



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

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

September 29, 2017

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

RE: Exempt Modification
600 OLD HARTFORD ROAD, COLCHESTER, CT 06415
Latitude: 41.58671100
Longitude: -72.37817700
T-Mobile Site#: CTNL250A-MWAAV

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing 180-foot guyed tower located at 600 Old Hartford Road, Colchester CT 06415. T-Mobile currently has approval for six (6) antennas at the 150-foot level of the existing 180-foot tower. The property and guyed tower are owned by Cordless Data Transfer. T-Mobile now intends to install one (1) IBR1300 Dish. The new dish would be installed at the 150-foot and level of the tower.

Planned Modifications:

Remove:
NONE

Remove and Replace:
NONE

Install New:
(1)IBR1300 Dish
(1)Fiber line
(2)CAT6 Cables

Existing to Remain:
(12) 1-5/8" coax
(3) Smart bias T
(3) APX18 Antenna – 1900Mhz
(3) LNX6515 Antenna – 700 Mhz
(3) TMA

This facility was approved by the Town of Colchester PZC – Dated February 3, 2000. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-SOj-73, a copy of this letter is being sent Art Shilosky, First Selectman and Randal Benson, Town Planner of the Town of Colchester, as well as the tower owner (CDT) and property owner (CDT)..



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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Denise Sabo
Mobile: 860-209-4690
Fax: 413-521-0558
Office: 199 Brickyard Rd, Farmington, CT 06032
Email: denise@northeastsitesolutions.com

Attachments

cc: Art Shilosky, First Selectman, as elected official
Randal Benson, Zoning Enforcement Officer
Cordless Data Transfer - as tower owner and property owner

Exhibit A

TOWN OF COLCHESTER
ZONING & PLANNING COMMISSION
537-7280

ZONING PERMIT

TAX MAP SHEET # 6-10 LOT # 51 ZONE R-60

LOCATION (Street & No.) 600 Old Hartford Road

NAME OF PROPERTY OWNER MARK Logguit RES. PHONE 860-871-~~6665~~⁶²⁰⁴

OWNER'S ADDRESS 17 Carriage Drive, Tolland CT BUS. PHONE 860-871-6204

NAME OF APPLICANT Cordless Data Transfer, Inc PHONE 860-295-0445

APPLICANT'S ADDRESS 17 Ridgewood Drive, Marlborough, CT 06447

PROPOSED ACTIVITY:

NEW BUILDING ADDITION ALTERATION REPAIR OTHER Radio Tower

PROPERTY USE (Current):

SINGLE FAMILY TWO FAMILY MULTI FAMILY
COMMERCIAL INDUSTRIAL OTHER Antenna Mount Platform

PROPOSED:

LOT DIMENSIONS _____ AC/SQ.FT. _____ FRONTAGE _____

DOCUMENTATION REQUIRED:

- PLOT PLAN REQUIRED FOR ALL NEW CONSTRUCTION, ADDITIONS & ACCESSORY STRUCTURES.
- PLAN SHALL BE DRAWN IN ACCORDANCE WITH SECTION 12 OF THE COLCHESTER ZONING REGULATIONS.
- DISTANCES TO PROPERTY LINES FROM PROPOSED CONSTRUCTION MUST BE INCLUDED.

THE OWNER OF THE ABOVE PROPERTY GUARANTEES THAT ALL THE APPLICABLE REQUIREMENTS OF THE ZONING REGULATIONS WILL BE MET.

DATE 1/13/00 SIGNATURE (Property Owner or Agent) [Signature]

FOR OFFICE USE ONLY:

The above stated PROPOSAL is hereby certified to comply (*) or not comply (-) with the Colchester Zoning Regulations.

DATE 2/3/00 SIGNATURE (Zoning Enforcement Officer) [Signature]
1/18/00 (LR)

ZONING CERTIFICATE OF COMPLIANCE
Colchester, Connecticut

TOWN OF COLCHESTER
BUILDING PERMIT

OFFICE USE ONLY

Street 600 Old Hartford Rd
 Map 6-10 Lot 51
 Date 2/28/00
 PERMIT **№ 8308**

FEES PAID	Structural <u>300</u>	Plumbing _____	Misc. (<u>4/10</u>) <u>3</u>
	Septic _____	Heating _____	Misc. (<u>5/10</u>) <u>10</u>
	Electrical _____	Well _____	Total Fee Paid <u>3/5</u>

PERMISSION IS HEREBY GRANTED TO Cordless Data Trans Fer, Inc.
 to: erect , alter _____, enlarge _____, repair _____, move _____, demolish _____, a Survey Tower
 located at 600 Old Hartford Rd on land
 owned by MARK & G AULT

Said: erection , alteration _____, enlargement _____, repairs _____, removal _____, demolition _____, to be
 occupied as Communications tower

as described in Application No. _____ and to conform with plans and specifications filed with
 application, all provisions of the Connecticut Building Code and to comply with all other laws and rules relating to this
 subject. If no work is performed within six months from the time of issuance, this permit shall expire by limitation as
 provided by law.

REMARKS _____

Receipt No. 4621

Approved by Timothy E. York
 Building Inspector

Please refer to notice on reverse side of this permit
 WHITE: Applicant CANARY: Assessor PINK: Gen. File GOLDENROD: Street File

**TOWN OF COLCHESTER
APPLICATION FOR BUILDING PERMIT**

DATE OF APPLICATION 1/13/00 ASSESSOR'S TAX MAP & LOT # 6-10, 51
 Notice: Please refer to rules and requirements on reverse side.

The undersigned hereby applies for a permit to: ERECT , ALTER (), ENLARGE (), REPAIR (), REMOVE (),
 DEMOLISH (), a building or structure herein described and in accordance with plans and specifications submitted.

LOCATION (Street & No.) 600 Old Hartford Road PROPERTY OWNER Mark Lobault

OWNER'S ADDRESS 17 Carver Lane Tolland, CT PHONE 860-871-6204

BUILDER CORDESS DATA TRANSFER, INC PHONE 860-295-0445

BUILDER'S ADDRESS 17 Ridgewood Drive, Meriden, CT 06460 LICENSE # _____

USE GROUP R-60 TYPE OF CONSTRUCTION RADIO TOWER SIZE OF BUILDING N/A X

GARAGE SIZE _____ x _____ ATTACHED _____ TOTAL FLOOR AREA _____ NUMBER OF STORIES _____

NUMBER OF BATHS _____ NUMBER OF BEDROOMS _____ JACUZZI/HOT-TUBS _____ GAL.

HEATING TYPE _____ SIDING _____ SEPTIC _____ WELL _____ CITY WATER _____

CITY SEWER _____ GARBAGE DISPOSAL _____ ACCESSORY BUILDING SIZE _____

IS PROPERTY WITHIN 100 YEAR FLOOD PLAIN? _____ EST. CONSTRUCTION VALUE \$ 30,000

The applicant agrees to comply with all the provisions of the building code and with the provisions of all other laws and rules governing building construction.

Signed (Owner or Agent) [Signature] Print Name ROBERT J FRANCIS

APPROVED (Building Official) [Signature]

DESCRIPTION OF PROPOSED WORK UNDER THIS APPLICATION:
Construct 150' Guyed Radio Tower per attached Plan.

SUBCONTRACTORS		OFFICIAL USE ONLY	
Electrician Name <u>Michael Angelo</u>	Address <u>60 Sunset Ridge</u>	Electrical	_____
Signature <u>Michael Angelo</u>	Lic.# <u>STAFFORD CT</u>	Plumbing	_____
Plumber Name	Address	Heating	_____
Signature	Lic.#	Sed/Erosion	_____
Heating Contractor Name	Address	Septic	_____
Signature	Lic.#	Well	_____
Remodeler Name	Address	Driveway	_____
Signature	Lic.#	Building	<u>300</u>
Sprinkler Contractor Name	Address	State Fee	<u>5</u>
Signature	Lic.#	Total Fee	<u>315</u>

Exhibit B



Town of Colchester, CT

Property Listing Report

Map Block Lot

06-10/051-000/TWR

Account

11AT0006

PID

105116

Property Information

Property Location	600 OLD HARTFORD RD
Owner	AT&T MOBILITY
Co-Owner	ATTN TAX MANAGER
Mailing Address	909 CHESTNUT ST ST LOUIS MO 63101
Land Use	4310 Tel Rel Tw
Land Class	I
Zoning Code	
Census Tract	
Sub Lot	
Neighborhood	
Acreage	0
Utilities	
Lot Setting/Desc	
Survey Map	
Additional Info	

Photo



Sketch

Primary Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Floors	
Total Rooms	

Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

Exterior Walls	
Interior Walls	
Heating Type	
Heating Fuel	
AC Type	
Gross Bldg Area	
Total Living Area	



Town of Colchester, CT

Property Listing Report

Map Block Lot

06-10/051-000/TWR

Account

11AT0006

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

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Outbuildings	493400	345300
Land	0	0
Total	493400	345300

Outbuilding and Extra Items

Type	Description
Cell Shed	312.00 S.F.
Fence 8' Chain	360.00 L.F.
Cell Tower	2.00 SITES

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
AT&T MOBILITY	000/ 000	10/1/2011	

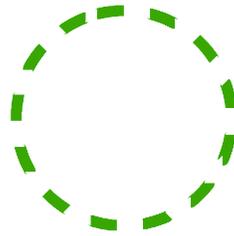


Town of Colchester, Connecticut - Assessment Parcel Map

Parcel: 06-10-051-000-TWR

Address: 600 OLD HARTFORD RD

51
34.77 AC
600



187.5'

103'

Old Hartford Rd

304.4'

Prospect Hill Rd

264.4'

279.1'

159.7'

240'

Approximate Scale: 1 inch = 100 feet



Map Produced: July 2016 / Grand List: 2015

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

Exhibit C



T-MOBILE NORTHEAST LLC

SITE NUMBER:
CTNL250-A

SITE NAME:
COLCHESTER

SITE ADDRESS:
**600 OLD HARTFORD ROAD
COLCHESTER, CT 06415**

(704G CONFIGURATION)



T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
O: 860-692-7100
F: 860-692-7159



NORTHEAST
SITE SOLUTIONS
Turnkey Wireless Development

420 MAIN STREET
STURBRIDGE, MA 01566
O: 860-692-7100
F: 860-692-7159



VERTICAL RESOURCES GRP.

489 WASHINGTON STREET
AUBURN, MA 01501
TEL: 508-981-9590
FAX: 508-519-8939



THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE COMMUNICATIONS. 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.

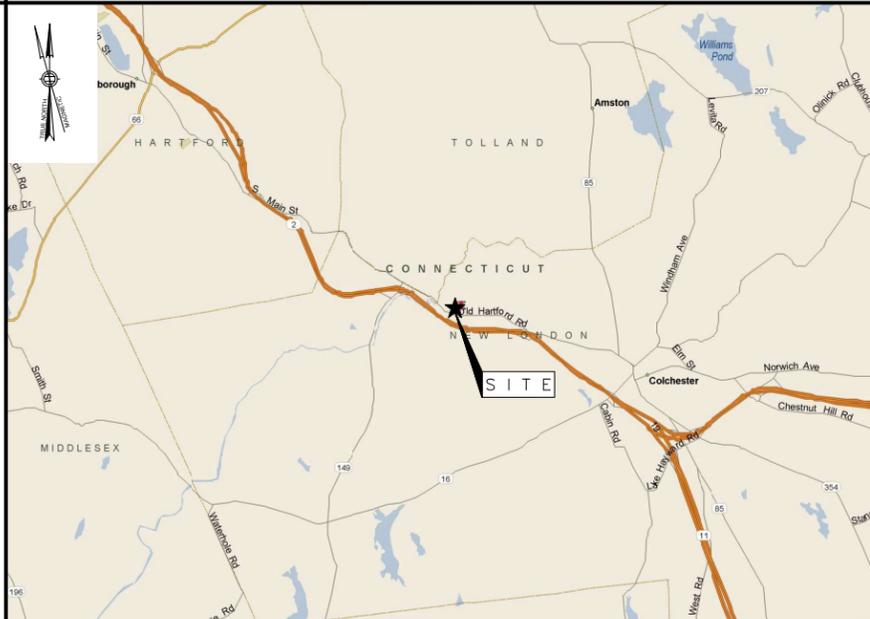
SITE INFORMATION

VICINITY MAP (NOT TO SCALE)

DRAWING INDEX

SITE NUMBER: CTNL250-A
SITE NAME: COLCHESTER
SITE ADDRESS: 600 OLD HARTFORD ROAD COLCHESTER, CT 06415
COUNTY: NEW LONDON
ZONING: SUBURBAN DISTRICT
PARCEL ID: 46/1406/16/A
FAA 2-C COORDINATES: N 41° 35' 12.1" W 72° 22' 41.7"
GROUND ELEV: 385'-0" ± AMSL
STRUCTURE TYPE: GUYED TOWER
STRUCTURE HEIGHT: 180'-0" ± AGL
ANTENNA RAD CENTER: 150'-0" ± AGL

PROPERTY OWNER: MARK LEGAULT
600 OLD HARTFORD ROAD
COLCHESTER, CT 06415
LOCAL POWER COMPANY: EVERSOURCE
1-800-286-2000
LOCAL TELCO COMPANY: LIGHTPATH
1-866-611-3434
APPLICANT: T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
P: (860) 648-1116
SITE ACQUISITION REPRESENTATIVE: NORTHEAST SITE SOLUTIONS
420 MAIN STREET
UNIT #2
STURBRIDGE, MA 01566
P: (860) 394-7021
ARCHITECT/ENGINEER: VERTICAL RESOURCES GROUP
489 WASHINGTON STREET
AUBURN, MA 01501
TEL: 508-981-9590
FAX: 508-519-8939



SHT #	SHEET DESCRIPTION
01	TITLE SHEET
02	GENERAL NOTES
03	SITE PLAN & ELEVATION
04	ANTENNA & CABLE DETAILS
05	EQUIPMENT DETAILS
05.1	ICE SHIELD DETAILS
06	GROUNDING & RF PLUMBING DIAGRAM
07	POWER SINGLE LINE DIAGRAM
08	GROUNDING & DETAILS I

James P. Stroke

GENERAL NOTES

- THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
-HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
-FACILITY HAS NO PLUMBING OR REFRIGERANTS.
-THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATOR REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
- DEVELOPMENT AND USE OF THIS SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
BUILDING CODE: CONNECTICUT STATE BUILDING CODE
ELECTRICAL CODE: 2008 (OR LATEST) NATIONAL ELECTRICAL CODE
STRUCTURAL CODE: TIA/EIA-222-G OR LATEST EDITION

DIRECTIONS:
FROM BLOOMFIELD, CT PROCEED SOUTH ON I-91. TAKE EXIT FOR I-84 EAST. TAKE EXIT FOR RT-2 EAST. PROCEED EAST ON RT-2. TAKE RT-22 EAST EXIT 16. TURN LEFT ONTO RT-149 (WESTCHESTER RD). TURN RIGHT ONTO OLD HARTFORD RD. SITE WILL BE ON LEFT AT #600.



**CALL BEFORE YOU DIG
C BYD.COM**

CONNECTICUT LAW REQUIRES TWO WORKING DAYS NOTICE PRIOR TO ANY EARTH MOVING ACTIVITIES BY CALLING 800-922-4455 OR DIAL 811

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

CONSTRUCTION: _____ DATE: _____
SITE ACQUISITION: _____ DATE: _____
LEASING/
R.F. ENGINEER: _____ DATE: _____
LANDLORD/
PROPERTY OWNER: _____ DATE: _____

SUBMITTALS

NO	DATE	DESCRIPTION	BY
5	09/18/17	GENERAL REVISIONS	MN
4	08/16/17	FOR CONSTRUCTION	MN
3	07/24/17	GENERAL REVISIONS	MN
2	06/05/17	GENERAL REVISIONS	MN
1	05/11/17	GENERAL REVISIONS	MN
0	04/24/17	ISSUED FOR REVIEW	MN

SITE NUMBER:
CTNL250-A
SITE NAME:
COLCHESTER
SITE ADDRESS:
**600 OLD HARTFORD RD
COLCHESTER, CT 06415**

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
01

GENERAL NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – PRIME CONTRACTOR
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T WIRELESS
 OEM – ORIGINAL EQUIPMENT MANUFACTURER
- 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.
- 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.
- DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. ROUTING OF CONDUIT FOR POWER AND TELCO SHALL BE APPROVED BY OWNER OF SITE.
- 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 OWNER.
- 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.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

SITE WORK GENERAL NOTES

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 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 SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR 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.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- 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.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE OWNER SPECIFICATION FOR SITE SIGNAGE.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.
- 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.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE DETAIL 303.
- THE AREAS OF THE OWNERS 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.
- EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- ALL EARTH WORK SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

CONCRETE AND 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 (4000 PSI) MAY BE USED.
- 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 INCH
 #5 AND SMALLER & WWF.....1 1/2 INCH
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL3/4 INCH
 BEAMS AND COLUMNS.....1 1/2 INCH
- A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- 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 HILTI OR APPROVED EQUAL.
- CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (BC 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.
- 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 FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.
- ALL CONCRETE SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL, EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- EQUIPMENT CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- 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.
- COMPACTED SUBBASE SHALL BE UNIFORM AND 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.
- AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOF ROLL 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 CRITERIA FOR OTHER FILL AREAS ON SITE SHALL MEET THE SAME REQUIREMENTS AS NOTED ABOVE.
- SOIL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

COMPACTION EQUIPMENT:

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

ELECTRICAL INSTALLATION NOTES

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- 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.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PERMANENT 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). NO HAND WRITTEN LABELS ALLOWED.
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED. NO HAND WRITTEN LABELS ALLOWED.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- 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.
- 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.
- 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.
- 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).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC, AND NEC.
- 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.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- 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.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC, AND NEC.
- 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.
- 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.

ELECTRICAL INSTALLATION NOTES (cont.)

- 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.
- 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.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR 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.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 (HOT-DIP) 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".
- 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.
- BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"Ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. STEEL FASTENER HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT-DIP)
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
- 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, HILTI OR APPROVED EQUAL.
- ALL STRUCTURAL STEEL SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.



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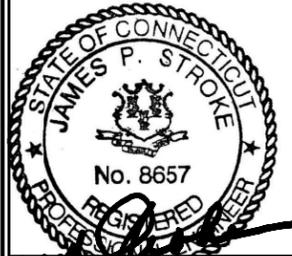


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SUBMITTALS

NO	DATE	DESCRIPTION	BY
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4	08/16/17	FOR CONSTRUCTION	MN
3	07/24/17	GENERAL REVISIONS	MN
2	06/05/17	GENERAL REVISIONS	MN
1	05/11/17	GENERAL REVISIONS	MN
0	04/24/17	ISSUED FOR REVIEW	MN

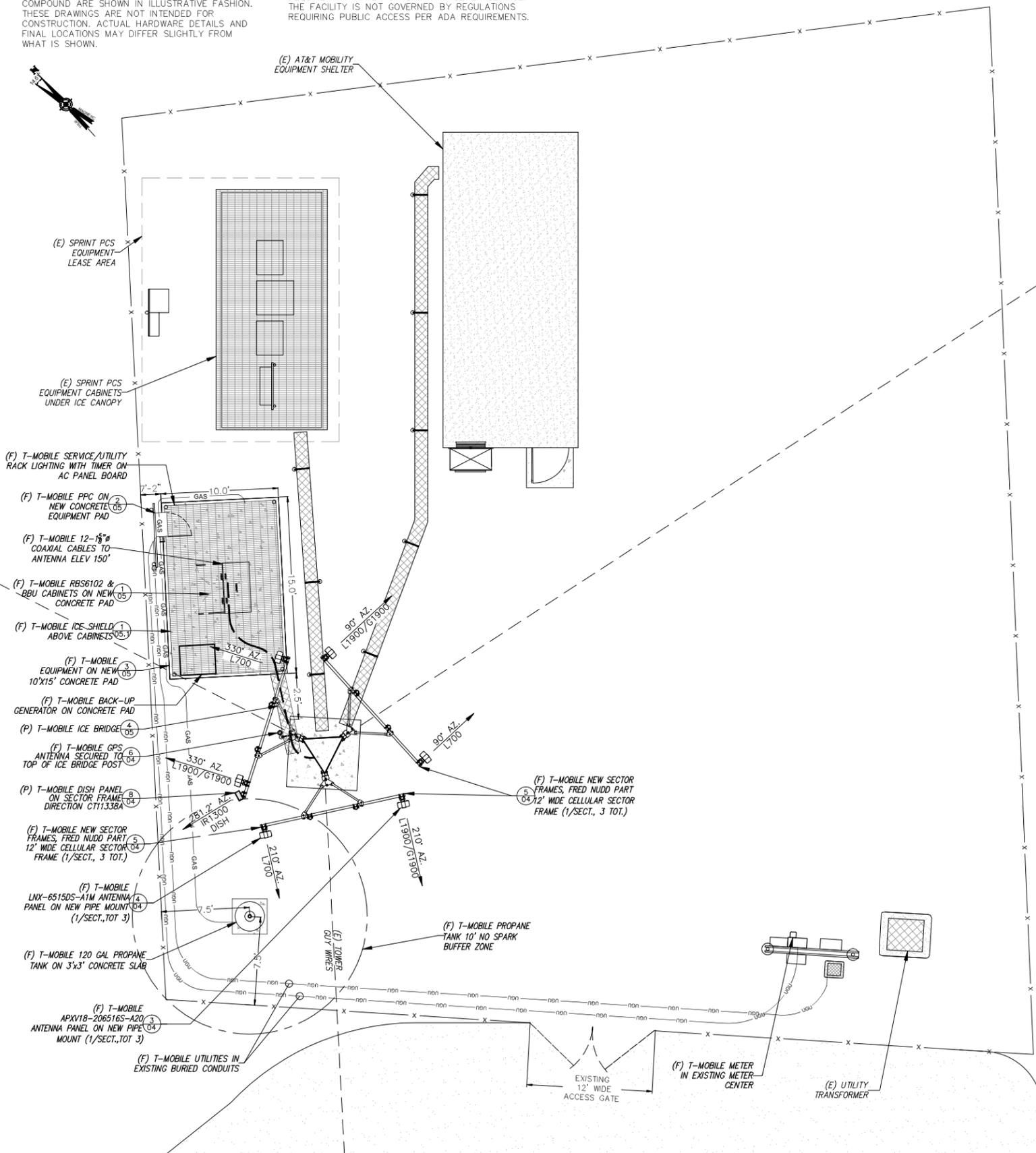
SITE NUMBER:
CTNL250-A
 SITE NAME:
COLCHESTER
 SITE ADDRESS:
**600 OLD HARTFORD RD
 COLCHESTER, CT 06415**

SHEET TITLE:
GENERAL NOTES

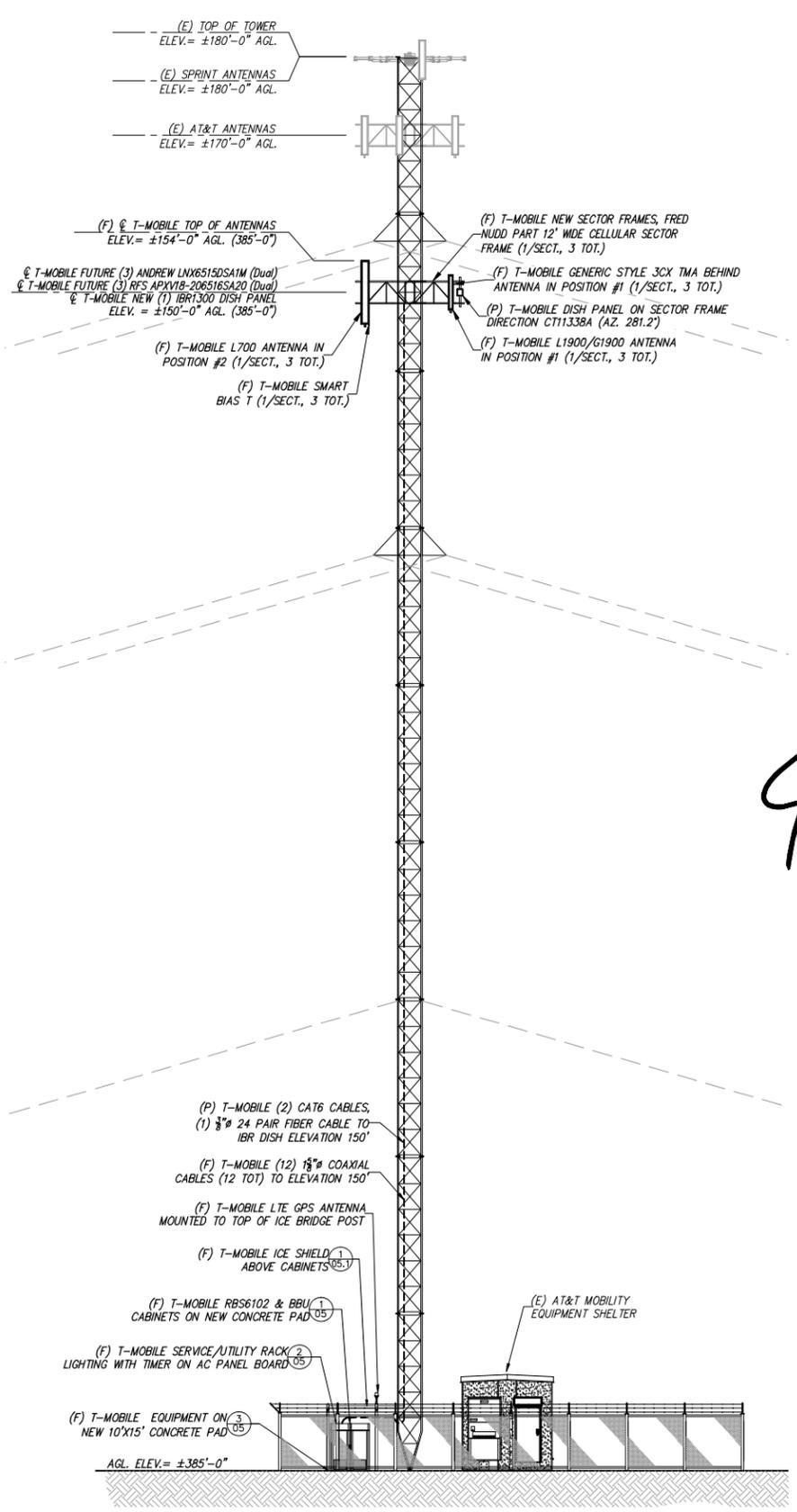
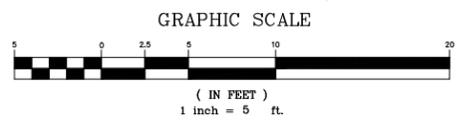
SHEET NUMBER:
02

GENERAL NOTES

1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND THE POSITIONS OF ALL EQUIPMENT IN THE COMPOUND ARE SHOWN IN ILLUSTRATIVE FASHION. THESE DRAWINGS ARE NOT INTENDED FOR CONSTRUCTION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.
2. THE CELLULAR INSTALLATION IS AN UNMANNED PRIVATE AND SECURED COMPOUND. 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.
3. CONSTRUCTION, MAINTENANCE & OPERATION OF PROPOSED TOWER FACILITY WILL BE HELD IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS AND GUIDELINES.



SITE PLAN 1
SCALE: 1" = 5'

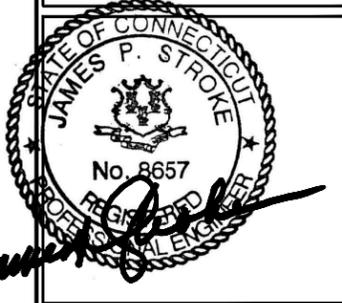


TOWER ELEVATION VIEW 2
SCALE: 1" = 8'

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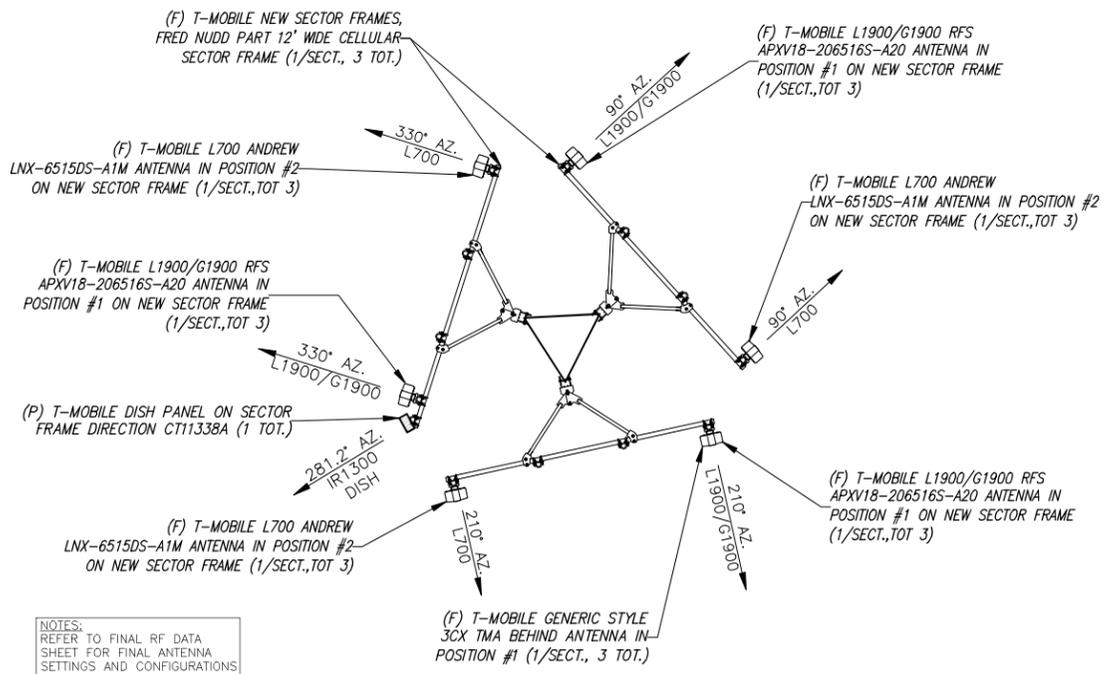
SUBMITTALS

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SITE NUMBER:
CTNL250-A
SITE NAME:
COLCHESTER
SITE ADDRESS:
**600 OLD HARTFORD RD
COLCHESTER, CT 06415**

SHEET TITLE:
**SITE PLAN &
ELEVATION**

SHEET NUMBER:
03



NOTES:
REFER TO FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS AND CONFIGURATIONS

PROPOSED ANTENNA CONFIGURATION

SCALE: N.T.S.

1
04

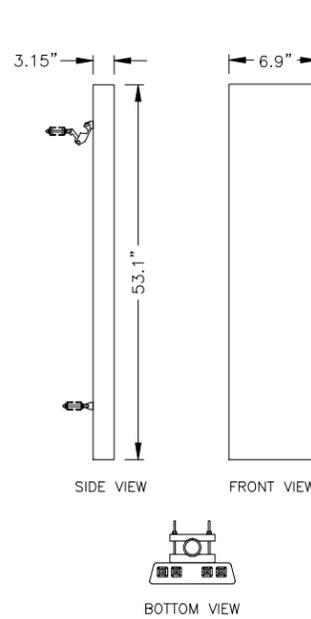


MANUFACTURER: COMMSCOPE
MODEL: ATSBT-BOTTOM-MF
DIMENSIONS: HxWxD 3.7"x5.63"x2.0"

SMART BIAS T
DETAILS

SCALE: N.T.S.

2
04

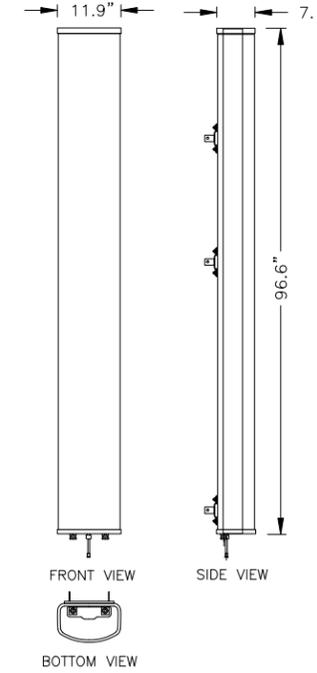


MANUFACTURER: RFS
MODEL: APXV18-206516S-A20 (Dual)
DIMENSIONS: HxWxD 53.1"x06.9"x3.15"

ANTENNA DETAILS
RFS APXV18-206516S-A20

SCALE: N.T.S.

3
04

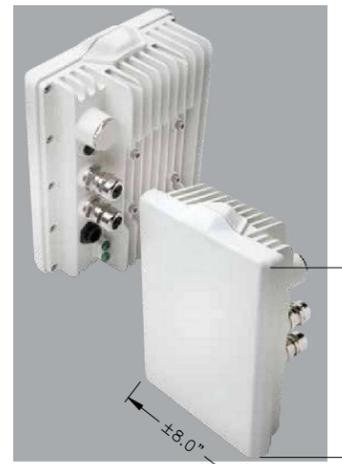


MANUFACTURER: ANDREW
MODEL: LNX-6515DS-A1M (Dual)
DIMENSIONS: HxWxD 96.6"x11.9"x7.1"

ANTENNA DETAILS
ANDREW LNX-6515DS-A1M

SCALE: N.T.S.

4
04

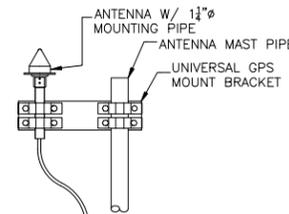


MANUFACTURER: INTELLIGENT BACKHAUL RADIO
MODEL: IBR 1300
DIMENSIONS: HxWxD 10.0"x8.0"x4.0"

IBR1300 DISH PANEL
DETAILS

SCALE: N.T.S.

8
04

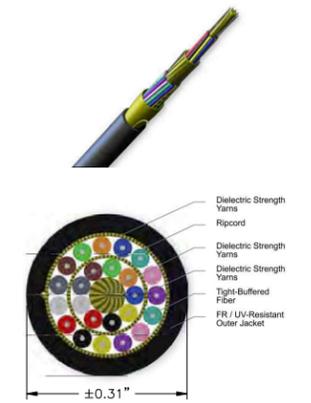


NOTES:
1. GROUND ANTENNAS & MOUNTS PER MANUFACTURERS RECOMMENDATIONS & T-MOBILE STANDARDS.
2. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE ANTENNA.
3. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF ROUT (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA

GPS ANTENNA MOUNTING

SCALE: N.T.S.

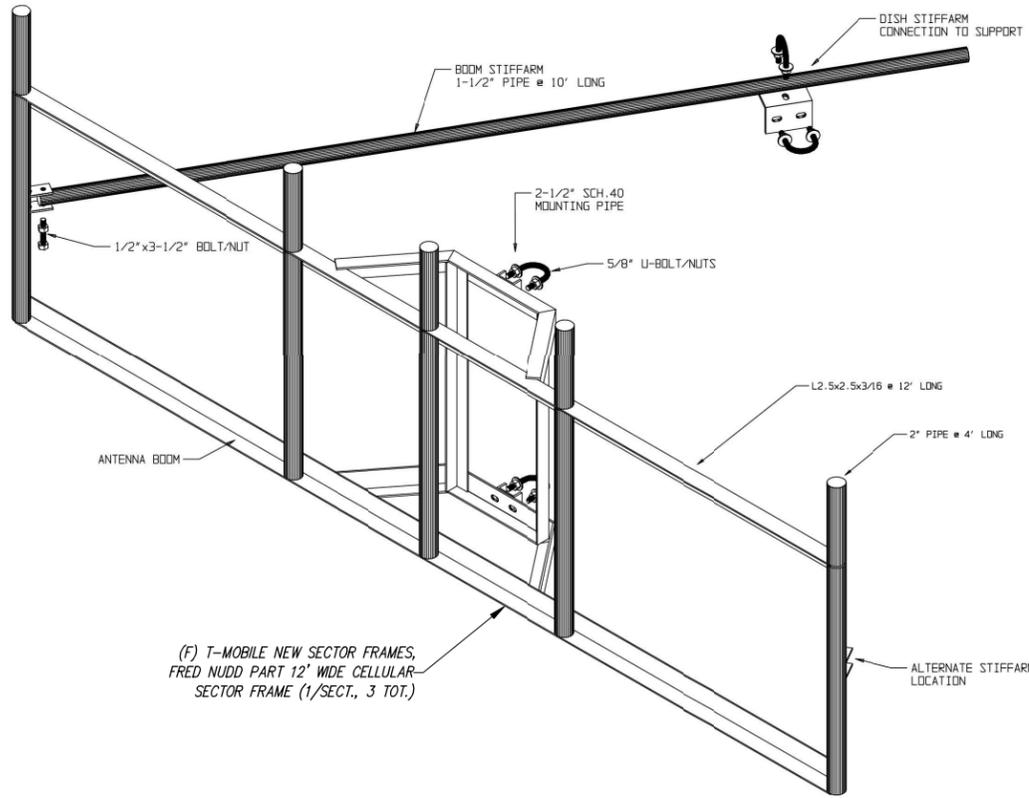
6
04



DISH FIBER CABLE
DETAILS

SCALE: N.T.S.

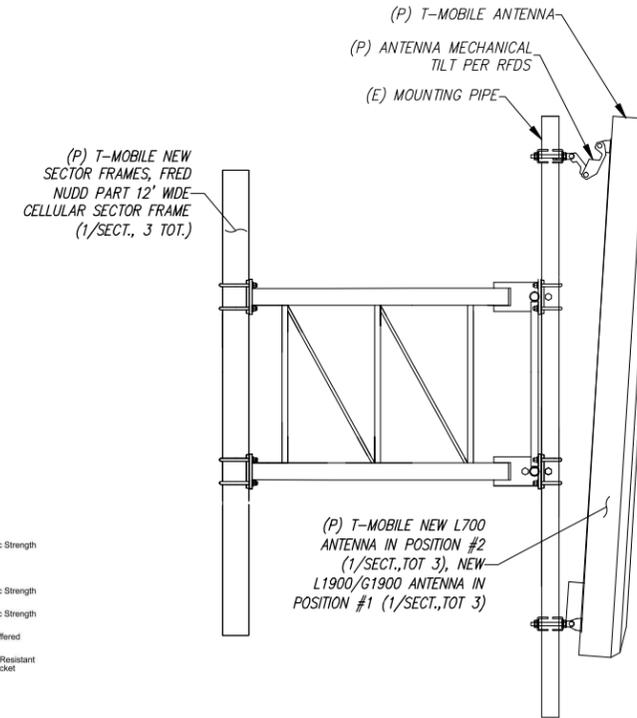
9
04



PROPOSED ANTENNA SECTOR FRAME

SCALE: N.T.S.

5
04



ANTENNA MOUNTING DETAIL

SCALE: N.T.S.

7
04

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STATE OF CONNECTICUT
JAMES P. STROKE
REGISTERED PROFESSIONAL ENGINEER
No. 8657

James P. Stroke

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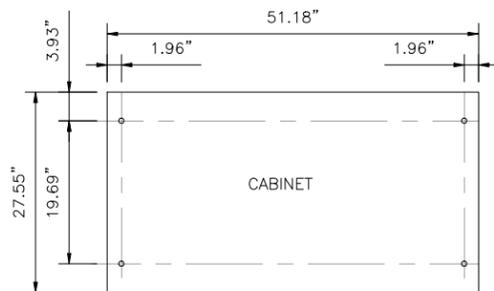
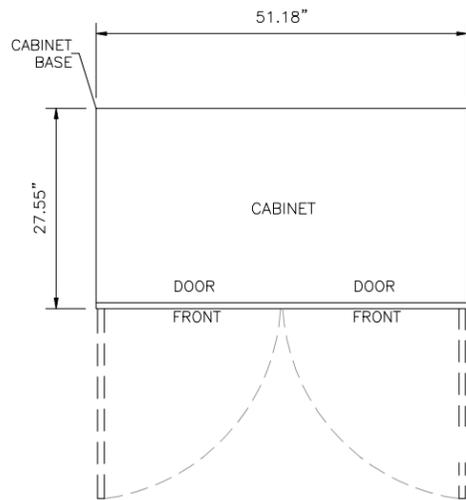
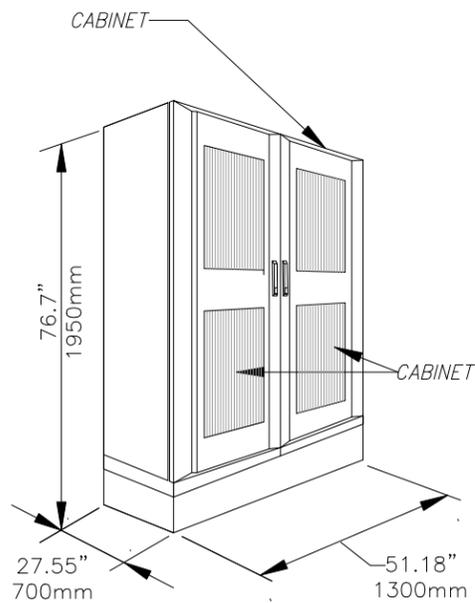
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CTNL250-A
SITE NAME:
COLCHESTER
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**600 OLD HARTFORD RD
COLCHESTER, CT 06415**

SHEET TITLE:
**ANTENNA &
CABLE DETAILS**

SHEET NUMBER:
04



CABINET BASE
ANCHOR BOLT LOCATION

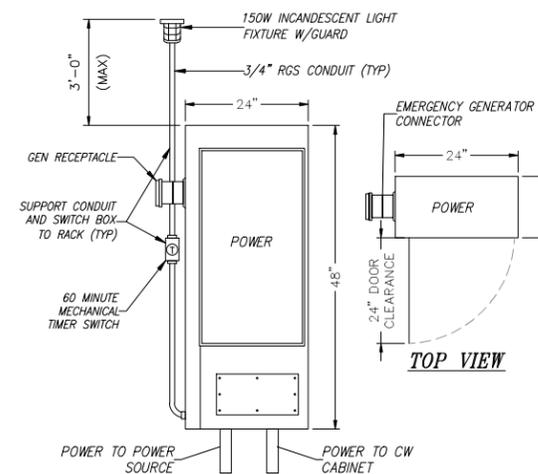
ERICSSON RBS 6102 EQUIPMENT CABINET

SCALE: N.T.S.

1
05

NOTES:

1. SEE PROJECT DESIGN CRITERIA FOR WEIGHT.
2. CABLE ENTRY IS LOCATED ON EITHER SIDE AND REAR OF CABINET BASE. CABLE ENTRY PLATES TO BE REMOVED FROM THE BASE WHEN INSTALLING THE BASES FLUSH.
3. MAINTAIN THE FOLLOWING MINIMUM CLEARANCES FROM CABINET (S):
FRONT - 27.55"
SIDE - 3.93"
REAR - 7.87"
4. FOR MOUNTING TO CONCRETE USE THE ANCHORAGE BOLTS SUPPLIED WITH THE CABINET.

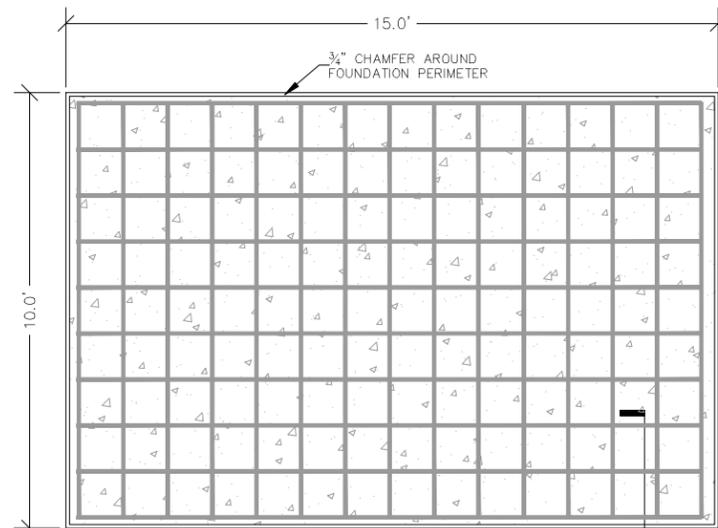


FRONT VIEW

PPC

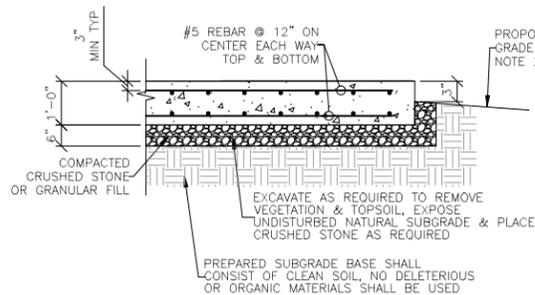
SCALE: N.T.S.

2
05



CAST IN PLACE CONCRETE PAD FOR
RADIO & POWER CABINETS

A
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NOTES:

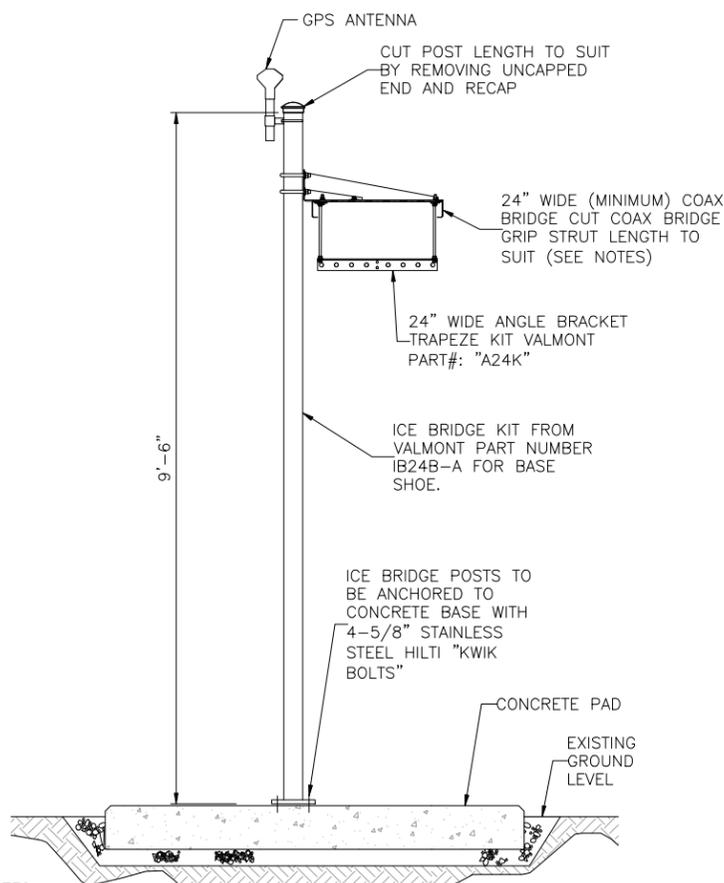
1. FOUNDATION TO BEAR ON MEDIUM TO DENSE GRANULAR MATERIAL COMPACTED TO 95% M.P.
2. GRAVEL SHALL BE NATURAL OR CRUSHED STONE WITH 100 PERCENT PASSING 1 INCH SIEVE.
3. GRADE SHALL SLOPE AWAY FROM CONCRETE PAD TO ALLOW PROPER WATER RUN OFF.
4. CONTRACTOR TO VERIFY FINAL SHELTER DIMENSIONS PRIOR TO FOUNDATION CONSTRUCTION.

SECTION A-A

T-MOBILE EQUIPMENT
CONCRETE FOUNDATION

SCALE: N.T.S.

3
05



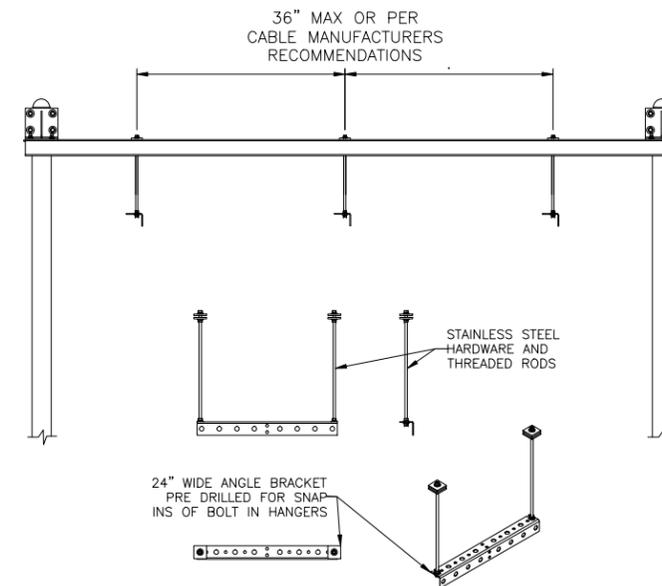
NOTES:

1. WHEN USING COMPONENTS AS SHOWN IN STANDARD DETAILS, MAX ALLOWABLE SPAN BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF CABLE TRAY SHALL BE 9 FEET OR 10 FEET BRIDGE CHANNEL.
2. WHEN USING COMPONENTS FOR SPLICING BRIDGE CHANNEL SECTIONS, THE SPLICE SHOULD BE PROVIDED AT THE SUPPORT, IF POSSIBLE, OR AT A MAXIMUM OF 2 FEET FROM THE SUPPORT.
3. WHEN USING COMPONENTS, SUPPORT SHOULD BE PROVIDED AS CLOSE AS POSSIBLE TO THE ENDS OF ICE BRIDGES, WITH A MAXIMUM CANTILEVER DISTANCE OF 2 FEET FROM THE SUPPORT TO THE FREE END OF THE ICE BRIDGE.
4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES TREATED WITH A MATERIAL TO RESTORE THESE EDGES TO THE ORIGINAL CHANNEL, OR EQUIVALENT, FINISH.
5. ICE BRIDGES MAY BE CONSTRUCTED WITH COMPONENTS FROM OTHER MANUFACTURERS, PROVIDED THE MANUFACTURER'S INSTALLATION GUIDELINES ARE FOLLOWED.
6. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH THE RESPECTIVE MANUFACTURER'S APPROVAL.
7. DEVIATIONS FROM COAX BRIDGE FOUNDATIONS REQUIRE ENGINEERING APPROVAL.
8. THIS DESIGN IS BASED ON 2-24" WIDE (48" WIDE TOTAL) COAX BRIDGE AND 2-24" WIDE CABLE TRAY AND MAX. POST SUPPORT SPACING OF 10'-0".

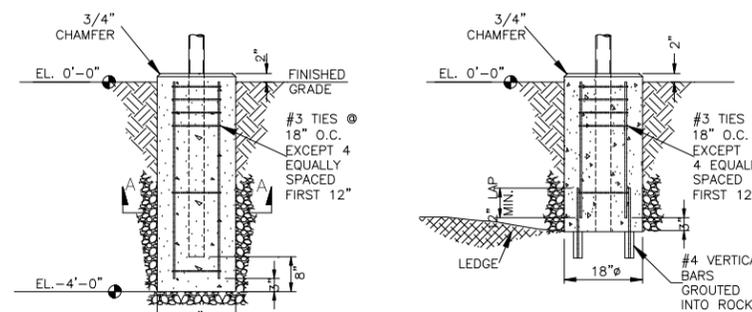
COAXIAL CABLE BRIDGE DETAIL

SCALE: N.T.S.

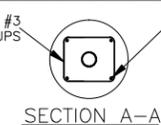
4
05



CABLE HANGERS



ENCOUNTER LEDGE



SECTION A-A

T-Mobile

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1	05/11/17	GENERAL REVISIONS	MN
0	04/24/17	ISSUED FOR REVIEW	MN

SITE NUMBER:

CTNL250-A

SITE NAME:

COLCHESTER

SITE ADDRESS:

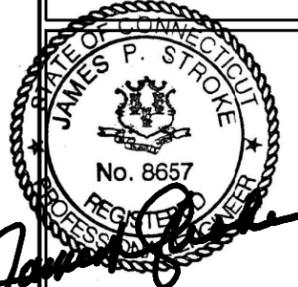
600 OLD HARTFORD RD
COLCHESTER, CT 06415

SHEET TITLE:

EQUIPMENT DETAILS

SHEET NUMBER:

05



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SUBMITTALS

NO	DATE	DESCRIPTION	BY
5	09/18/17	GENERAL REVISIONS	MN
4	08/16/17	FOR CONSTRUCTION	MN
3	07/24/17	GENERAL REVISIONS	MN
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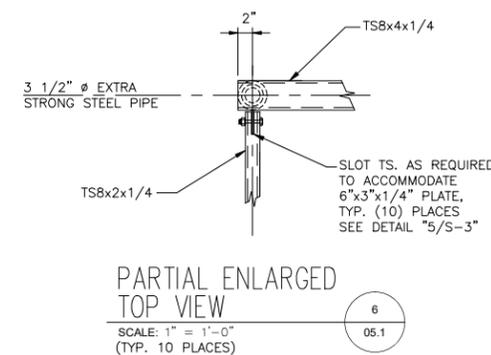
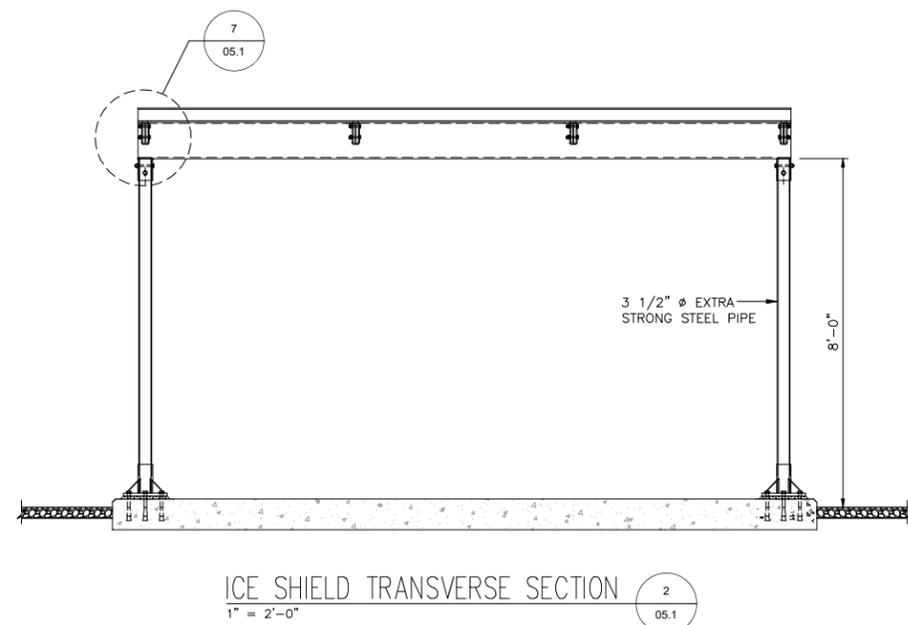
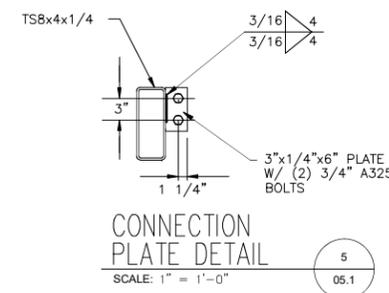
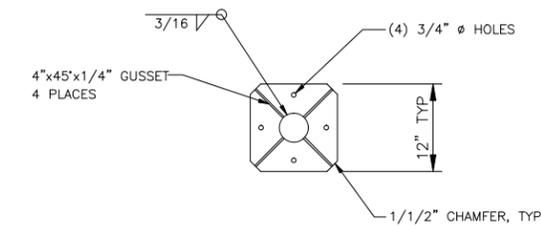
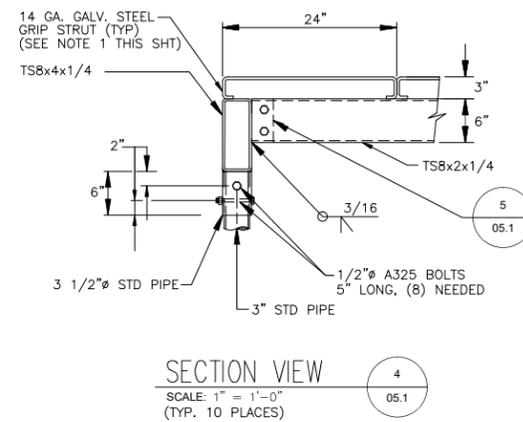
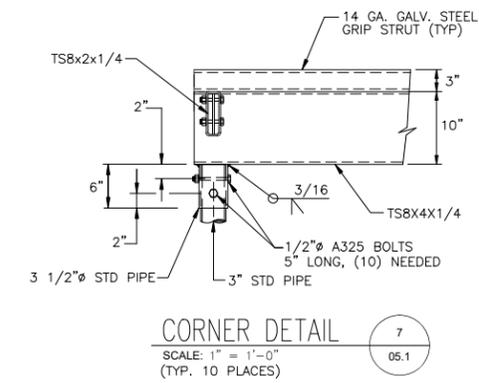
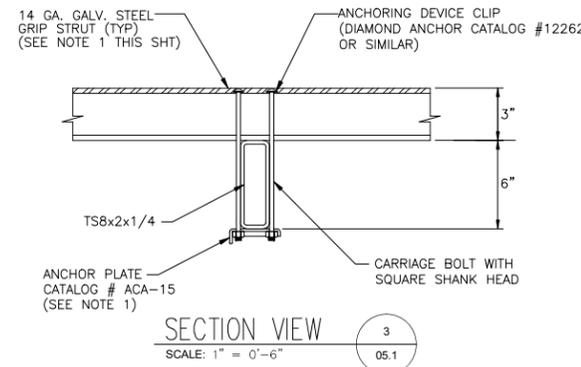
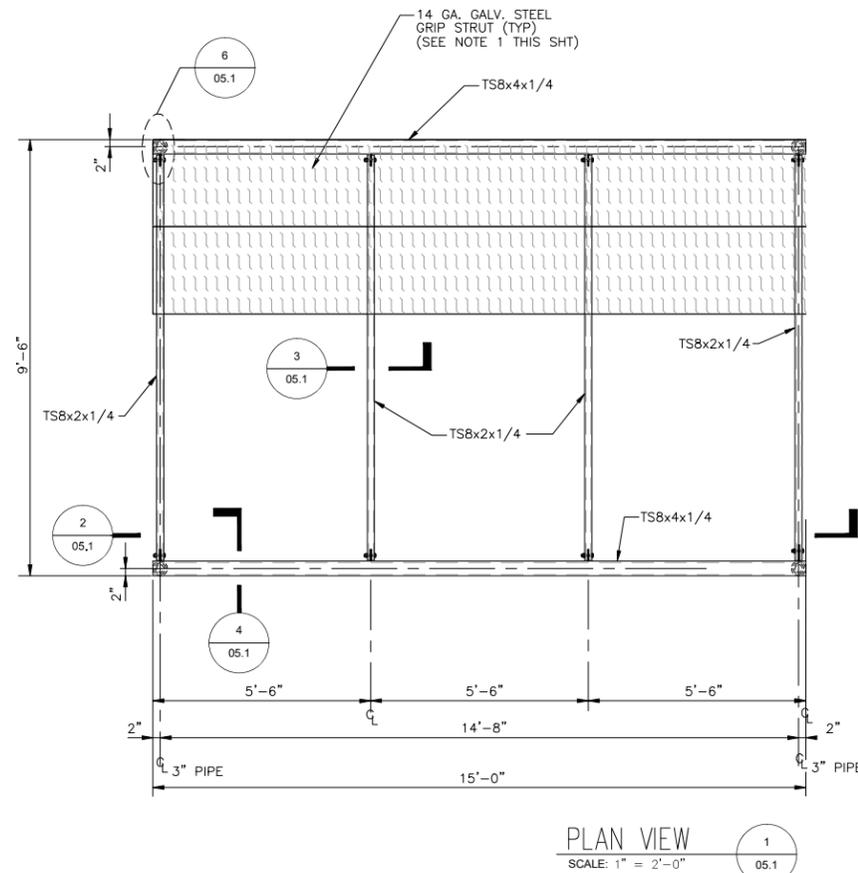
600 OLD HARTFORD RD
COLCHESTER, CT 06415

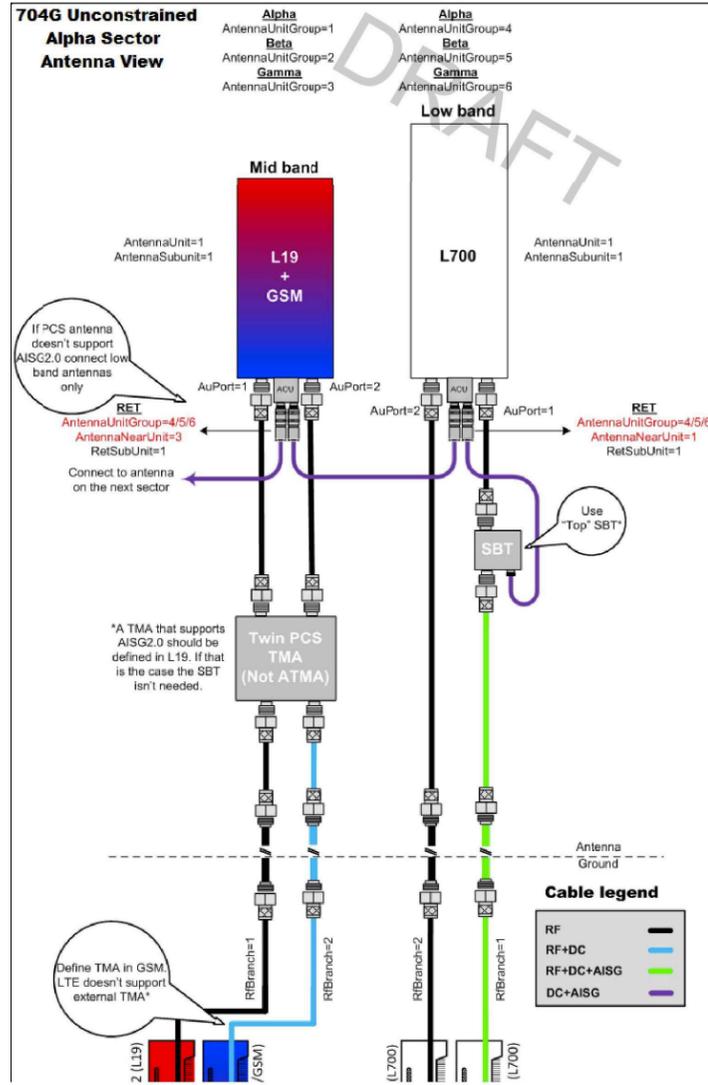
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ICE SHIELD DETAILS

SHEET NUMBER:

05.1



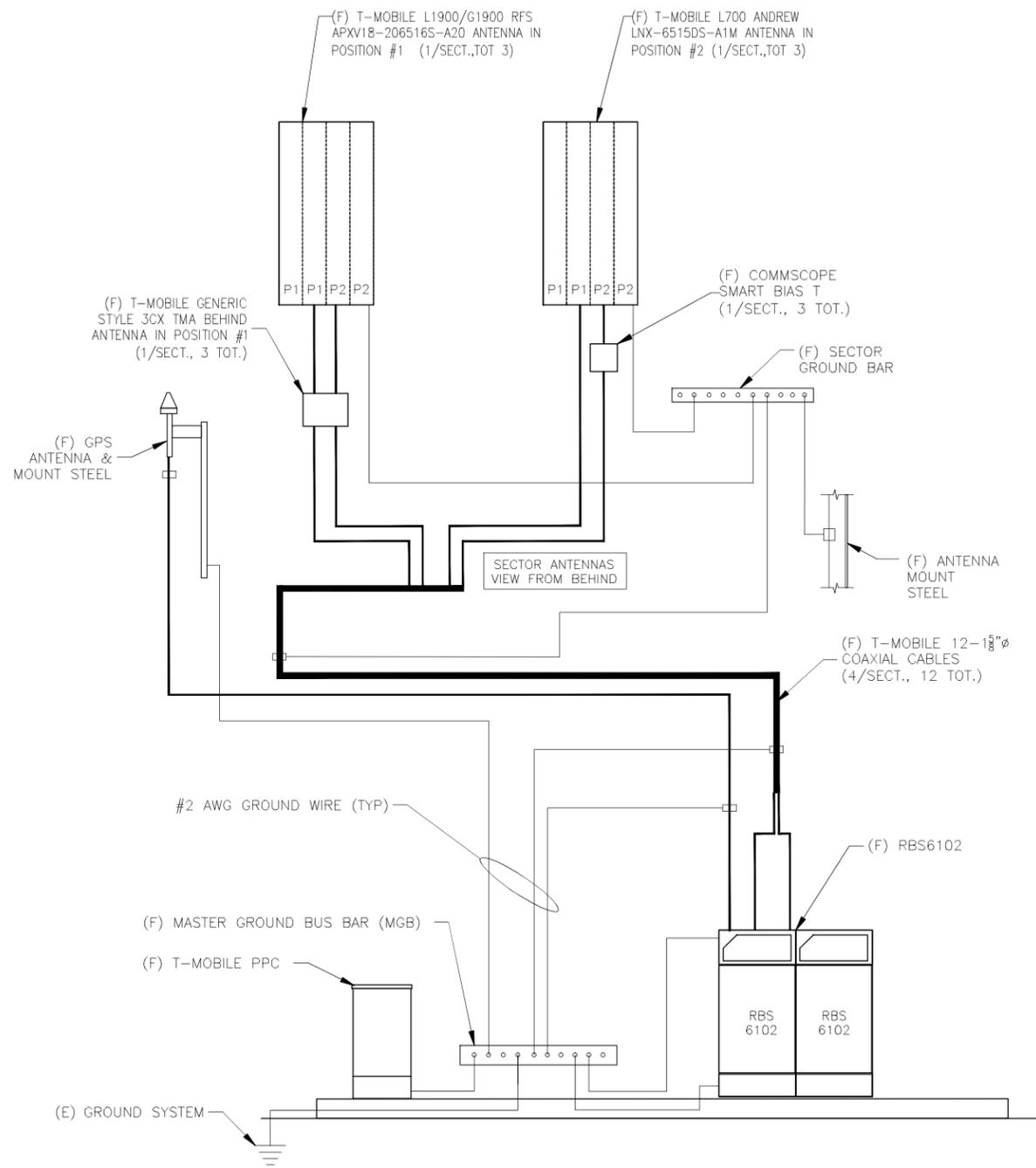


COAXIAL CABLE PLUMBING DIAGRAM

SCALE: N.T.S.

1

06



GROUNDING PLUMBING DIAGRAM

SCALE: N.T.S.

2

06

HYBRID FIBER/POWER JUMPER NOTES:

1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO A " COAXIAL CABLE. 38" COAXIAL CABLE.
2. THE TERMINATED FIBER ENDS HOWEVER ARE FRAGILE AND MUST BE PROTECTED DURING INSTALLATION. LEAVE THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND RRU OR BBU.
3. DO NOT BEND THE FIBER BREAKOUT CABLE (BETWEEN THE MAIN CABLE AND THE FIBER CONNECTOR) TIGHTER THAN " (19MM) RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS. 34" (19MM) RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS.
4. ATTACH THE MAIN CABLE SECURELY TO THE STRUCTURE OR EQUIPMENT USING HANGERS AND/OR CABLE TIES TO PREVENT STRAIN ON CONNECTIONS FROM MOVEMENT IN WIND OR SNOW/ICE CONDITIONS.
5. ENSURE THE LC FIBER CONNECTORS ARE SEATED FIRMLY IN PANEL IN OVP OR IN EQUIPMENT.
6. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO 70C).
7. MINIMUM CABLE BEND RADII ARE 10.3 INCH (265MM) LOADED (WITH TENSION ON THE CABLE) AND 5.2 INCH (130MM) UNLOADED.
8. MAXIMUM CABLE TENSILE LOAD IS 350 LB (1560N) SHORT TERM (DURING INSTALLATION) AND 105 LB (470N) LONG TERM.
9. STANDARD LENGTHS AVAILABLE ARE 6 FEET, 15 FEET AND 20 FEET

TRUNK FIBER NOTES:

1. IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO " COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL 78" COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL CABLES ARE INDIVIDUALLY SERIALIZED, BE SURE TO WRITE DOWN THE CABLE SERIAL NUMBER FOR FUTURE REFERENCE.
2. THE TERMINATED FIBER ENDS (THE BROKEN OUT FIBERS PLUS CONNECTORS) HOWEVER ARE FRAGILE, AND THESE MUST BE PROTECTED DURING THE INSTALLATION PROCESS.
3. LEAVE THE PROTECTIVE TUBE AND SOCK AROUND THE FIBER TAILS AND CONNECTORS IN PLACE DURING HOISTING AND SECURING THE CABLE. REMOVE THIS ONLY JUST PRIOR TO MAKING THE FINAL CONNECTIONS TO THE OVP BOX.
4. DO NOT BEND THE FIBER ENDS (IN THE ORANGE FURCATION TUBES) TIGHTER THAN " (19MM) BEND RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS.
5. BE SURE THAT THE LACE UP ENDS AND FIBER CONNECTORS ARE NOT DAMAGED BY ATTACHMENT OF A HOISTING GRIP OR DURING THE HOISTING PROCESS, ATTACH A HOISTING GRIP ON THE JACKETED CABLE NO LESS THAN 6 INCHES BELOW THE FIBER BREAKOUT POINT. IF A HOISTING GRIP IS NOT EASILY ATTACHED, USE A SIMPLE LINE ATTACHED BELOW THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TAILS (IN PROTECTIVE TUBE) AT THE CABLE END FROM UNDUE MOVEMENT DURING HOISTING BY SECURING THE PROTECTIVE TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.
6. DURING HOISTING ENSURE THAT THERE IS A FREE PATH AND THAT THE CABLE, AND ESPECIALLY THE FIBER ENDS, WILL NOT CATCH ON TOWER MEMBERS OR OTHER OBSTACLES.
7. INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO +70C).
8. MINIMUM CABLE BEND RADII ARE 22.2" (565MM) LOADED (WITH TENSION ON THE CABLE) AND 11.1" (280MM) UNLOADED.
9. MAXIMUM CABLE TENSILE LOAD IS 3560 N (800 LB) SHORT TERM (DURING INSTALLATION) AND 1070 N (240 LB) LONG TERM.
10. COMMSCOPE NON LACE UP GRIP RECOMMENDED FOR MONOPOLE INSTALLATIONS. 11. MAXIMUM HANGER SPACING 3FT (0.9 M).

T-Mobile

T-MOBILE NORTHEAST LLC

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F: 860-692-7159

NSS
NORTHEAST
SITE SOLUTIONS

Turnkey Wireless Development

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VERTICAL RESOURCES GRP.

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0	04/24/17	ISSUED FOR REVIEW	MN

SITE NUMBER:

CTNL250-A

SITE NAME:

COLCHESTER

SITE ADDRESS:

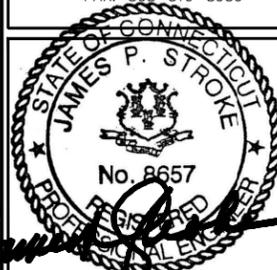
600 OLD HARTFORD RD
COLCHESTER, CT 06415

SHEET TITLE:

GROUNDING & RF
PLUMBING DIAGRAM

SHEET NUMBER:

06



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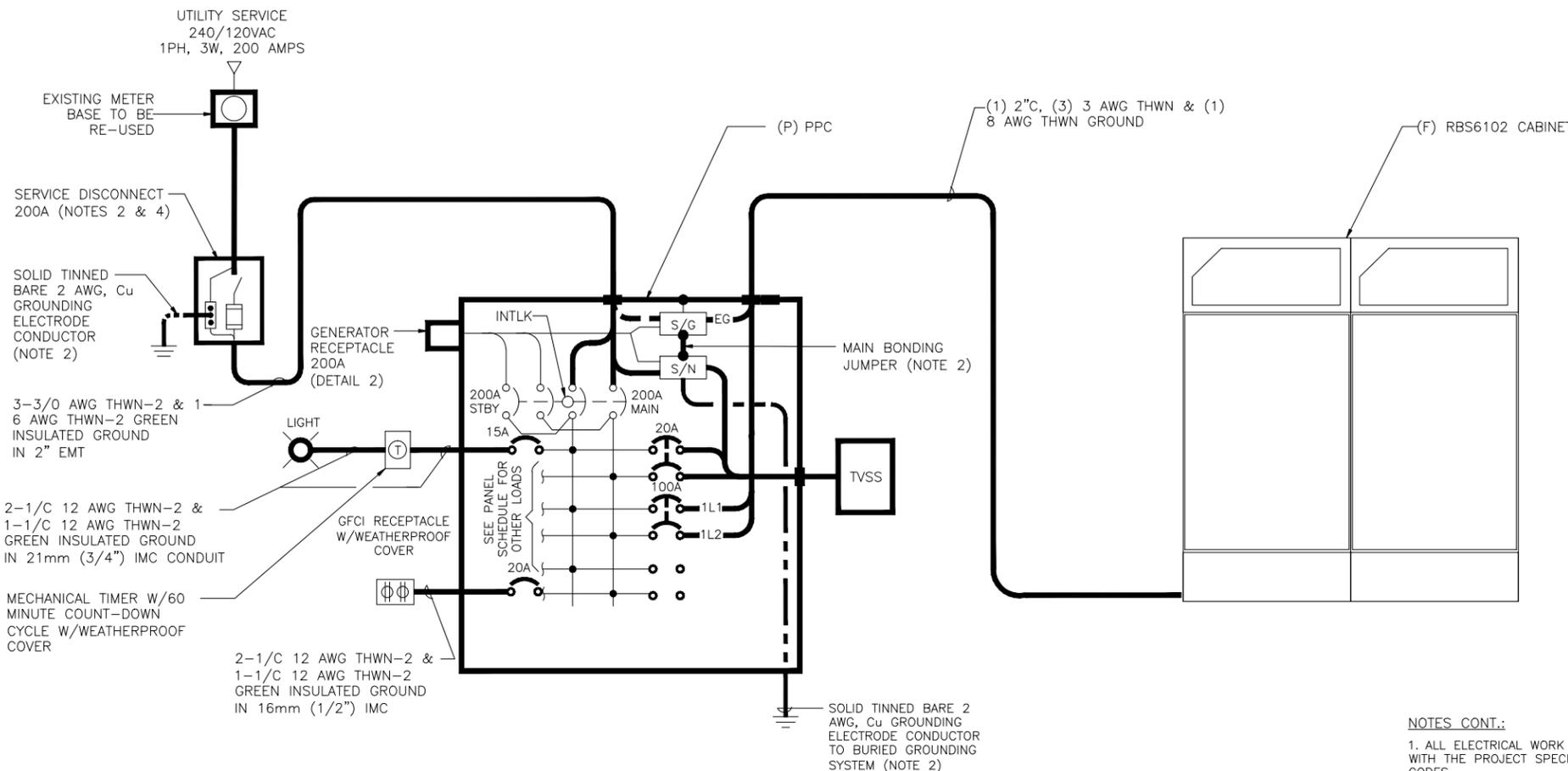
**600 OLD HARTFORD RD
COLCHESTER, CT 06415**

SHEET TITLE:

**POWER SINGLE LINE
DIAGRAM**

SHEET NUMBER:

07



AC PANEL SCHEDULE

PPC - AC POWER PANELBOARD 120/240 VOLTS, 1-PHASE, 3-WIRE, 200A W/200A MAIN BRKR							
DESCRIPTION	BKR	POSN	L1	L2	POSN	BKR	DESCRIPTION
6102 CABINET	100	1			2		SPARE
		3			4		SPARE
SPARE		5			6		SPARE
		7			8		SPARE
SPARE		9			10		SPARE
		11			12		SPARE
SPARE		13			14		SPARE
		15			16		SPARE
SPARE		17			18		SPARE
		19			20	15	LIGHT
TVSS	20	21			22	20	TELCO FAN (IF REQUIRED)
		23			24	20	RECEPTACLE

NOTE:

A1. THE PANELBOARD IS A UL-LISTED MODULAR UNIT FOR SERVICE ENTRANCE WITH MANUAL TRANSFER MAIN AND STAND-BY BREAKERS.

NOTES:

- INSTALL CONDUIT WITH ADEQUATE FLEX FOR INSTALLATION TO CABINET ENTRY POINT. TURN OFF AND TAG BREAKERS. TERMINATE CABLE AT DISTRIBUTION PANEL. TAPE ENDS AND COIL AN EXTRA 10 FEET OF CABLES AT CABINET LOCATION FOR TERMINATION BY OTHERS. LABEL OR USE DIFFERENT COLOR TAPE AT BOTH ENDS OF EACH CONDUCTOR TO IDENTIFY CIRCUIT AND PHASE.
- WHERE PERMITTED, THE PANEL BOARD SERVES AS THE SERVICE ENTRANCE EQUIPMENT. A MANUAL DISCONNECT SWITCH MAY BE OMITTED AS PERMITTED BY LOCAL CODE OR SITE CONDITIONS. BOND THE NEUTRAL AND GROUND BARS TOGETHER IN THE PANEL BOARD AND CONNECT TO THE SITE GROUNDING SYSTEM.
- INSTALL GROUND CABLE WITH ENOUGH LENGTH TO REACH CABINET(S) AND COIL AN EXTRA 10 FEET FOR TERMINATION BY OTHERS.
- BREAKER DISCONNECT MAY BE USED IN PLACE OF FUSED DISCONNECT WHEN CONDITIONS FAVOR USE OF BREAKER (EX. SIZE, COST, ETC.).
- INTER CABINET WIRING BY OTHERS.

NOTES CONT.:

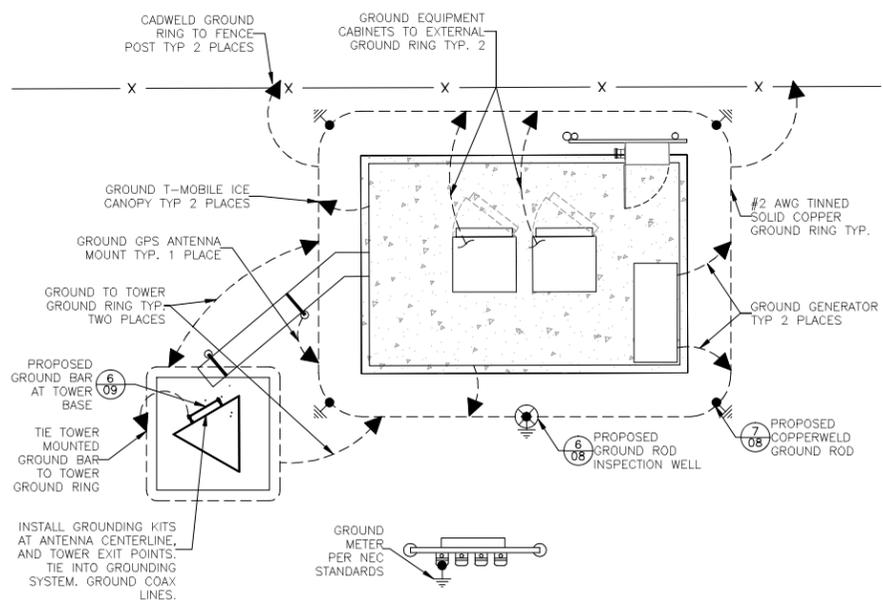
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- SERVICE TO EQUIP. SHALL BE 120/240 VAC, 200 AMP, 1, 60 Hz.
- THE SUBCONTRACTOR 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.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (CADWELD) CONNECTIONS.
- ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" 10-FT. LONG, AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 48" BELOW FINAL GRADE.
- 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.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.
- ANTENNA GROUND KITS SHALL BE FURNISHED BY T-MOBILE AND INSTALLED BY CONTRACTOR.

SINGLE LINE DIAGRAM & PANEL SCHEDULE

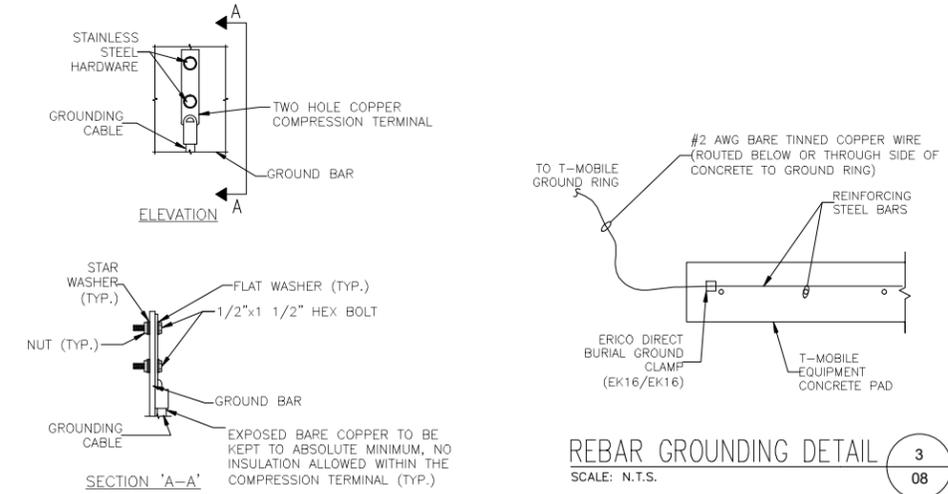
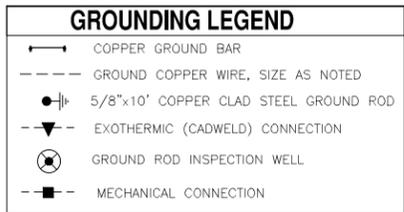
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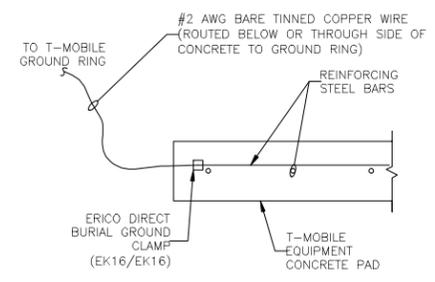
07



- ### GROUNDING GENERAL NOTES
- GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6" ABOVE GRADE OR FOUNDATION, WHICHEVER IS HIGHER. COLD-GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND RING.
 - INSTALL GROUNDING KITS AT ANTENNA CENTERLINE, AND TOWER EXIT POINTS. GROUND COAX LINES. GROUND ANTENNA MOUNTING PIPES TO TOWER STEEL.
 - ALL GROUNDING WORK SHALL COMPLY WITH T-MOBILE STANDARDS, FOLLOWING COMPLETION OF WORK, GROUND SYSTEM MUST BE TESTED AND SHALL HAVE A RESISTANCE OF 5 OHMS OR LESS SUBMIT AN INDEPENDENT TESTING REPORT.
 - ALL GROUNDING CONDUCTORS ON EXTERIOR CABINET WALL SHALL BE INSTALLED IN 3/4" SCH 40 PVC CONDUIT TO 12" BELOW GRADE. ATTACH PVC WITH GALVANIZED "C" CLAMPS.
 - CONTRACTOR SHALL HAND-DIG IN AREAS AROUND EXISTING UTILITIES.
 - NOTIFY CONSTRUCTION ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.

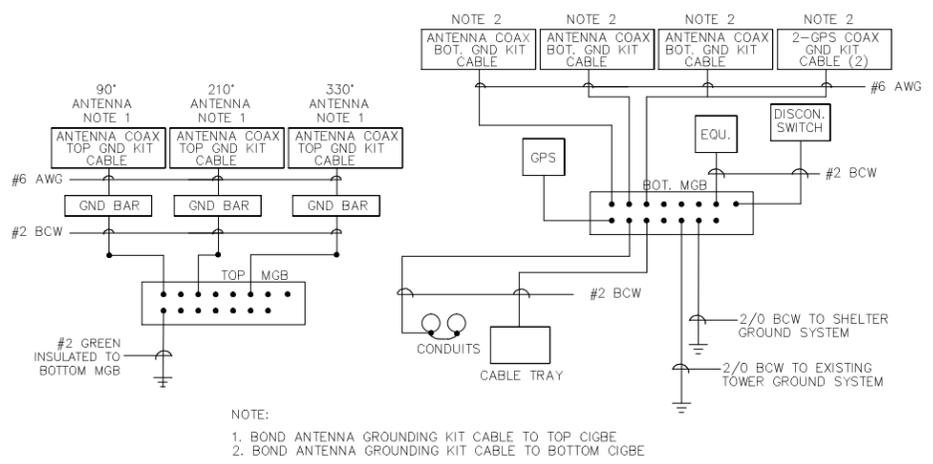


TYP. MECHANICAL CONNECTION 2 08

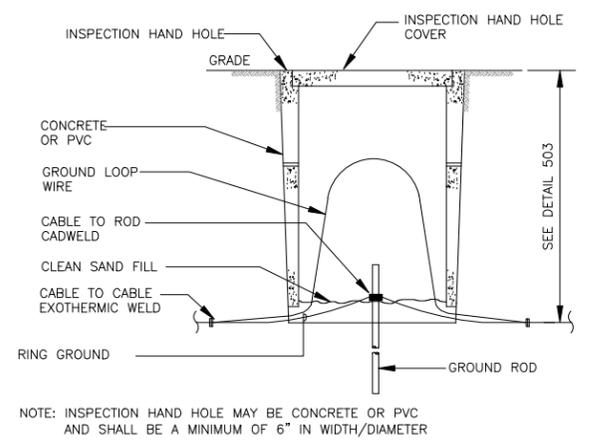


REBAR GROUNDING DETAIL 3 08

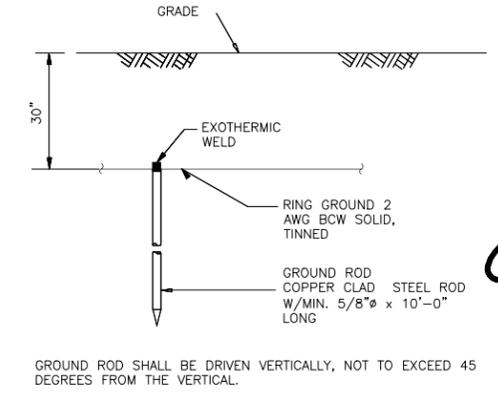
SITE COMPOUND GROUNDING 1 08



GROUNDING ONE-LINE DIAGRAM 4 08

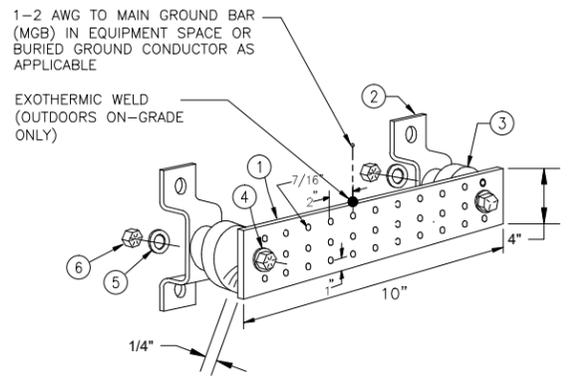


GROUND ROD INSPECTION WELL 6 08

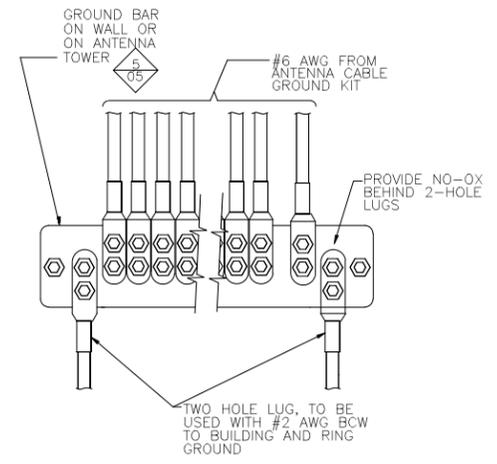


GROUND ROD DETAIL 7 08

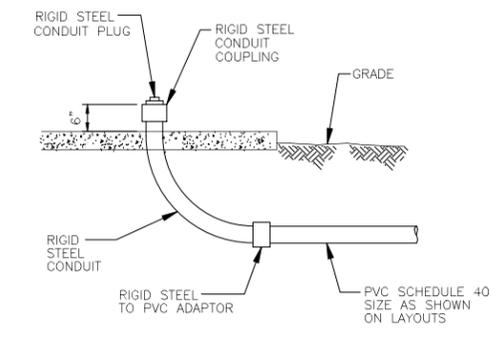
ITEM	REQ.	PART NO.	DESCRIPTION
①	1	1/4"x4"x12"	PRE DRILLED GND. BAR
②	2	A-6056	WALL MTG. BRKT.
③	2	3061-4	INSULATORS
④	2	3012-13	5/8"-11x4" H.H.C.S.
⑤	4	3015-8	5/8" LOCKWASHER
⑥	2	3014-8	5/8"-11 HEX NUT



GROUND BAR DETAIL 5 08



INSTALLATION OF GROUND WIRE TO GROUND BAR 8 08



UNDERGROUND CONDUIT STUB-UP 9 08

T-Mobile

T-MOBILE NORTHEAST LLC

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BLOOMFIELD, CT 06002
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NSS

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VERTICAL RESOURCES GRP.

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FAX: 508-519-8939

STATE OF CONNECTICUT
JAMES P. STROKE
No. 8657
PROFESSIONAL ENGINEER

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SITE NUMBER:
CTNL250-A

SITE NAME:
COLCHESTER

SITE ADDRESS:
**600 OLD HARTFORD RD
COLCHESTER, CT 06415**

SHEET TITLE:
**GROUNDING
DETAILS I**

SHEET NUMBER:
08

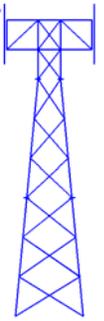
Exhibit D



FRED A. NUDD CORPORATION

1743 ROUTE 104, BOX 577
ONTARIO, NY 14519
(315) 524-2531 FAX (315) 524-4249

www.nuddtowers.com



Mark LeGault
Cordless Data Transfer, Inc.
600 Old Hartford Road
Colchester, CT 06415
September 19, 2017

Nudd Job Number: 117-23046

Site Location: 600 Old Hartford Road, Colchester, CT 06415, New London County (Latitude and Longitude: 41-35-12, -72-22-40)

Subject: Addition of Temporary Wireless Equipment to an existing 180 ft Guyed Tower

Further to the structural analysis completed on April 29, 2017, Fred A. Nudd Corporation has completed an evaluation of the aforementioned tower with respect to the addition of the following temporary equipment installation:

- (1) Intelligent Backhaul Radio (IBR 1300 Series)
- (2) CAT6 cables
- (1) Fiber cable

The aforementioned equipment will be installed at approximately 150 ft above grade and can be installed in any orientation and manner. The tower superstructure and substructure can support the listed existing and proposed T-Mobile equipment, in addition to the temporary equipment and will remain in conformance with the standards noted below.

- ANSI/TIA-222-G
- Windspeed = 99 mph, V_{asd} / 128 mph, V_{ult} , 3-Second Gust
- Radial Ice = 0.75 inch
- Ice Windspeed = 50 mph, V_{asd} , 3-Second Gust
- Exposure = B
- Topographic Category = 1
- Structure Class = II

We trust this report satisfies your needs. Please contact us with any questions or concerns regarding this report.

Best Regards,

Fred A. Nudd Corporation

Exhibit E



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

T-Mobile Existing Facility

Site ID: CTNL250A

Colchester
600 Old Hartford Road
Colchester, CT 06415

September 26, 2017

EBI Project Number: 6217004211

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	3.064%



September 26, 2017

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

Emissions Analysis for Site: **CTNL250A – Colchester**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **600 Old Hartford Road, Colchester, 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.

Population 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 limit for the 700 MHz Band is approximately 467 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 5 GHz microwave 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 **600 Old Hartford Road, Colchester, 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 and microwave antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 3) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 4) 1 microwave backhaul channel (5 GHz) was considered for the microwave link. This microwave channel has a transmit power of 1 Watt.
- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.



- 6) 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 was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **RFS APXV18-206516S-C-A20** for 1900 MHz (PCS) channels, the **Commscope LNX-6515DS-A1M** for 700 MHz channels and the **Fastback Networks IBR 1300** for 5 GHz microwave backhaul. This is based on feedback from the carrier with regards to anticipated antenna selection. The **RFS APXV18-206516S-C-A20** has a maximum gain of **16.3 dBd** at its main lobe at 1900 MHz. The **Commscope LNX-6515DS-A1M** has a maximum gain of **14.6 dBd** at its main lobe at 700 MHz. the **Fastback Networks IBR 1300 antenna** has a maximum gain of **10 dBd** at 5 GHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antenna mounting height centerline of the proposed antennas is **150 feet** above ground level (AGL) for all standard panel antennas and 5 GHz microwave radio / antenna.
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 10) 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
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXV18-206516S-C-A20	Make / Model:	RFS APXV18-206516S-C-A20	Make / Model:	RFS APXV18-206516S-C-A20
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	150	Height (AGL):	150	Height (AGL):	150
Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	7,678.43	ERP (W):	7,678.43	ERP (W):	7,678.43
Antenna A1 MPE%	1.33	Antenna B1 MPE%	1.33	Antenna C1 MPE%	1.33
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	150	Height (AGL):	150	Height (AGL):	150
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A2 MPE%	0.32	Antenna B2 MPE%	0.32	Antenna C2 MPE%	0.32
				Antenna #:	3 (Microwave)
				Make / Model:	Fastback Networks IBR 1300
				Gain:	10.0 dBd
				Height (AGL):	150
				Frequency Bands	5.0 GHz
				Channel Count	1
				Total TX Power(W):	1
				ERP (W):	10 W
				Antenna C3 MPE%	0.002

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	1.654%
AT&T	1.28 %
Sprint	0.13 %
Site Total MPE %:	3.064%

T-Mobile Sector A Total:	1.652%
T-Mobile Sector B Total:	1.652%
T-Mobile Sector C Total:	1.654%
Site Total:	3.064%



T-Mobile Per Sector Maximum Power Values

T-Mobile _Max Values per sector (Sector C)	# 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	2,559.48	150	8.87	PCS - 1900 MHz	1000	0.89%
T-Mobile PCS - 1900 MHz UMTS	2	1,279.74	150	4.44	PCS - 1900 MHz	1000	0.44%
T-Mobile 700 MHz LTE	1	865.21	150	1.50	700 MHz	467	0.32%
T-Mobile 5 GHz Microwave	1	10	150	0.25	5 GHz Microwave	1000	0.002%
						Total:	1.654%

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:	1.652%
Sector B:	1.652%
Sector C:	1.654%
T-Mobile Per Sector Maximum:	1.654%
Site Total:	3.064%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **3.064%** 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 F

CTNL250A

UNIONVILLE
24 MILL ST
UNIONVILLE
CT

06085-9998
0883640185

09/29/2017 (800)275-8777 12:05 PM

Product Description	Sale Qty	Final Price
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PM 1-Day Flat Rate Env	1	\$6.65
------------------------	---	--------

(Domestic)
(COLCHESTER, CT 06415)
(Flat Rate)
(Expected Delivery Day)
(Saturday 09/30/2017)
(USPS Tracking #)
(9505 5119 1366 7272 1012 70)

Insurance (Up to \$50.00 included)	1	\$0.00
------------------------------------	---	--------

PM 1-Day Flat Rate Env	1	\$6.65
------------------------	---	--------

(Domestic)
(COLCHESTER, CT 06415)
(Flat Rate)
(Expected Delivery Day)
(Saturday 09/30/2017)
(USPS Tracking #)
(9505 5119 1366 7272 1012 87)

Insurance (Up to \$50.00 included)	1	\$0.00
------------------------------------	---	--------

PM 1-Day Flat Rate Env	1	\$6.65
------------------------	---	--------

(Domestic)
(COLCHESTER, CT 06415)
(Flat Rate)
(Expected Delivery Day)
(Saturday 09/30/2017)
(USPS Tracking #)
(9505 5119 1366 7272 1012 94)

Insurance (Up to \$50.00 included)	1	\$0.00
------------------------------------	---	--------

Total		\$19.95
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Credit Card Remitd		\$19.95
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(Card Name:VISA)
(Account #:XXXXXXXXXX0717)
(Approval #:05619G)
(Transaction #:122)

Includes up to \$50 insurance

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