BCW CONDUCTOR TO VERTICAL PIPE
- MECHANICAL LUG
- #2 BCW CONDUCTOR WITH 2"x4" BED OF SOIL ENHANCEMENT OR #2/0 STRANDED TINNED

NOTE:
SITE GROUNDING SYSTEM IS A BASIC DESIGN. THE ACTUAL RESISTANCE TO GROUND CANNOT BE CONFIRMED WITHOUT A FIELD TEST. CONTRACTOR TO INSTALL AND PROVIDE DOCUMENTATION AT CLOSEOUT.

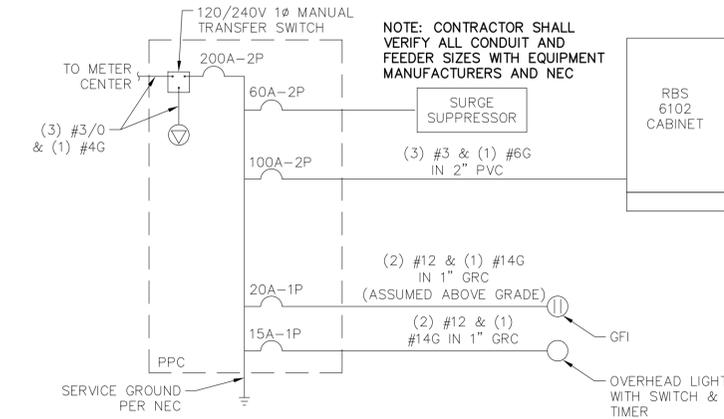


GROUND EQUIPMENT GROUNDING SCHEMATIC

SCALE: 1"=3' (22x34)
1"=6' (11x17)

1
E-2

- COMPRESSION CONNECTION
- #2 BCW
- EXOTHERMIC CONNECTION
- #2
- EXOTHERMIC CONNECTION
- #6



EQUIPMENT ONE-LINE SCHEMATIC

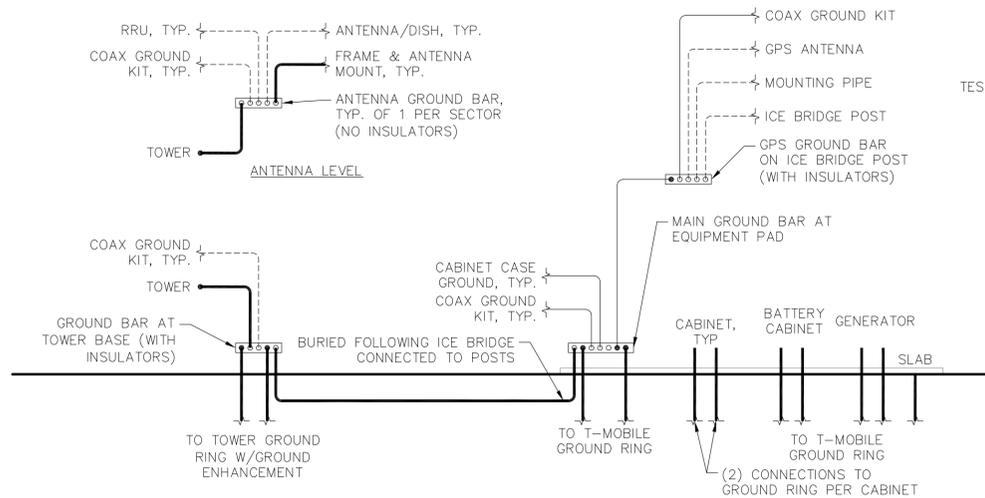
SCALE: 1"=15'

3
E-2

GROUNDING RISER DIAGRAM

SCALE: NONE

4
E-2

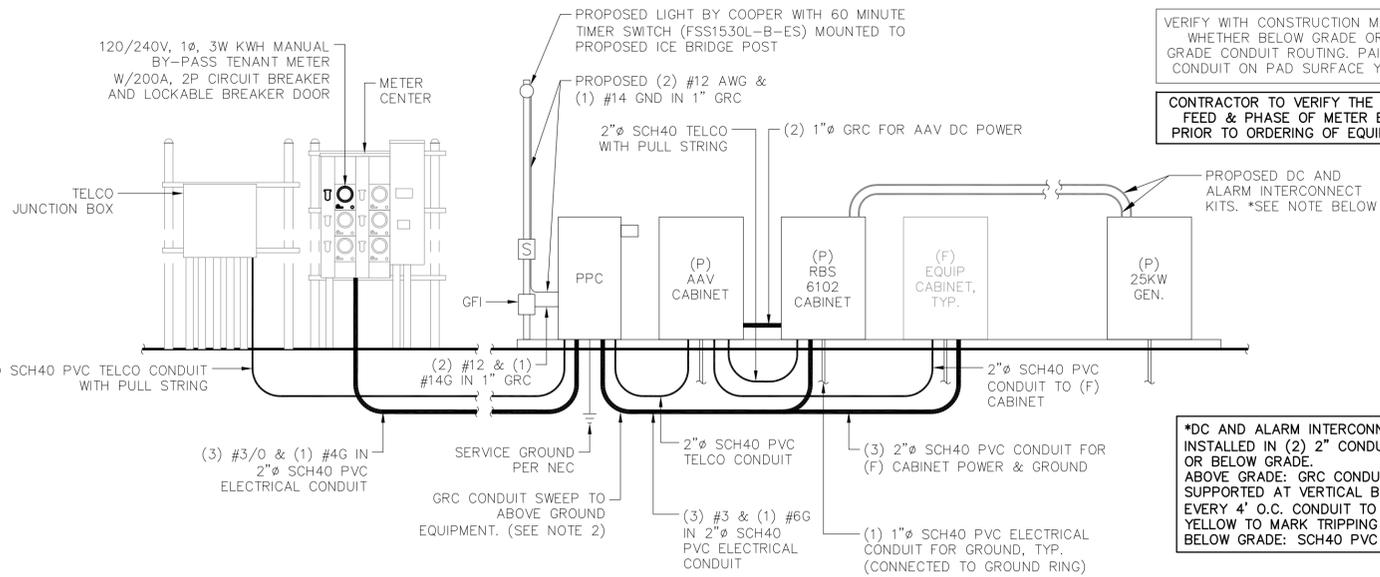


UTILITY RISER SCHEMATIC

SCALE: NONE

2
E-2

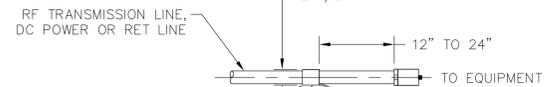
1. MAKE ALL CONNECTIONS AS PER UTILITY PURVEYOR'S & NEC REQUIREMENTS
2. CONDUIT SWEEPS TO ABOVE GROUND ELECTRICAL APPLIANCES SHALL BE GRC. SEE DETAIL 4/E-1.



VERIFY WITH CONSTRUCTION MANAGER WHETHER BELOW GRADE OR AT GRADE CONDUIT ROUTING. PAINT ALL CONDUIT ON PAD SURFACE YELLOW

CONTRACTOR TO VERIFY THE POWER FEED & PHASE OF METER BANK PRIOR TO ORDERING OF EQUIPMENT

*DC AND ALARM INTERCONNECT KITS INSTALLED IN (2) 2" CONDUIT ABOVE OR BELOW GRADE. ABOVE GRADE: GRC CONDUIT SUPPORTED AT VERTICAL BENDS AND EVERY 4' O.C. CONDUIT TO BE PAINTED YELLOW TO MARK TRIPPING HAZARD. BELOW GRADE: SCH40 PVC CONDUIT

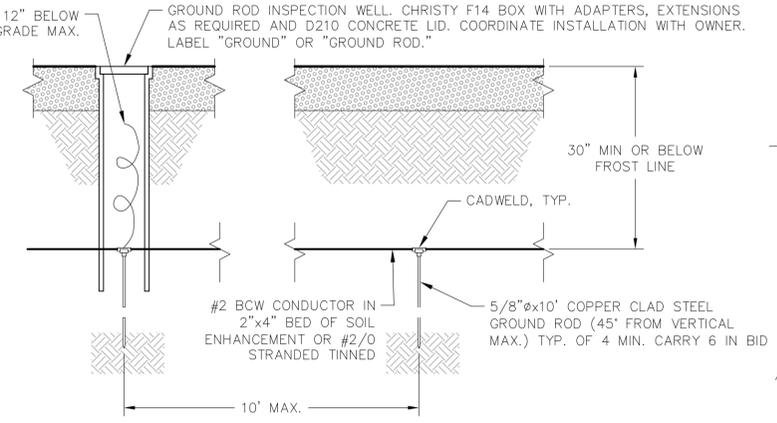


1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.
4. DISTANCE BETWEEN GROUND KITS SHALL BE NO MORE THAN 100 FEET.

CABLE GROUND KIT

SCALE: NONE

5
E-2



GPS ANTENNA GROUNDING

SCALE: NONE

6
E-2

Delta PowerGen 25000 Design Document

Diesel, DC, 25kW Model#PowerGen-25000 SKU#33658



PowerGen 25000

The following are responsible for this project document:

Kevin Smith

SR. Engineer (770) 256-3594

Project Design Spec Revision	1.0	Last Date:8/8/2018	5/14/2018
Final doc URL (~Dnnnnn):			
Location	Use the InfoRouter Search (Advanced) putting the Document ID (nnnnn without the D) to find the location of the master document.		
Template URL:	http://docs.eng.t-mobile.com/InfoRouter/docs/~D423750 Slightly updated 1/2011		

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1.2	Feature Description	3
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3.1	Interfaces and Alarming	6
4	Regulatory Requirements.....	8
5	Configuration/Diagrams	8
6	Maintenance.....	9

1 Introduction / Project Summary

1.1 Purpose of Project

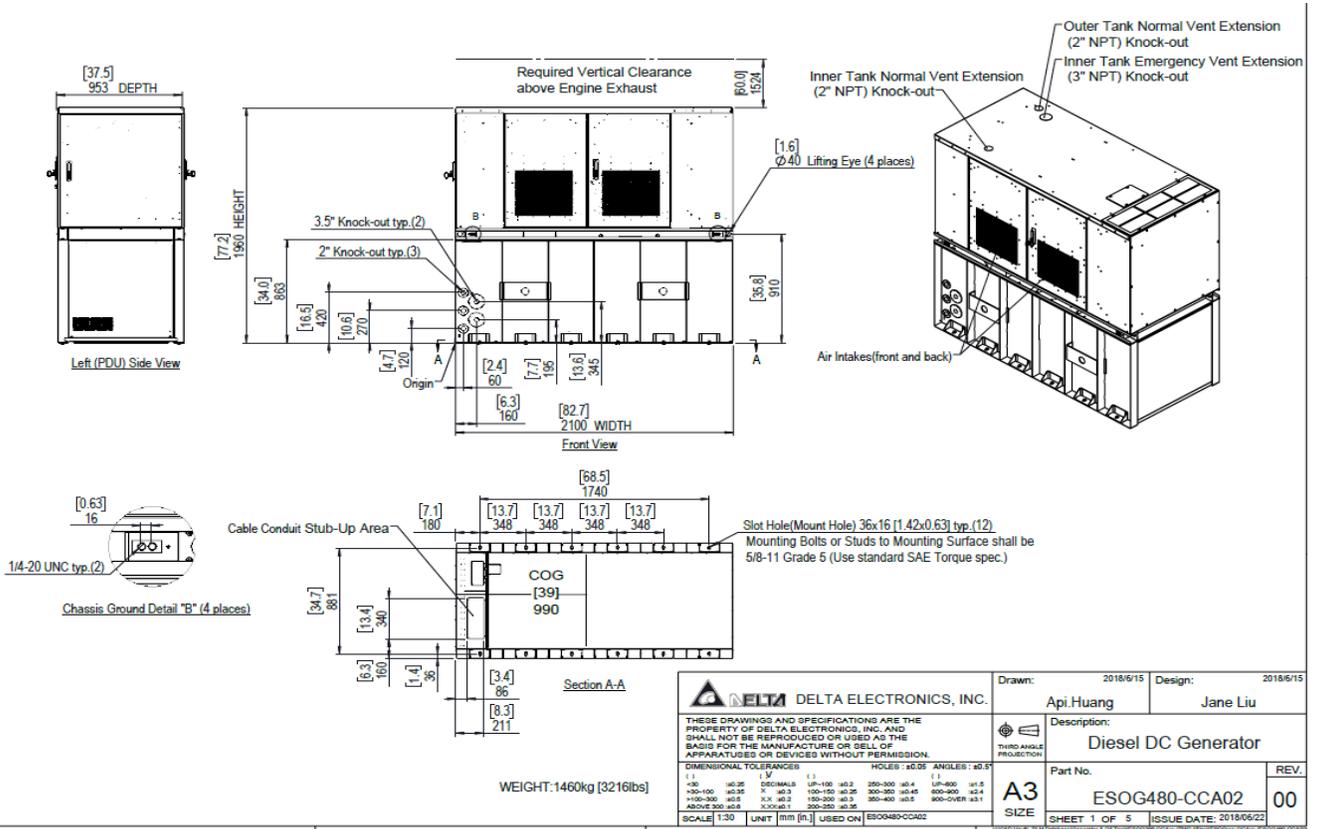
T-Mobile's nationwide cell site hardening plan is providing a refuelable backup power system capable of powering a site for a minimum of 48 hours before refueling is required. The purpose of this project is to give T-Mobile customers reliable service during power outages and provide a sufficient layer of coverage. This design document is for the Delta PowerGen 25000, which is a diesel DC generator with a capacity of 25kW.

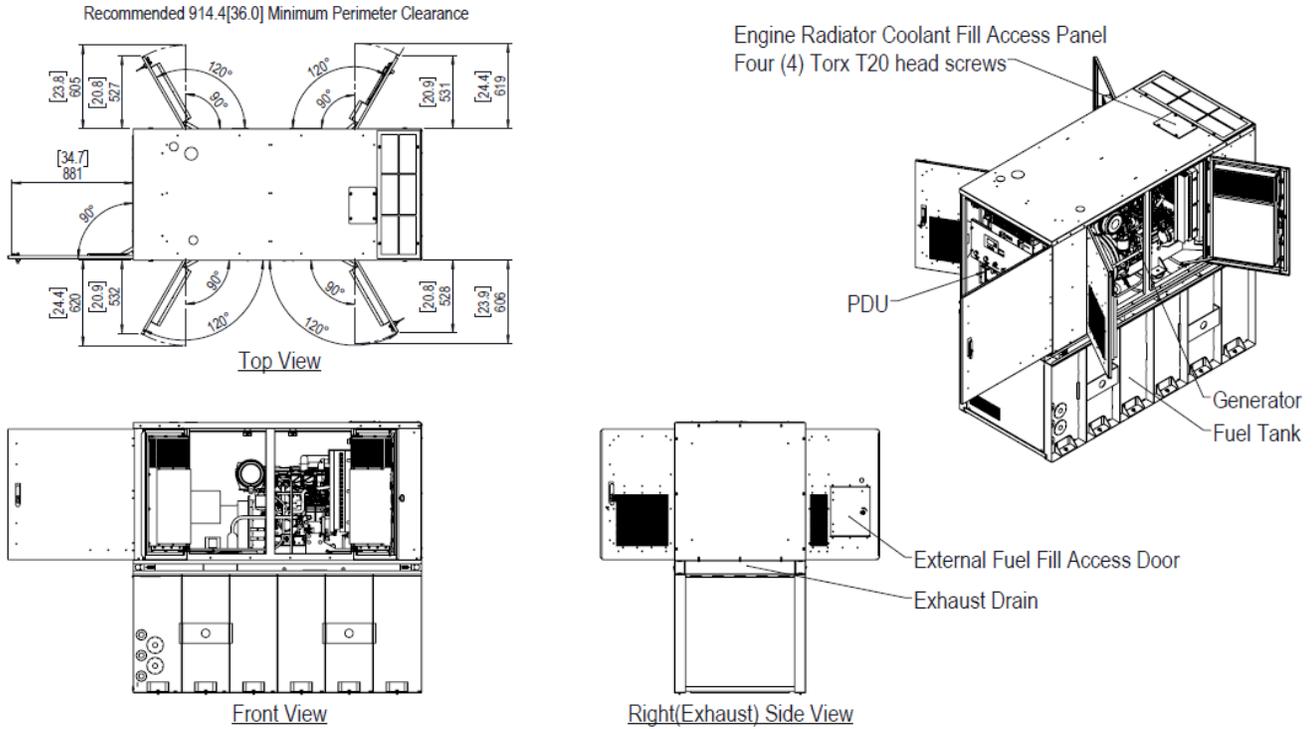
1.2 Feature Description

The 25kW Delta PowerGen diesel generator is one of the DC generators selected as part of the T-Mobile RFP in support of the nationwide cell site hardening plan. The 25kW has a Level 2 acoustic enclosure. It is equipped with telecom HE rectifiers like in the Delta Hp Large SSC, -48V DC bus powered battery charger of 12V engine battery, Status/alarming via telecom standard dry contacts, WEB GUI/SNMP, and OBD2 Port for GEOTAB monitoring.

1.3 Dimensions

The dimensions of a level 2 Acoustic Enclosure in inches W83" x H78" x D38" (dimensions have been rounded up to the nearest inch) T-Mobile requires a 36-inch radius around the generator that will cover the hinged door and the panel style doors on the generator.

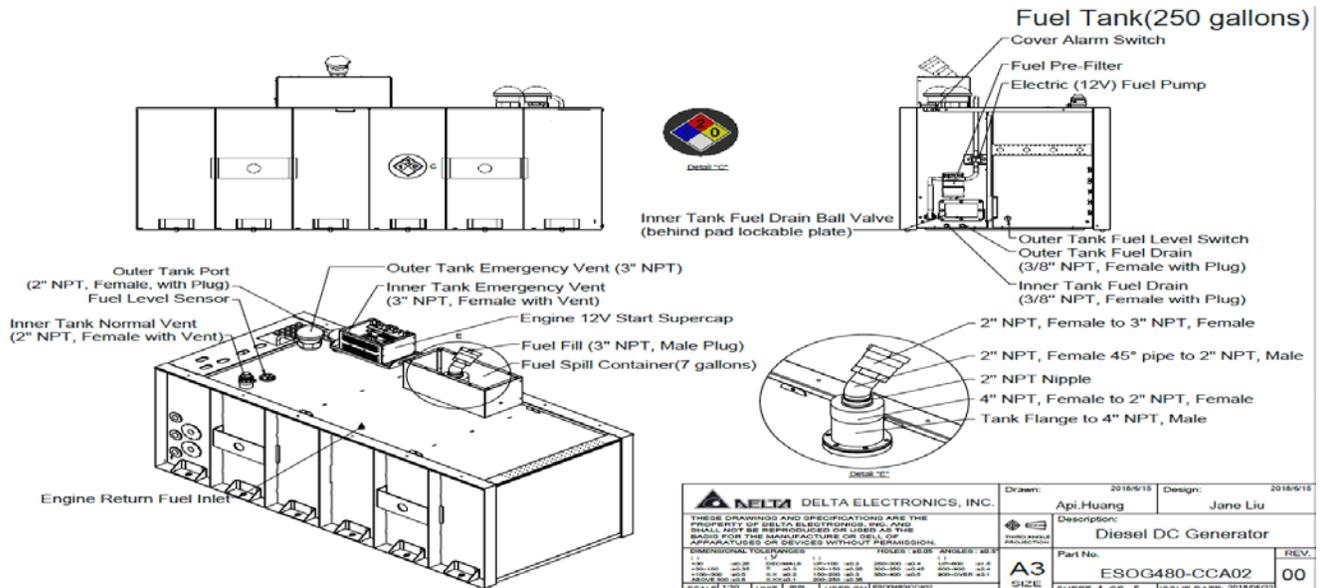




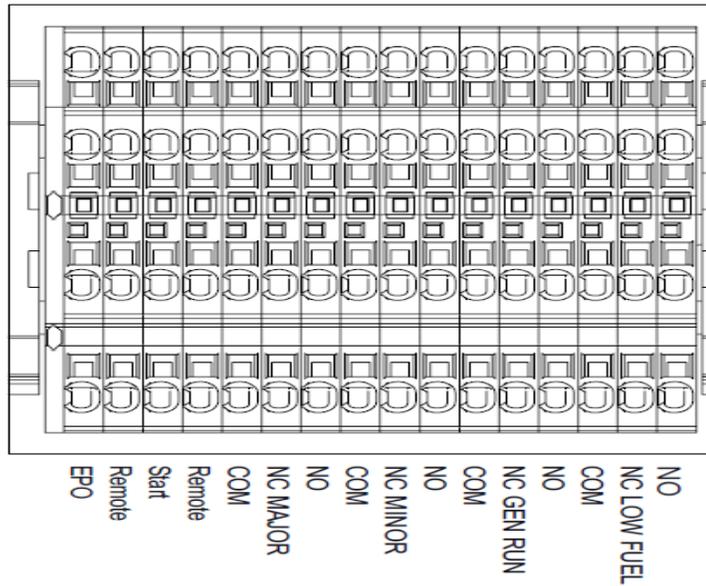
		Drawn: 2018/6/15	Design: 2018/6/15
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.		Description: Diesel DC Generator	
DIMENSIONAL TOLERANCES: () DECIMALS () FRACTIONS () ANGLES: ±0.05 ±0.00 ±0.25 ±0.00 ±0.10 ±0.05 ±0.02 ±0.01 ±0.5 ±0.00 ±0.25 ±0.00 ±0.10 ±0.05 ±0.02 ±0.01 ±0.5 ±0.00 ±0.25 ±0.00 ±0.10 ±0.05 ±0.02 ±0.01 ±0.5 ±0.00 ±0.25 ±0.00 ±0.10 ±0.05 ±0.02 ±0.01 ±0.5		Part No. ESOG480-CCA02	REV. 00
SCALE: 1:30 UNIT: [mm (in)] USED ON: ESOG480-CCA02		SHEET 2 OF 5 ISSUE DATE: 2018/06/22	

2 Fuel Tanks

The 25kW PowerGen has a 250 Gallon Double-Wall UL142 Base tank. Below is the Install drawing 25kW.



Terminal Block Detail "F"



T-Mobile has four relays available from the Delta controller that are Low Fuel, Gen Run, Minor, Major. T-Mobile will utilize Normally Closed (NC) for alarms in terminal block F. Ericsson cabinets need to be equipped with the alarm expansion kit (UTOVP-ALM8EXP) to handle external alarms.

Terminal Block F	Nokia FSEB Alarm Connections 13-24	T-Mobile Standard Alarms
Terminal block F 2.Gen Run	NC 4110 grd 4111 pin 13	Generator Running
Terminal block F 4.Major	NC 4110 grd 4111 pin 14	Generator Alarm Critical
Terminal block F 3. Minor	NC 4110 grd 4111 pin 15	Generator Alarm NSI
Terminal block F 1. Low Fuel	NC 4110 grd 4111 pin 16	Low Fuel

Terminal Block F	Ericsson Alarm 8expConnections	T-Mobile Standard Alarms
Terminal block F 2.Gen Run	NC - A5	Generator Running
Terminal block F 4.Major	NC - A6	Generator Alarm Critical
Terminal block F 3. Minor	NC - A7	Generator Alarm NSI
Terminal block F 1. Low Fuel	NC - A8	Low Fuel

Ericsson UTOVP- ALM8EXP



UTOVP-ALM8EXP	OVP Expansion Kit for 8 External Alarms	Qty
Product no	Denomination	
UTOVP-ALM8EXP	OVP Expansion Kit for 8 External Alarms	1
NFD30234/08	OVERVOLTAGE ARRESTER/OVP-ALM 8	1
RPM777143/01200	CABLE WITH CONNECTOR/SIGNAL CABLE	2
<i>66 block optional not included</i>		

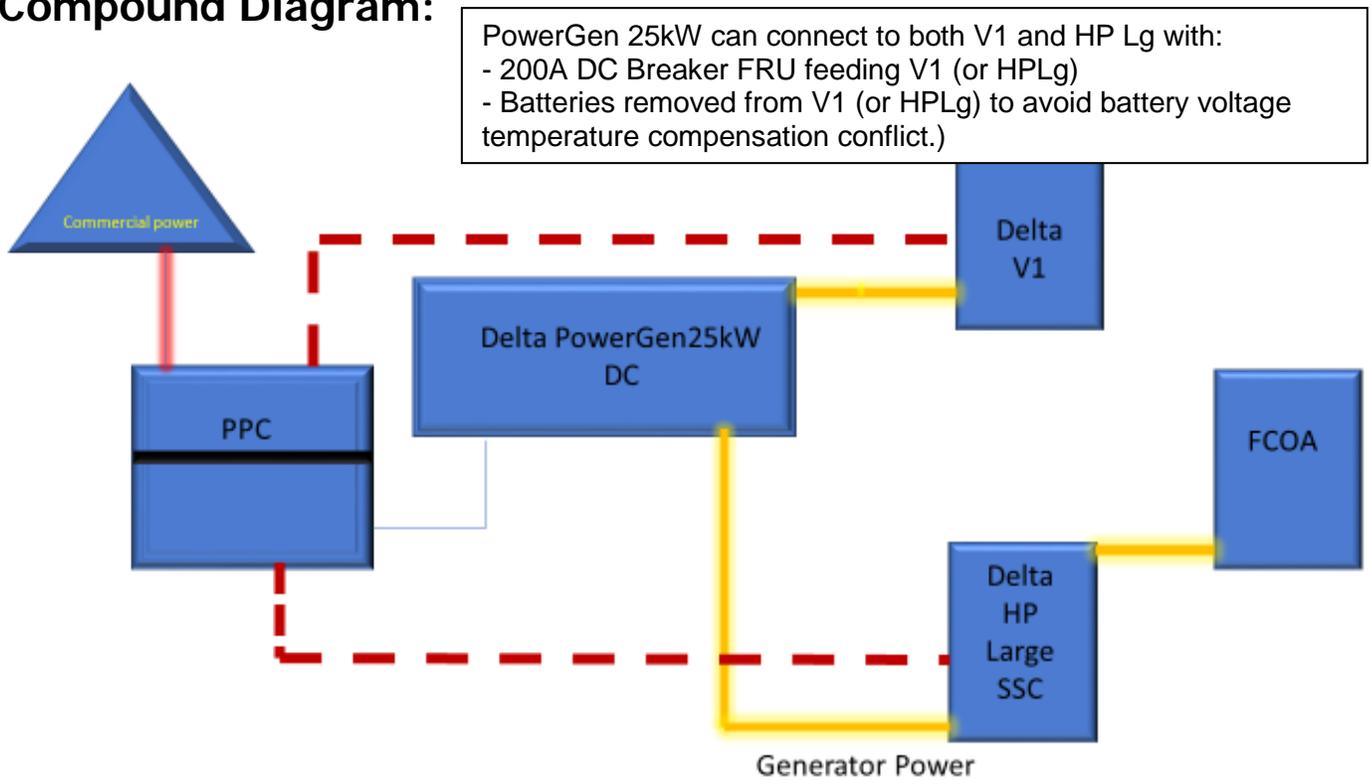
4 Regulatory Requirements

Level 2 Acoustic Enclosure provides a noise level of 65dBA. It is EPA certified and meets NFPA 99 and 110 requirements(NFPA National Fire Protection Association). The PowerGen25000 DC generator engine is a Perkins Tier 4 engine and meets the EPA standards.

5 Configuration/Diagrams

The physical configuration of this DC Generator is to connect the polar power 25kW generator directly to the DC bus of the SSC.

Compound Diagram:



6 Maintenance

T-Mobile is recommending preventive maintenance to be performed every 250 hours of run-time or every 12 months, whichever comes first.

T-Mobile requires this minimum service checklist for the generator engine:

- Check engine mounts and support. Tighten fasteners.
- Check all the engine hoses and clamps for proper fit, and any signs of cracking and fatigue from wear.
- Inspect all belts for signs of cracking and fatigue from wear and adjust for proper tension.
- Inspect the exhaust system for leaks, burns and wet stacking. Drain exhaust line and tighten any clamps and flange bolts.
- Inspect silencer and plumbing for leaks, cracks or any other signs of wear.
- Inspect the system for fuel, oil and coolant leaks and signs of corrosion.
- Replace water separator.
- Replace water filter/ conditioner.
- Check Anti-Freeze (Spector-Analysis).
- Check coolant level and add, if needed.
- Inspect radiator mounting for signs or wear and cracking.
- Inspect/ clean air filter and change per manufacturer specifications.
- Inspect air intakes and outlets and tighten clamps and brackets, if applicable.
- Replace fuel filter.
- Inspect the carburetor fuel injection system, fuel injection pump and choke, if equipped. Adjust to manufacturers specifications.
- Change engine oil, oil filter and record the date on the filter casing.
- Check engine heater operation, if equipped.

- Check and adjust the battery charger operations, and charge rate within the manufacturer's recommended operating specifications.
- Inspect the battery housing, hardware connections, and cables for corrosion and wear.
- Check the battery electrolyte levels and specific gravity levels.
- Load test generator battery.
- Check, adjust and record generator output voltage, as necessary.
- Check and record the alternator charge rate.
- During inspection run the generator for 30 minutes under load. During this time, and after the engine is at full operational speed and has reached engine operating temperature; determine and record the condition of all inspection points: oil pressure, water/ coolant temperature, Fuel pressure, generator gauge, indicator operations, generator battery.
- Check the engine timing and adjust to manufacturers specifications, if necessary.
- Inspect, adjust and record governor and frequency, if necessary.
- Verify that the low fuel alarm is operational and configured correctly to trigger when the fuel tank reaches 50% of fuel tank capacity.

Check fuel level and refuel the generator during the preventive/ corrective maintenance visit.

Exhibit B

Structural Analysis

March 28, 2019

Hollis M. Redding
Site Acquisition Manager
Northeast Site Solutions
35 Griffin Road South
Bloomfield, CT 06002

RE: Structural Assessment Letter
T-Mobile Site ID: CTNH325D
Tarpon Towers Site ID: CT1008
Site Address: 641 Maple Hill Road
Naugatuck, CT 06770

Ms. Redding:

ProTerra Design Group, LLC has reviewed the proposed T-Mobile antenna installation at the above referenced site. ProTerra has confirmed that the original tower design as provided by Tarpon Towers, LLC entitled CT1008, Naugatuck 180' Monopole (Tapp Job Number: 23518-555) designed by Michael F. Plahovinsak, P.E. dated 3/28/19 incorporates the proposed T-Mobile antenna configuration.

The proposed T-Mobile loading consists of the following equipment to be installed at approximately 167'± AGL based on the T-Mobile RFDS dated 10/29/18.

Panel Antennas:

- Four (4) Ericsson AIR32 B66A_B2A Panel Antennas
- Four (4) RFS APXVAA24_43-U-A20 Panel Antennas
- Four (4) RFS APX16DWV-16DWV-S-E-A20 Panel Antennas

Remote Radio Unit (RRU):

- Four (4) RRUs11 B4
- Four (4) RRUs11 B12
- Four (4) 4478 B71

Cables:

- Three (3) 6x12HCS Hybrid cables run inside the Monopole

This determination was based on the following limitations and assumptions:

1. Equipment and locations shall not deviate from the construction drawings without written approval of the engineer.
2. ProTerra Design Group, LLC is not responsible for any modifications completed prior to and hereafter which ProTerra Design Group, LLC was not directly involved.
3. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
4. All tower components including antennas, RRUs and cables are assumed to be properly installed and supported as per the manufacturer's specifications and plans of record.

If you have any questions or need further information, please do not hesitate to call.

Sincerely,
ProTerra Design Group, LLC


Thomas E. Johnson, PE
Managing Partner

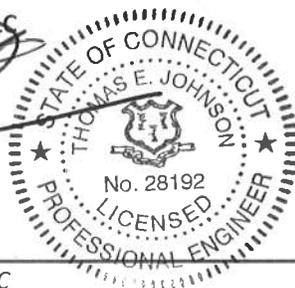


Exhibit C

EBI Consulting RF Emissions Report



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

T-Mobile Existing Facility

Site ID: CTNH325D

Naugatuck
641 Maple Hill Road
Naugatuck, CT 06770

February 4, 2019

EBI Project Number: 6219000311

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	2.13 %



February 4, 2019

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

Emissions Analysis for Site: **CTNH325D – Naugatuck**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **641 Maple Hill Road, Naugatuck, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **641 Maple Hill Road, Naugatuck, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 1 UMTS channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 2) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.



- 6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 7) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antennas used in this modeling are the **Ericsson AIR32 B66A/B2A & RFS APX16DWV-16DWVS-E-A20** for 1900 MHz (PCS) and 2100 MHz (AWS) channels, the **RFS APXVAA24-43-U-A20** for 600 MHz and 700 MHz channels. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antenna mounting height centerline of the proposed antennas is **167 feet** above ground level (AGL).
- 10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 11) All calculations were done with respect to uncontrolled / general population threshold limits.



T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C	Sector:	D
Antenna #:	1						
Make / Model:	Ericsson AIR32 B66A/B2A						
Gain:	15.9 dBd						
Height (AGL):	167 feet						
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	4						
Total TX Power(W):	200						
ERP (W):	7,780.90						
Antenna A1 MPE%	1.07	Antenna B1 MPE%	1.07	Antenna C1 MPE%	1.08	Antenna D1 MPE%	1.07
Antenna #:	2						
Make / Model:	RFS APX16DWV-16DWVS-E-A20						
Gain:	16.3 dBd						
Height (AGL):	167 feet						
Frequency Bands	2100 MHz (AWS)						
Channel Count	1						
Total TX Power(W):	40						
ERP (W):	1,706.32						
Antenna A2 MPE%	0.24	Antenna B2 MPE%	0.24	Antenna C2 MPE%	0.24	Antenna D2 MPE%	0.24
Antenna #:	3						
Make / Model:	RFS APXVAA24-43-U-A20						
Gain:	13.05 / 13.35 dBd						
Height (AGL):	167 feet						
Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz
Channel Count	4						
Total TX Power(W):	120						
ERP (W):	2,479.78						
Antenna A3 MPE%	0.82	Antenna B3 MPE%	0.82	Antenna C3 MPE%	0.82	Antenna D3 MPE%	0.82

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	2.13 %
No Additional Carriers	NA
Site Total MPE %:	2.13 %

T-Mobile Sector A Total:	2.13 %
T-Mobile Sector B Total:	2.13 %
T-Mobile Sector C Total:	2.13 %
Site Total:	2.13 %



T-Mobile Maximum MPE Power Values (Per Sector)

T-Mobile_Frequency Band / Technology (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile PCS - 1900 MHz LTE	2	1,556.18	167	4.32	PCS - 1900 MHz	1000.00	0.42%
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	167	6.47	AWS - 2100 MHz	1000.00	0.65%
T-Mobile AWS - 2100 MHz UMTS	1	1,706.32	167	2.37	AWS - 2100 MHz	1000.00	0.24%
T-Mobile 600 MHz LTE	2	807.35	167	2.24	600 MHz	400.00	0.56%
T-Mobile 700 MHz LTE	2	432.54	167	1.20	700 MHz	467.00	0.26%
						Total:	2.13%

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	2.13 %
Sector B:	2.13 %
Sector C:	2.13 %
T-Mobile Maximum MPE % (Per Sector):	2.13 %
Site Total:	2.13 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **2.13%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Exhibit D

Letter of Authorization



March 6, 2019

T-Mobile Northeast LLC
ATTN: Mark Richard
35 Griffin Road South
Bloomfield, CT 06002

RE: T-Mobile proposed antenna and equipment installation at 641 Maple Hill Rd
Naugatuck, CT Municipal Tower
T-Mobile Site ID: CTNH325D
Tarpon Site I.D.: CT1008 Naugatuck

Dear Mr. Richard:

Tarpon Towers II, LLC, ("Tarpon"), as owner of the above mentioned tower site, hereby authorize T-Mobile Northeast LLC and/or its agents to apply for and obtain all necessary permits and approvals from all applicable State of Connecticut and Borough of Naugatuck agencies, commissions, boards and departments.

Should you have any questions please contact me at 941-757-5010 ext. 104.

Sincerely,



Brett Buggeln
Chief Operating Officer

1001 Third Ave West, Ste. 420
Bradenton, FL 34205

Exhibit E

Recipient Mailings



**UNITED STATES
POSTAL SERVICE®**

Click-N-Ship®

P

usps.com
US POSTAGE \$7.35
 Flat Rate Enviv



04/01/2019 Mailed from 06002 062S0000000311

PRIORITY MAIL 1-DAY™

Expected Delivery Date: 04/02/19
 Ref#: TS-NH325D
0024

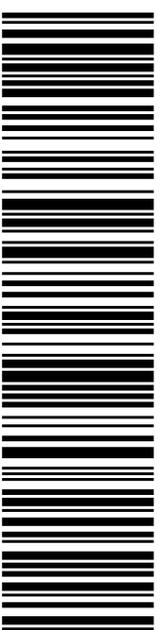
DEBORAH CHASE
 T-MOBILE USA- NSS
 35 GRIFFIN RD S
 BLOOMFIELD CT 06002-1351

Carrier -- Leave if No Response

C004

SHIP TO: ED CARTER
 BOROUGH OF NAUGATUCK-ZONING ENFORCEMENT
 229 CHURCH ST
 NAUGATUCK CT 06770-4145

USPS TRACKING #



9405 5036 9930 0462 4417 47

Electronic Rate Approved #038555749



Cut on dotted line.

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0462 4417 47

Trans. #: 460382498	Priority Mail® Postage: \$7.35
Print Date: 03/29/2019	Total: \$7.35
Ship Date: 04/01/2019	
Expected Delivery Date: 04/02/2019	

From: DEBORAH CHASE
 T-MOBILE USA- NSS
 35 GRIFFIN RD S
 BLOOMFIELD CT 06002-1351

Ref#: TS-NH325D

To: ED CARTER
 BOROUGH OF NAUGATUCK-ZONING ENFORCEMENT
 OFFICER
 229 CHURCH ST
 NAUGATUCK CT 06770-4145

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



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04/01/2019 Mailed from 06002 062S0000000101

PRIORITY MAIL 1-DAY™

Expected Delivery Date: 04/02/19

0024

DEBORAH CHASE
 T-MOBILE/NSS
 35 GRIFFIN RD S
 BLOOMFIELD CT 06002-1351

Carrier -- Leave if No Response

C004

SHIP TO: NANCY K DIMEO
 TOWN CLERK-BOROUGH OF NAUGATUCK
 229 CHURCH ST
 NAUGATUCK CT 06770-4145

USPS TRACKING #



9405 5036 9930 0462 4417 54

Electronic Rate Approved #038555749



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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0462 4417 54

Trans. #: 460382498	Priority Mail® Postage: \$7.35
Print Date: 03/29/2019	Total: \$7.35
Ship Date: 04/01/2019	
Expected Delivery Date: 04/02/2019	

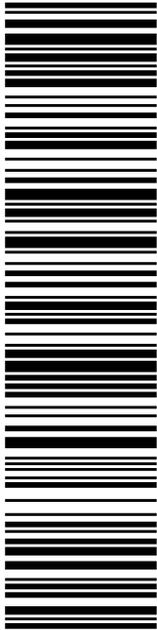
From: DEBORAH CHASE
 T-MOBILE/NSS
 35 GRIFFIN RD S
 BLOOMFIELD CT 06002-1351

To: NANCY K DIMEO
 TOWN CLERK-BOROUGH OF NAUGATUCK
 229 CHURCH ST
 NAUGATUCK CT 06770-4145

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USPS TRACKING #

9405 5036 9930 0462 6568 13

Electronic Rate Approved #038555749

SHIP TO: KEITH COPPINS
TARPON TOWERS
1001 3RD AVE W
STE 420
BRADENTON FL 34205-7873

P

usps.com
US POSTAGE \$7.35
Flat Rate Env
04/01/2019

Click-N-Ship®

9405 5036 9930 0462 6568 13 0073 5000 0063 4205

Mailed from 06002 062S0000000315

PRIORITY MAIL 3-DAY™

DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

Expected Delivery Date: 04/04/19
Ref#: TS NH325D
0004

C002



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- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0462 6568 13

<p>Trans. #: 460398634 Print Date: 03/29/2019 Ship Date: 04/01/2019 Expected Delivery Date: 04/04/2019</p>	<p>Priority Mail® Postage: \$7.35 Total: \$7.35</p>
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From: DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

Ref#: TS NH325D

To: KEITH COPPINS
TARPON TOWERS
1001 3RD AVE W
STE 420
BRADENTON FL 34205-7873

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