

Northeast Site Solutions Victoria Masse 420 Main Street #2, Sturbridge, MA 01566 860-306-2326 victoria@northeastsitesolutions.com

July 22, 2022

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

RE: Notice of Exempt Modification

208 Valley Road, New Canaan, CT 06840

Latitude: 41.16616405 Longitude: -73.47046840

T-Mobile Site#: CT11098B L600

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 117-foot level of the existing 120-foot Unipole located at 208 Valley Road, New Canaan, CT 06840. The 120-foot pole is owned by Tarpon Towers and property is owned by Silver Hill Hospital Inc. T-Mobile now intends to replace three (3) existing antenna with three (3) new 600/700/2100 MHz antenna. The new antennas would be installed at the 117-foot level of the pole. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

T-Mobile Planned Modifications:

Remove: None

Remove and Replace:

(3) Andrew SBNHH Antenna (Remove) - (3) Commscope-FVV-65C-R3 600/700/2100 MHz Antenna (Replace)

Install New:

- (6) Diplexers
- (3) RRU 4480 B71
- (1) Hybrid Line

Existing to Remain:

- (3) Andrew Smart Bias-T
- (18) Coax Line



This facility was approved by the CT Siting Council. Docket No.401 -on February 2, 2012. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Kevin Moynihan, First Selectman of the Town of New Canaan and Lynn Brooks Avni, AICP, Town Planner/Sr. Enforcement Officer Co-Director of Land Use, as well as the property owner and the tower owner.

- 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,

Victoria Masse

Mobile: 860-306-2326 Fax: 413-521-0558

Victoria Masse

Office: 420 Main Street, Unit 2, Sturbridge MA 01566

Email: victoria@northeastsitesolutions.com



Attachments:

cc: Kevin Moynihan, First Selectman New Canaan Town Hall, 2nd Floor 77 Main St. New Canaan, CT 06840

Lynn Brooks Avni, AICP, Town Planner/Sr. Enforcement Officer Co-Director of Land Use New Canaan Town Hall, Lower Level 77 Main Street New Canaan, CT

Tarpon Towers II, LLC - as tower owner 8916 77th Terrace East, Suite 103 Lakewood Ranch, FL 34202

Silver Hill Hospital Inc - as property 208 Valley Road New Canaan, CT 06840

Exhibit A

DOCKET NO. 401 - T-Mobile Northeast LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 208 Valley Road, New Canaan, Connecticut.

Council

February 2, 2012

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to T-Mobile Northeast LLC (T-Mobile), hereinafter referred to as the Certificate Holder, for a telecommunications facility at 208 Valley Road, New Canaan, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

- 1. The tower shall be constructed as a monopole with concealed antennas, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile, Verizon Wireless and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level. The height at the top of the Certificate Holder's antennas shall not exceed 120 feet above ground level.
- 2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of New Canaan for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the <u>2002 Connecticut Guidelines for Soil Erosion and Sediment Control</u>, as amended.
- 3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

Docket No. 401 Decision and Order Page 2

- 4. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
- 5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
- 6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of New Canaan public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
- 7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
- 8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of New Canaan. Any proposed modifications to this Decision and Order shall likewise be so served.
- 9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
- 10. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
- 11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.
- 12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
- 13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder\transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder\transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

Docket No. 401 Decision and Order Page 3

- 14. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
- 15. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in <u>The Stamford Advocate</u> and <u>The Hour</u>.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant Its Representative

T-Mobile Northeast, LLC

Julie D. Kohler, Esq.

Jesse A. Langer, Esq.

Cohen and Wolf, P.C.

1115 Broad Street Bridgeport, CT 06604

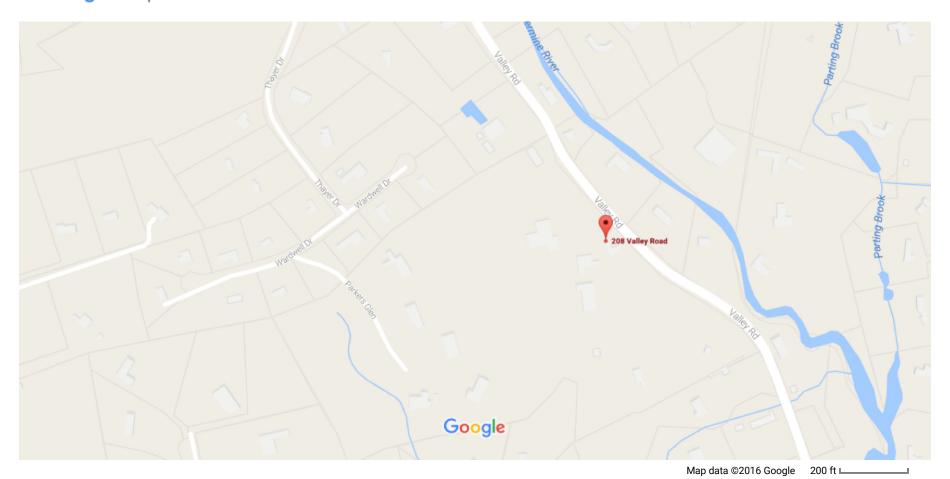
<u>Intervenor</u> <u>Its Representative</u>

Cellco Partnership d/b/a Verizon Wireless

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

Exhibit B

Google Maps 208 Valley Rd





New Search Back to Results View Property Print View Map

Location Owner		Account	MBLU
208 VALLEY RD	SILVER HILL HOSPITAL INC	30126	0044/ 0108/ 0120/

Parcel Value

Item	Appraised Value	Assessed Value
Buildings	9,890,300	6,923,210
Extra Building Features	0	0
Outbuildings	67,700	47,390
Land	5,092,000	3,564,400
Total	15,050,000	10,535,000

Owner of Record

SILVER HILL HOSPITAL INC	
208 VALLEY RD	
NEW CANAAN, CT 06840	ı

Owner History

Name	Book/Page	Sale Date	Sale Price
SILVER HILL HOSPITAL INC	702/ 281	11/09/2004	0
SILVER HILL FOUNDATION INC	67/ 13	05/18/1940	136,567

Assessment History

1 133C33IIICIII 11	<u>istory</u>	
Year	Total Assessment	
2015	10,535,000	
2014	10,535,000	
2013	10,535,000	
2012	9,209,060	
2011	9,209,060	
2010	9,209,060	
2009	9,209,100	
2008	10,969,100	
2007	4,710,900	
2006	4,710,900	
2005	4,710,900	
2004	4,710,900	
2003	4,710,900	
2002	6,112,960	

Building Permits

Permit ID	Issue Date Ammount	Description	
16- 00064	01/28/2016 10,000	"REPAIR WATER DAMAGE AT MAIN HOUSE."	
15- 01238	12/09/2015 80,000	MARTIN CENTER - REPLACE EXISTING ENTRANCE STAIRS A	ND ROOF.
15- 01184	11/30/2015 75,000	RENOVATE 18 EXISTING RESTROOMS (WITH NEW FINISHES CONTROLS FOR PATIENT SAFETY.) NO INCREASE IN FIXTURE.	
15- 00466	06/01/2015 300,000	MAIN HOUSE - INTERIOR RENOVATIONS TO THE 2ND FLOOI	R
15- 00280	04/07/2015 90,000	'ENLARGE MED ROOM AND SWAP LOUNGE & TREATMENT I ADD AC UNITS TO MED, TREATMENT AND & NURSE STATIC	
14-1307	12/16/2014 72,000	CONSTRUCT A 12 X 24 SHELTER- FOR PROPANE GENERATOR	R, 6 ANTENNAS, UG PROPANE TANKS

14-0244	03/24/2014	400,000	"MARTIN CENTER BUILDING OFFICE: - RENOVATE EXISTING TO UPPER LEVEL, INCLUDES ADDING HVAC & EXTERIOR W NEW RESTROOM TO REPLACE ONE MOVED TO CREAT DATA COMPL	G OFFICE SPACE INCLUDING ADA ACCESS INDOWS [**REVISION- \$25,000: CREATE A CLOSET. NEW RESTROOM TO BE ADA
14-0297	03/19/2014	175,000	WIRELESS CELL TOWER ONLY.	
14-0296	03/19/2014	30,000	INSTALLATION OF EQUIPMENT ON $12\mathrm{x}20$ CONCRETE PAD, C 86^{\prime}	ONCRETE PAD & 3 PANEL ANTENNAS AT
14-0169	02/26/2014	1,600,000	"RESIDENTIAL BUILDING" RENOVATION TOTHE EXISTING INCLUDING ADA UPGRADES, NEW WINDOWS SIDING, ROOF HOUSE	7800 SQ FT RESIDENTIAL BUILDING - , MECHANICALS AND FINISHES FOR THE K
14-0168	02/12/2014	20,000	REMOVE POLE MOUNTED FLOOD LIGHTS & REPLACE WITH	CAMPUS STD LOW LIGHT POST LIGHTS.
12-0452	09/21/2012	1,500,000	COM ADDS & ALTS	
12-0359	04/02/2012	30,000	COM ADDS & ALTS	
11-0059	03/15/2011	1,234,000	COM ADDS & ALTS	
11-0037	01/19/2011	65,000	ASBESTOS ABATEMENT, EXPLORATION DEMO	
10-0086	03/24/2010	735,000	COM ADDS & ALTS	
09-0649	01/29/2010	0	SIDEWALKS & ACCESSIBLE ROUTE	
09-0109	04/14/2009	100,000	COM ADDS & ALTS	
08-0846	11/18/2008	25,000	INT ALTS AND DECK	
07-1210	02/28/2008	250,000	CHANGE OF USE INT. ALTS & RAMP R-4	
07-0675	08/20/2007	6,199,000	COM ADDITIONS AND ALTERATIONS	
07-0402	05/11/2007	50,000	COM ADDS & ALTS	
07-0309	04/25/2007	25,000	COM ADDS & ALTS	
01- 0773A	11/06/2001	0	COM CO	
01-0773	09/17/2001	20,000	NEW OUTSIDE STAIRS	
01-0096	03/12/2001	73,000	PATIENT ROOM REMO	
20343	01/03/2001	42,000		
1914- 0120	09/23/1998	150,000	SILVERHILL FOUNDATION, INC.	
1796- 0120	07/29/1996	1,000	SILVERHILL FOUNDATION, INC.	

Land Line Valuation

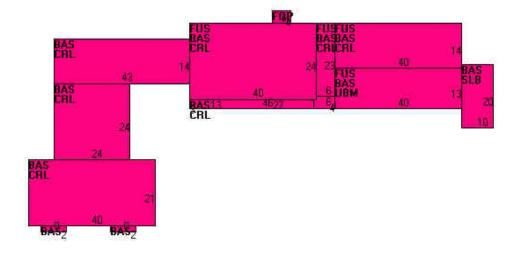
Size	Zone	Dev Map #	Appraised Value	Assessed Value
21.57 AC	2 AC	7319, 7350	5,092,000	3,564,400

Building Details - Click Buildings Below
Building 1 Building 2 Building 3 Building 4 Building 5 Building 6 Building 7 Building 8

Building 1



Building Sketch



Subarea Summary

	•		
Code	Description	Gross Area	Living Area
BAS	First Floor	4,572	4,572
CRL	Crawl Space	3,820	0
FOP	Open Porch	24	0
FUS	Upper Story, Finished	2,178	2,178
SLB	Slab	200	0
UBM	Basement, Unfinished	520	0
		Total Living Area:	6,750

Exhibit C

MODIFICATION OF EXISTING WIRELESS FACILITY BY

T··Mobile·

T-MOBILE NORTHEAST LLC

PROJECT TITLE: L600 SITE NUMBER: CT11098B

SITE NAME: CT098/SILVER HILL RL SITE ADDRESS: 208 VALLEY ROAD

> NEW CANAAN, CT 06840 RF CONFIGURATION: 67E95F_1OP

PROJECT NOTES:

THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION HANDICAPPED ACCESS IS NOT REQUIRED. POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.

NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.

DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES,

CODE COMPLIANCE:

ALL WORK SHALL COMPLY WITH THE CURRENT NATIONAL AND CONNECTICUT STATE BUILDING AND LIFE SAFETY CODES, SUPPLEMENTS AND AMENDMENTS INCLUDING BUT NOT

CONNECTICUT STATE BUILDING CODE (CSBC)

ANSI/TIA-222-G STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND

NATIONAL ELECTRICAL CODE (NEC) FOR POWER AND GROUNDING REQUIREMENTS.

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

NFPA - NATIONAL FIRE PROTECTION ASSOCIATION



1-800-922-4455

Minimum of 2 working days in advance, no

CONTRACTOR'S NOTES:

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE. REFER TO STRUCTURAL ANALYSIS, DATED JULY 19, 2022 PREPARED BY MICHAEL F

APPROVALS:

PLAHVINSAK, PE.

FSA CM	DATE
RF ENGINEER	DATE
	DATE
T-MOBILE ENGINEERING AND DEVELOPMENT	DATE
	DATE
	DATE



SITE VICINITY SITE LOCATION Wilton

PROJECT DESCRIPTION:

CABINETS: UPGRADE THE EXISTING 6201 CABINET INTERNALLY.

ANTENNAS: REPLACE (3) OF (3) EXISTING ANTENNAS ON EXISTING TOWER.

COMPONENTS: ADD (3) RADIOS (RRU) AND (6) DIPLEXERS BEHIND NEW ANTENNAS.

CABLES: ADD (1) 6X24 HYBRID CABLE FOR TOTAL OF (18) 7/8" COAX AND (1) 6X24 HYBRID CABLES

PROJECT INFORMATION:

208 VALLEY ROAD NEW CANAAN, CT 06840

PARCEL ID: 44 108 120 ZONING DISTRICT

COORDINATES: 41° 09' 58.33" N 73° 28' 13.90" W

GROUND ELEV 267'± (AMSL)

PROJECT TEAM:

APPLICANT: T-MOBILE NORTHEAST, LLC.

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002

860-692-7100

ROPERTY OWNER SILVER HILL HOSPITAL INC

208 VALLEY RD NEW CANAAN, CT 06840

PROJECT MANAGER NORTHEAST SITE SOLUTIONS

420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 MATTHEW BANDLE

MATT@NORTHEASTSITESOLUTIONS.COM

508-642-8801

ENGINEERING CONSULTANTS: 462 WALNUT ST

NEWTON, MA 02460 SAEED MOSSAVAT

SMOSSAVAT@FORESITELLC.COM

617-212-3123

SHEET INDEX:

TITLE SHEET GENERAL NOTES

GIS OVERLAY

ELEVATION AND ANTENNA PLANS
ANTENNA AND EQUIPMENT SPECIFICATIONS

ELECTRICAL AND GROUNDING DETAILS

APPLICANT:

T - Mobile T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100



STURBRIDGE, MA 01566 203-275-6669

CONSULTANT:



462 WALNUT STREET, SUITE 1 NEWTON, MA 02460 617-212-3123



THIS DOCUMENT IS THE DESIGN PROPERTY AND COPYRIGHT OF FORESITE, LLC, AND FOR THE EXCLUSIVE USE BY THE TITLE CLIENT. DUPLICATION OR USE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE CREATOR IS STRICTLY ROHIBITED, DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

R	EV	DESCRIPTION	DATE
	Α	PRELIMINARY	06/23/22
	0	FINAL ISSUED	07/05/22
	1	DIPLEXERS ADDED	07/21/22
L			
Ш			

SITE NUMBER: CT11098B SITE NAME: CT098/SILVER HILL RL

SITE ADDRESS: 208 VALLEY ROAD NEW CANAAN, CT 06840

> SHEET TITLE: T-1: TITLE SHEET

GENERAL NOTES:

- 1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- 2. THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- 3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CLIENT'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK
- 5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
- 6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- 7. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.
- 8. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE BASIC STATE BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJEC
- 9. THE CONTRACTOR SHALL NOTIFY THE CLIENT'S REPRESENTATIVE IN WRITING WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CLIENT'S REPRESENTATIVE.
- $10. \hspace{0.5cm}$ THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:
- A. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS BUILDING CODES" OR LATEST EDITION.
- B. AWS: AMERICAN WELDING SOCIETY INC. AS PUBLISHED IN "STANDARD D1.1-08, STRUCTURAL WELDING CODE" OR LATEST EDITION.
- C. AISC: AMERICAN INSTITUTE FOR STEEL CONSTRUCTION AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"; "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (LATEST EDITION).
- 11. BOLTING:
- A. BOLTS SHALL BE CONFORMING TO ASTM A325 HIGH STRENGTH, HOT DIP GALVANIZED WITH ASTM A153 HEAVY HEX TYPE NUTS.
- B. BOLTS SHALL BE 3/4" MINIMUM (UNLESS OTHERWISE NOTED)
- C. ALL CONNECTIONS SHALL BE 2 BOLTS MINIMUM.
- 12. FABRICATION:
- A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES (LATEST EDITION).
- B. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (LATEST EDITION), UNLESS OTHERWISE NOTED.
- 13. ERECTION OF STEEL:
- A. PROVIDE ALL ERECTION EQUIPMENT, BRACING, PLANKING, FIELD BOLTS, NUTS, WASHERS, DRIFT PINS, AND SIMILAR MATERIALS WHICH DO NOT FORM A PART OF THE COMPLETED CONSTRUCTION BUT ARE NECESSARY FOR ITS PROPER ERECTION.
- B. ERECT AND ANCHOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC REFERENCE STANDARDS. ALL WORK SHALL BE ACCURATELY SET TO ESTABLISHED LINES AND ELEVATIONS AND RIGIDLY FASTENED IN PLACE WITH SUITABLE ATTACHMENTS TO THE CONSTRUCTION OF THE BUILDING.
- C. TEMPORARY BRACING, GUYING AND SUPPORT SHALL BE PROVIDED TO KEEP THE STRUCTURE SAFE AND ALIGNED AT ALL TIMES DURING CONSTRUCTION, AND TO PREVENT DANGER TO PERSONS AND PROPERTY. CHECK ALL TEMPORARY LOADS AND STAY WITHIN SAFE CAPACITY OF ALL BUILDING COMPONENTS.
- $14.\,$ RELATED WORK, FURNISH THE FOLLOWING WORK AS SPECIFIED UNDER CONSTRUCTION DOCUMENTS, BUT COORDINATE WITH OTHER TRADES PRIOR TO BID:
- A. FLASHING OF OPENING INTO OUTSIDE WALLS

- B. SEALING AND CAULKING ALL OPENINGS
- C. PAINTING
- D. CUTTING AND PATCHING
- 15. REQUIREMENTS OF REGULATORY AGENCIES:
- A. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE. INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.
- B. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES, AND SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:
- C. TIA-EIA 222 (LATEST EDITION). STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- D. FAA FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7460-IH, OBSTRUCTION MARKING AND LIGHTING.
- E. FCC FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATION FOR ANTENNA STRUCTURES AND FORM 715A, HIGH INTENSITY OBSTRUCTION LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES.
- F. AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS (LATEST EDITION).
- G. NEC NATIONAL ELECTRICAL CODE ON TOWER LIGHTING KITS.
- H. UL UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.
- I. IN ALL CASES, PART 77 OF THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.
- J. 2018 LIFE SAFETY CODE NFPA 101.

APPLICANT:

T - Mobile -

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100

PROJECT MANAGER

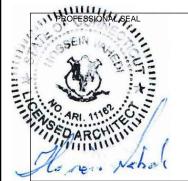


420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 203-275-6669

CONSULTANT:



462 WALNUT STREET, SUITE 1 NEWTON, MA 02460 617-212-3123



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RE	DESCRIPTION	DATE
А	PRELIMINARY	06/23/22
0	FINAL ISSUED	07/05/22
1	DIPLEXERS ADDED	07/21/22
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SITE NUMBER: CT11098B

SITE NAME: CT098/SILVER HILL_RL

SITE ADDRESS: 208 VALLEY ROAD NEW CANAAN, CT 06840

SHEET TITLE:

N-1: GENERAL NOTES



APPLICANT:

T - Mobile - T-Mobile - T-Mobile NORTHEAST LLC

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100

PROJECT MANAGER



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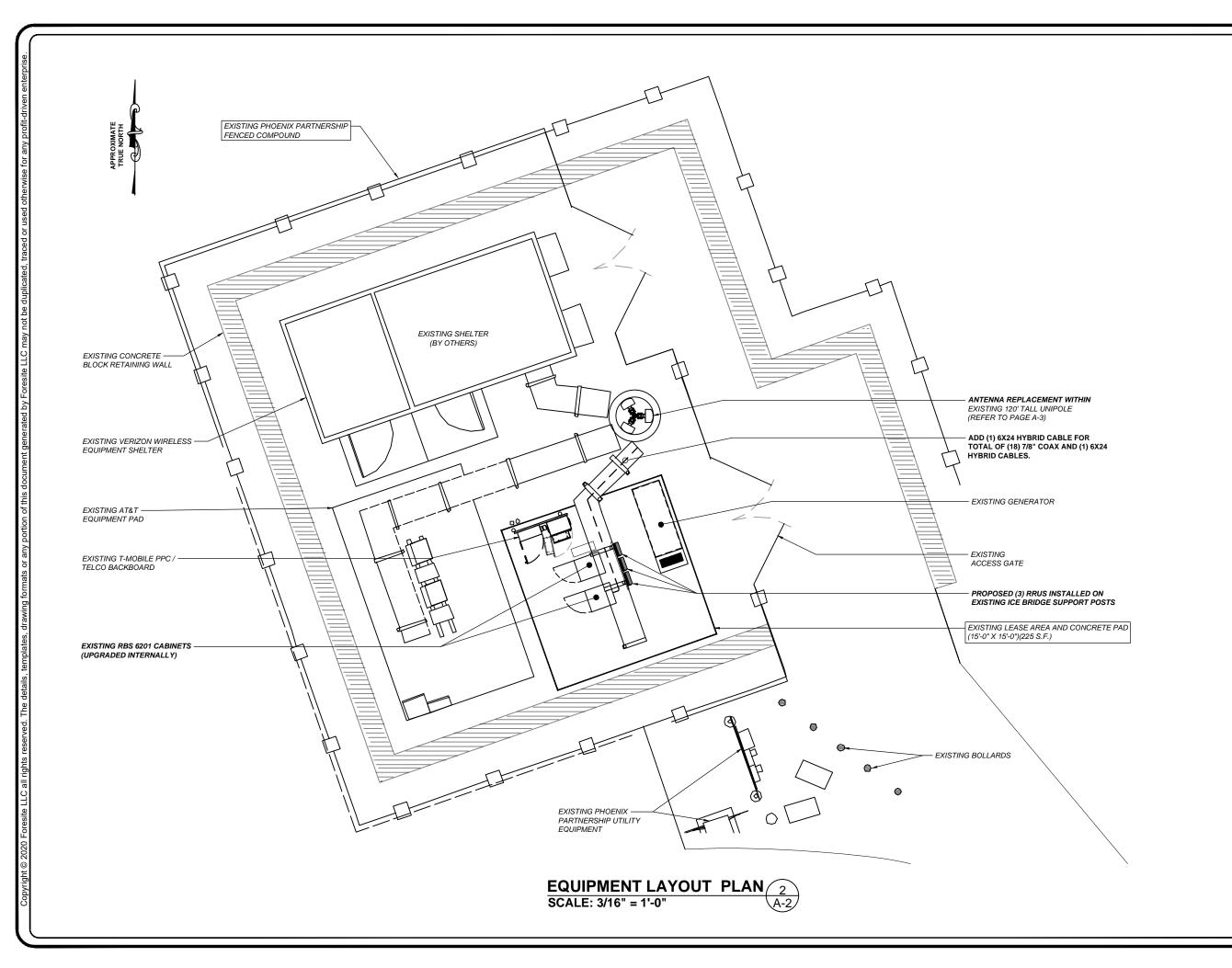
SITE NUMBER: CT11098B

SITE NAME: CT098/SILVER HILL_RL

SITE ADDRESS: 208 VALLEY ROAD NEW CANAAN, CT 06840

SHEET TITLE:

A-1: GIS OVERLAY



APPLICANT:

T - Mobile - T-Mobile - T-MOBILE NORTHEAST LLC

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PROJECT MANAGER



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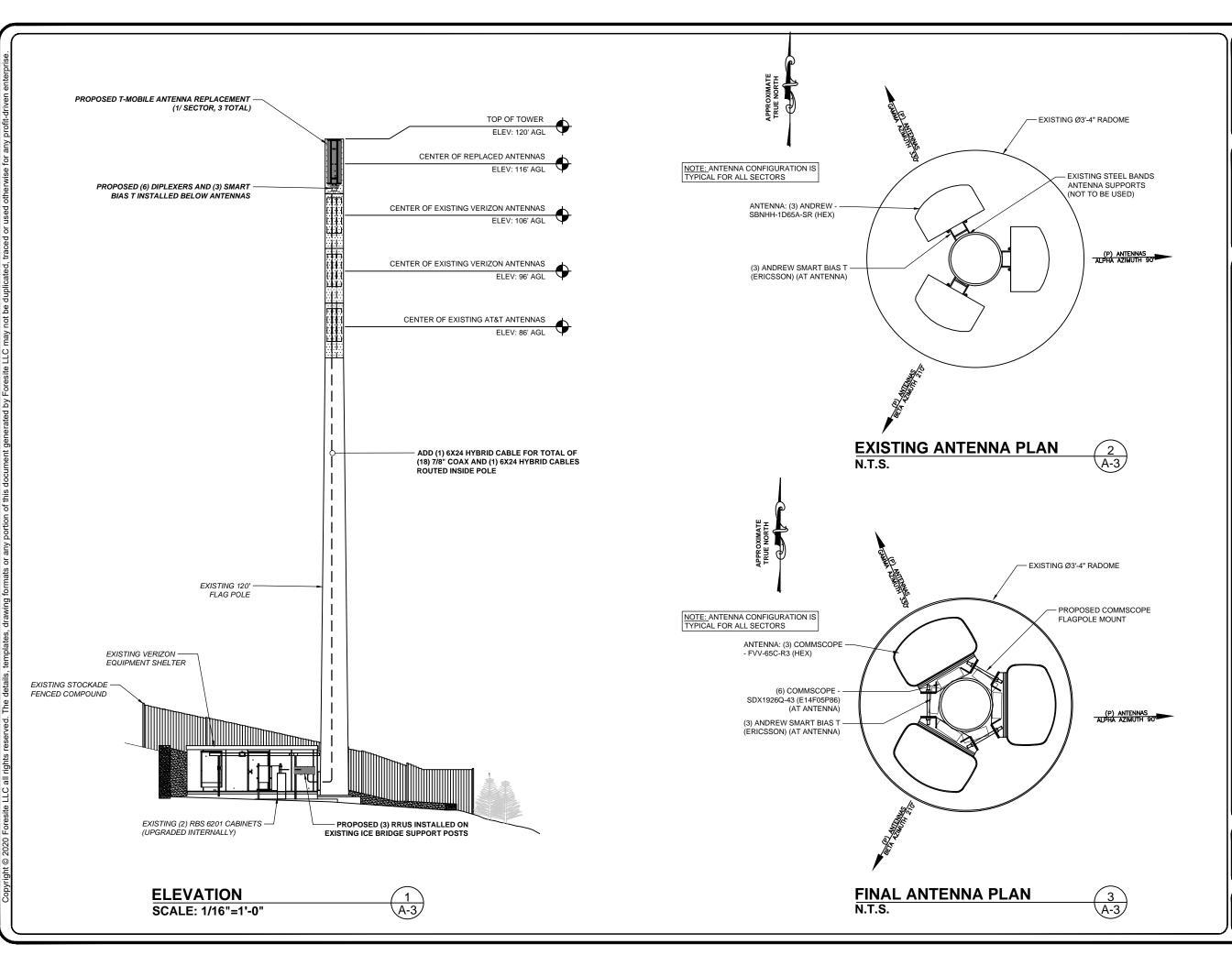
SITE NUMBER: CT11098B

SITE NAME: CT098/SILVER HILL_RL

SITE ADDRESS: 208 VALLEY ROAD NEW CANAAN, CT 06840

SHEET TITLE:

A-2: EQUIPMENT LAYOUT



APPLICANT:

T - Mobile - T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100

PROJECT MANAGER



420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 203-275-6669

CONSULTANT:



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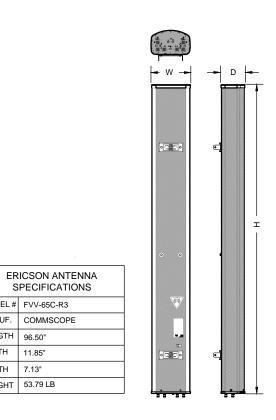
SITE NUMBER: CT11098B

SITE NAME: CT098/SILVER HILL_RL

SITE ADDRESS: 208 VALLEY ROAD NEW CANAAN, CT 06840

SHEET TITLE:

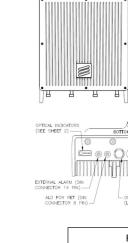
A-3: ELEVATION AND ANTENNA PLANS



MODEL # FVV-65C-R3

WIDTH 11.85" DEPTH 7.13" WEIGHT 53.79 LB

MANUF. COMMSCOPE LENGTH 96.50"

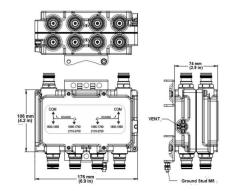


FRONT VIEW

SF	RRU PECIFICATIONS
MODEL#	4480 B71
MANUF.	ERICSSON
LENGTH	22.0"
WIDTH	15.7"
DEPTH	7.5"
WEIGHT	93.0 LB

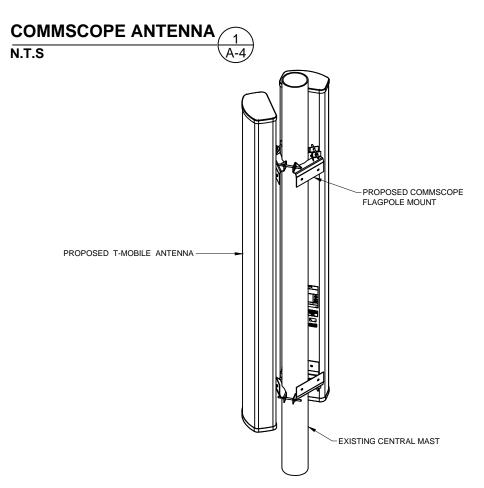
RIGHT SIDE I VIEW I



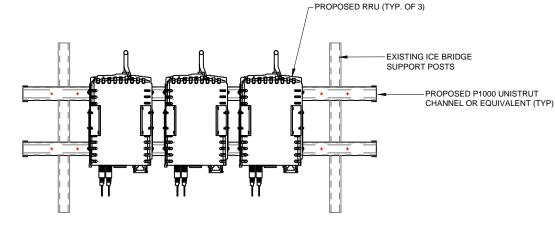


	1
	DIPLEXER
MODEL#	SDX1926Q-43
MANUF.	COMMSCOPE
HEIGHT	4.173"
MUDTLI	0.000
WIDTH	6.929"
DEPTH	2.913"
DEPTH	2.913
WEIGHT	0.441 LB
****	V1 LD

DIPLEXER	3
N.T.S	(A-4)







RRU MOUNT DETAIL N.T.S



APPLICANT:

T - Mobile T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100

PROJECT MANAGER



420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 203-275-6669

CONSULTANT:



462 WALNUT STREET, SUITE 1 NEWTON, MA 02460



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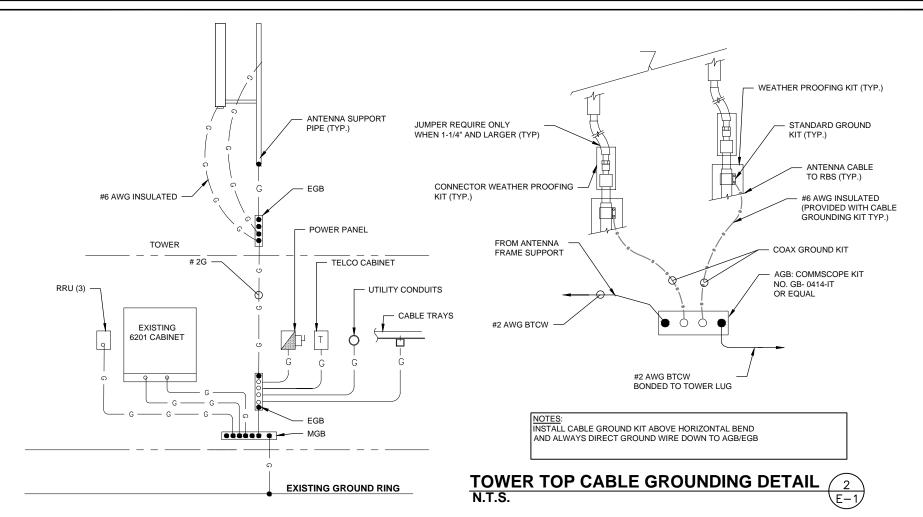
SITE NAME: CT098/SILVER HILL_RL

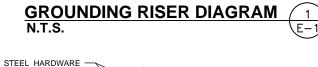
SITE ADDRESS: 208 VALLEY ROAD NEW CANAAN, CT 06840

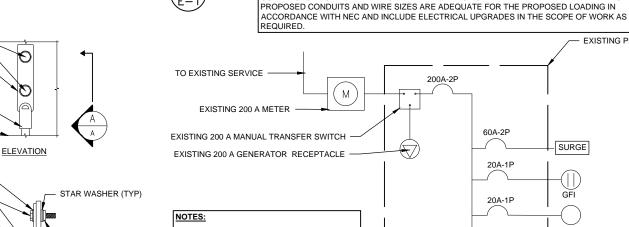
SHEET TITLE: A-4: ANTENNA AND EQUIPMENT SPECIFICATIONS

ELECTRICAL & GROUNDING NOTES

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







MAKE ALL CONNECTIONS AS PER UTILITY

2- INSTALL NEW BREAKERS PER NEC AND

3- CONDUIT SWEEPS TO ABOVE GROUND ELECTRICAL APPLIANCES SHALL BE GRC.

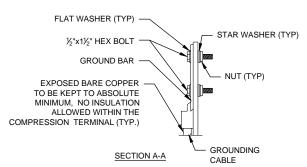
4- UTILITY COMPANY TO CONFIRM CAPACITY

COMPANY AND NEC REQUIREMENTS

MANUFACTURER'S REQUIREMENTS.

IN METER BANK AND TRANSFORMER.

SPECIAL CONTRACTOR'S NOTES:



TWO HOLE COPPER

GROUND BAR

COMPRESSION TERMINAL

GROUNDING CABLE

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

TYPICAL GROUND BAR CONNECTIONS DETAIL N.T.S.

TYPICAL ONE LINE DIAGRAM

CONTRACTOR TO VERIFY THE POWER FEED & PHASE OF METER BANK AND THAT THE EXISTING AND



EXISTING PPC

SURGE

GFI

SECURITY

(E) (2) 6201

LIGHT

APPLICANT:

T··Mobile· T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100

PROJECT MANAGER

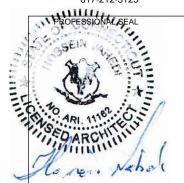


420 MAIN STREET BLDG 4 STURBRIDGE, MA 01566 203-275-6669

CONSULTANT:



462 WALNUT STREET, SUITE 1 NEWTON, MA 02460 617-212-3123



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SITE NUMBER: CT11098B

SITE NAME: CT098/SILVER HILL_RL

SITE ADDRESS: 208 VALLEY ROAD NEW CANAAN, CT 06840

SHEET TITLE:

E-1: ELECTRICAL & GROUNDING DETAIL

Exhibit D

Structural Analysis 120-ft Monopole

Prepared For:
Tarpon Towers II, LLC
8916 77th Terrace East, Suite 103
Lakewood Ranch, FL 34202

MFP Project #94122-008

Site Location:
CT1192 New Canaan
208 Valley Road
New Canaan, CT 06840
Lat/Long: 41°9'58.5", -73°28'13.7"

Analysis Type:
ANSI/TIA-222-G
Structure Rating - 69.0% Passing

July 22, 2022



Michael F. Plahovinsak, P.E. 1830| State Route 161 W, Plain City, OH 43064 614-398-6250 - mike@mfpeng.com Page 2 of 5 7/22/2022

Project Summary:

I have completed a structural analysis of the existing monopole for the following new configuration:

- 117' T-Mobile:
 - o (3) Commscope FVV-65C-R3 Antennas
 - o (3) Ericsson 4408 B71 RRU's
 - o (6) Commscope SDX1926Q-43 Diplexers
 - o (3) Andrew Smart Bias T
 - o (18) 7/8" Cable (Existing)
 - o Commscope Flagpole Mount

The pole has been analyzed in accordance with the requirements of the International Building Code per IBC section 3108.4, and the recommendations of the Telecommunications Industry Association "Structural Standard for Steel Antenna Supporting Structures" ANSI/TIA-222-G.

This analysis may be considered a "Rigorous Structural Analysis" as defined in ANSI/TIA-222-G 15.5.2.

As indicated in the conclusions of this analysis, I have determined that the existing pole and foundation have *sufficient capacity* to support the existing, reserved and proposed antenna loads as detailed herein. Based on the results of my analysis, structural modifications are not required at this time.

Source of Data:

Resource	Source	Job Number	Date
Pole and Foundation Drawings	Michael Plahovinsak, PE	23514-110	04/05/14
Geotechnical Report	Design Earth Technology	2012.06/2011.08	06/01/12

Structure Specifics:

• Manufacturer: TransAmerican Power Products

Manufacturer File #: TP-12359Year Built: 2014

Page 3 of 5 7/22/2022

Analysis Criteria:

International Building Code 2006-2015 Section 3108.4 Structural Standards for Steel Antenna Supporting Structures **ANSI/TIA-222-G**

• TIA-222-G Wind Speed 110 mph (V_{asd} / 3-Second Gust)

• Equivalent ASCE-7-10 Wind 142 mph <u>Vult</u>

TIA-222-G Wind w/ 3/4" Ice
Operational Wind Speed
50 mph (3-Sec Gust)
60 mph (3-Sec Gust)

Structure Class	Exposure Category	Topographic Category
II $(I = 1.0)$	В	I

Appurtenance Listing:

Status	Elev.	Antenna / Mounting	Coax	Owner
		(3) Commscope FVV-65C-R3 Antennas		
		(3) Ericsson 4408 B71 RRU's	(18) 7/8"	
Proposed	117'	(6) Commscope SDX1926Q-43 Diplexers	(Existing)	T-Mobile
		(3) Andrew Smart Bias T	(Zanoung)	
		Commscope Flagpole Mount		
	106'	(3) Commscope LNX-6514DS-VTM Antenna		
Existing	100	Internally Mounted	(12) 1 1/4"	Verizon
Laisting	96'	(3) Commscope HBX-6517DS-VTM Antenna	(12) 1 1/4	VCHZOH
	90	Internally Mounted		
Existing	86'	(3) Quintel QS66512-2 Antenna + (6) TMA2117F00V1-1	(12) 1 1/4"	АТ&Т
Existing	80	Internally Mounted	(12) 1 1/4	AIXI

All antenna lines assumed internally mounted, not exposed to the wind.

Page 4 of 5 7/22/2022

Foundation Analysis:

The existing monopole foundation design was analyzed in conjunction with site specific geotechnical report. The existing foundation has sufficient capacity to support the pole with the proposed antenna configuration.

Conclusion:

I have completed a structural analysis of the existing monopole and foundation in accordance with the project specifics outlined above. My analysis indicates that the existing monopole and foundation are structurally adequate when considering the existing plus proposed loading. Please refer to the attached calculations for an itemized listing of all member stress ratios. The existing pole is safe and adequate to support the proposed loads, and no structural reinforcing is required to support the above loading.

If you have any questions about the contents of this structural report or require any additional information, please feel free to contact my office.

Sincerely,

Michael F. Plahovinsak, P.E.

mike@mfpeng.com - 614.398-6250

Page 5 of 5 7/22/2022

Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. The following standard conditions are a general overview of key issues regarding the work product supplied.

- 2. If the existing conditions are not as represented in this structural report or attached sketches, I should be contacted to evaluate the significance of the deviation and revise the structural assessment accordingly.
- 3. The structural analysis has been performed assuming that the structure is in "like new" condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, etc. If there are any known deficiencies in the structure that potentially compromise structural integrity, I should be made aware of the deficiencies. If I am aware of a deficiency that exists in a structure at the time of my analysis, a general explanation of the structural concern due to the deficiency will be included in the structural report, but the deficiency will not be reflected in capacity calculations.
- 4. The structural analysis provided is an assessment of the primary load carrying capacity of the structure. I provide a limited scope of service in that I have not verified the capacity of every weld, plate, connection detail, etc. In most cases, structural fabrication details are unknown at the time of my analysis, and the detailed field measurement of this information is beyond the scope of my services. In instances where I have not performed connection capacity calculations, it is assumed that existing manufactured connections develop the full capacity of the primary members being connected.
- 5. The structural integrity of the existing foundation system can only be verified if exact foundation sizes and soils conditions are known. I will not accept any responsibility for the adequacy of the existing foundations unless this site-specific data is supplied.
- 6. Miscellaneous items such as antenna mounts, coax supports, etc. have not been designed, detailed, or specified as part of my work. It is assumed that material of adequate size and strength will be purchased from a reputable component manufacturer. The attached report and sketches are schematic in nature and should not be used to fabricate or purchase hardware and accessories to be attached to the structure. I recommend field measurement of the structure before fabricating or purchasing new hardware and accessories. I am not responsible for proper fit and clearance of hardware and accessory items in the field.
- 7. The structural analysis has been performed considering minimum code requirements or recommendations. If alternate wind, ice, or deflection criteria are to be considered, then I shall be made aware of the alternate criteria.

100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0												
000 000 000 000 000 000 000 000 000 00	Section	80		7	9	S	4	ю		2	-	
981 0	Length (ft)	38.00		38.00	0.50	9.50	10.00	10.00		10.00	10.00	
88170	Number of Sides	18		18	-	18	18	18		18	18	
000011	Thickness (in)	0.2500		0.2500	0.2188		0.2188	0.2188		0.2188	0.2188	
110.0 h	Socket Length (ft)			6.00								
000011 0000011 0000011 000011 000011 000011 000011 0000011 000011 000011	Top Dia (in)	43.8453		40.0000	14.0000		14.0000	14.0000		14.0000	14.0000	
110.0ft 100.0ft 90.0ft 100.0ft 32.0ft ALL REACTIONS ARE FACTORED AXIAL 37 K SHEAR 37 K SHEAR 1185 kip-ft 50 mph WIND - 0.7500 in ICE AXIAL 20 K SHEAR 12 K MOMENT 740 kip-ft 740 kip-ft 740 kip-ft REACTIONS - 110 mph WIND	Bot Dia (in)	49.0000		45.1600	40.0000	14.0000	14.0000	14.0000		14.0000	14.0000	
110.0 ft 100.0 ft 30	Grade			A572-65								
100.0 th 100.0				4.3	0.0	0.3	0.3	0.3		0.3	0.3	
ALL REACTIONS ARE FACTORED AXIAL 37 K SHEAR 37 K SHEAR 185 kip-ft 50 mph WIND - 0.7500 in ICE AXIAL 20 K SHEAR 740 kip-ft	<u> </u>	<u>0.0 ft</u>	<u>32.0 ft</u>		70.5 ft		80.0 ft	90.0 ft	100.0 ft	110.0 ft		120.0 ft
ALL REACTIONS ARE FACTORED AXIAL 37 K SHEAR 185 kip-ft 50 mph WIND - 0.7500 in ICE AXIAL 20 K SHEAR 12 K MOMENT 740 kip-ft												
ALL REACTIONS ARE FACTORED AXIAL 37 K SHEAR 37 K MOMENT 185 kip-ft 50 mph WIND - 0.7500 in ICE AXIAL 20 K SHEAR 12 K MOMENT 740 kip-ft												
	REACTIONS - 110 mph WIND	ARE FACTORED AXIAL 37 K SHEAR 37 K MOMENT 185 kip-ft 50 mph WIND - 0.7500 in ICE AXIAL 20 K SHEAR 12 K MOMENT 740 kip-ft										

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(3) Commscope FVV-65C-R3 w/	117	Radome Cylinder (40"Ø x 10')	105
mount pipe (T-Mobile)		(3) Andrew HBX-6517DS-VTM w/	96
(3) Ericsson 4408 B71 (T-Mobile)	117	mount pipe (Verizon)	
(6) Commscope SDX1926Q-43	117	Radome Cylinder (40"Ø x 10')	95
E14F05P86 (T-Mobile)		(3) Quintel QS66512-2 Panel w/ mount	86
(3) Andrew Top Bias T (T-Mobile)	117	pipe (ATT)	
(3) Commscope Flagpole Mount	117	(6) Kaelus TMA2117F00V1-1 (ATT)	86
(T-Mobile)		Radome Cylinder (40"Ø x 10')	85
Radome Cylinder (40"Ø x 10')	115	Radome Cylinder (40"Ø x 10')	75
(3) Andrew LNX-6514DS w/ mount pipe (Verizon)	106		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

- TOWER DESIGN NOTES

 1. Tower is located in Fairfield County, Connecticut.
 2. Tower designed for Exposure B to the TIA-222-G Standard.
 3. Tower designed for a 110 mph basic wind in accordance with the TIA-222-G Standard.
 4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
 5. Deflections are based upon a 60 mph wind.
 6. Tower Structure Class II.
 7. Topographic Category 1 with Crest Height of 0.00 ft
 8. TOWER RATING: 69%

Michael Plahovinsak, P.E.	^{Job:} 120-ft Monopole - MFP #94122-008					
I 10001 Glate Roale 101	Project: CT1192 New Canaan					
Plain City, OH 43064	^{Client:} Tarpon Towers	Drawn by: JC	App'd:			
Phone: 614-398-6250	Code: TIA-222-G	Date: 07/22/22	Scale: NTS			
FAX: mike@mfpeng.com	Path: C:\Users\jorge\Dropbox\MFP Engineering Files\Pr	rojects\941-Tarpon\94122-008\94122-008.er	Dwg No. E-1			

Michael Plahovinsak, P.E.

18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com

Job		Page
	120-ft Monopole - MFP #94122-008	1 of 8
Project		Date
	CT1192 New Canaan	11:55:52 07/22/22
Client		Designed by
	Tarpon Towers	JC

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 110 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

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

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

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

Tapered Pole Section Geometry

Section	Elevation	Section	Splice	Number	Тор	Bottom	Wall	Bend	Pole Grade
		Length	Length	of	Diameter	Diameter	Thickness	Radius	
	ft	ft	ft	Sides	in	in	in	in	
L1	120.00-110.00	10.00	0.00	18	14.0000	14.0000	0.2188	0.8750	A572-65
									(65 ksi)
L2	110.00-100.00	10.00	0.00	18	14.0000	14.0000	0.2188	0.8750	A572-65
									(65 ksi)
L3	100.00-90.00	10.00	0.00	18	14.0000	14.0000	0.2188	0.8750	A572-65
									(65 ksi)
L4	90.00-80.00	10.00	0.00	18	14.0000	14.0000	0.2188	0.8750	A572-65
									(65 ksi)
L5	80.00-70.50	9.50	0.00	18	14.0000	14.0000	0.2188	0.8750	A572-65
									(65 ksi)
L6	70.50-70.00	0.50	0.00	18	14.0000	40.0000	0.2188	0.8750	A572-65
									(65 ksi)
L7	70.00-32.00	38.00	6.00	18	40.0000	45.1600	0.2500	1.0000	A572-65
									(65 ksi)
L8	32.00-0.00	38.00		18	43.8453	49.0000	0.2500	1.0000	A572-65
									(65 ksi)

Tapered Pole Properties

Section	Tip Dia.	Area	I	r	С	I/C	J	It/Q	w	w/t
	in	in^2	in^4	in	in	in^3	in^4	in^2	in	
L1	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
L2	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
L3	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
L4	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504

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Job		Page
	120-ft Monopole - MFP #94122-008	2 of 8
Project		Date
	CT1192 New Canaan	11:55:52 07/22/22
Client	Tarpon Towers	Designed by JC

Section	Tip Dia.	Area	I	r	С	I/C	J	It/Q	w	w/t
	in	in^2	in^4	in	in	in^3	in^4	in^2	in	
L5	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
L6	14.1822	9.5685	229.5928	4.8923	7.1120	32.2825	459.4877	4.7852	2.0790	9.504
	40.5833	27.6206	5522.3981	14.1223	20.3200	271.7716	11052.0627	13.8129	6.6550	30.423
L7	40.5785	31.5416	6296.4503	14.1113	20.3200	309.8647	12601.1856	15.7738	6.6000	26.4
	45.8181	35.6361	9080.5791	15.9430	22.9413	395.8183	18173.1067	17.8214	7.5082	30.033
L8	45.3095	34.5928	8306.1982	15.4763	22.2734	372.9202	16623.3258	17.2997	7.2768	29.107
	49.7173	38.6831	11614.7065	17.3062	24.8920	466.6040	23244.6960	19.3452	8.1840	32.736

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade Adjust. Factor A_f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in				in	in	in
L1			1	1	1			
120.00-110.00								
L2			1	1	1			
110.00-100.00								
L3			1	1	1			
100.00-90.00								
L4 90.00-80.00			1	1	1			
L5 80.00-70.50			1	1	1			
L6 70.50-70.00			1	1	1			
L7 70.00-32.00			1	1	1			
L8 32.00-0.00			1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face	Allow	Exclude	Component	Placement	Total		C_AA_A	Weight
	or Leg	Shield	From Torque	Туре	ft	Number		ft²/ft	plf
			Calculation						
7/8"	С	No	Yes	Inside Pole	117.00 - 0.00	18	No Ice	0.00	0.35
(T-Mobile)							1/2" Ice	0.00	0.35
							1" Ice	0.00	0.35
1 1/4"	C	No	Yes	Inside Pole	106.00 - 0.00	6	No Ice	0.00	0.66
(Verizon)							1/2" Ice	0.00	0.66
							1" Ice	0.00	0.66
1 1/4"	C	No	Yes	Inside Pole	96.00 - 0.00	6	No Ice	0.00	0.66
(Verizon)							1/2" Ice	0.00	0.66
							1" Ice	0.00	0.66
1 1/4"	C	No	Yes	Inside Pole	86.00 - 0.00	6	No Ice	0.00	0.66
(AT&T)							1/2" Ice	0.00	0.66
,							1" Ice	0.00	0.66

Feed Line/Linear Appurtenances Section Areas

Tower	Tower	Face	A_R	A_F	$C_A A_A$	$C_A A_A$	Weight
Section	Elevation				In Face	Out Face	
	ft		ft ²	ft^2	ft ²	ft ²	K
L1	120.00-110.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.04
L2	110.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.09
L3	100.00-90.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00

4 7	<i>'ower</i>
Thy	awer

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Job		Page
	120-ft Monopole - MFP #94122-008	3 of 8
Project		Date
	CT1192 New Canaan	11:55:52 07/22/22
Client		Designed by
	Tarpon Towers	JC

Tower	Tower	Face	A_R	A_F	$C_A A_A$	$C_A A_A$	Weight
Section	Elevation				In Face	Out Face	
	ft		ft^2	ft^2	ft ²	ft ²	K
		С	0.000	0.000	0.000	0.000	0.13
L4	90.00-80.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.17
L5	80.00-70.50	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.17
L6	70.50-70.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.01
L7	70.00-32.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.69
L8	32.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.58

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower	Tower	Face	Ice	A_R	A_F	$C_A A_A$	$C_A A_A$	Weight
Section	Elevation	or	Thickness			In Face	Out Face	_
	ft	Leg	in	ft^2	ft^2	ft^2	ft^2	K
L1	120.00-110.00	A	1.699	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.04
L2	110.00-100.00	A	1.684	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.09
L3	100.00-90.00	A	1.667	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.13
L4	90.00-80.00	A	1.649	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.17
L5	80.00-70.50	A	1.629	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.17
L6	70.50-70.00	A	1.618	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01
L7	70.00-32.00	A	1.567	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.69
L8	32.00-0.00	A	1.393	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.58

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Job		Page
	120-ft Monopole - MFP #94122-008	4 of 8
Project		Date
	CT1192 New Canaan	11:55:52 07/22/22
Client	Tarpon Towers	Designed by JC

Discrete Tower Loads

Description	Face or	Offset Type	Offsets: Horz	Azimuth Adjustment	Placement		C _A A _A Front	C _A A _A Side	Weight
	Leg	21	Lateral	3					
			Vert	0	C.		c.2	c.2	**
			ft ft	Ü	ft		ft^2	ft^2	K
			ft						
Radome Cylinder (40"Ø x	С	None	<i>J</i> -	0.0000	115.00	No Ice	17.04	17.04	0.50
10')						1/2" Ice	24.46	24.46	0.79
						1" Ice	25.23	25.23	1.09
Radome Cylinder (40"Ø x	C	None		0.0000	105.00	No Ice	17.04	17.04	0.50
10')						1/2" Ice	24.46	24.46	0.79
						1" Ice	25.23	25.23	1.09
Radome Cylinder (40"Ø x	C	None		0.0000	95.00	No Ice	17.04	17.04	0.50
10')						1/2" Ice	24.46	24.46	0.79
	_					1" Ice	25.23	25.23	1.09
Radome Cylinder (40"Ø x	C	None		0.0000	85.00	No Ice	17.04	17.04	0.50
10')						1/2" Ice	24.46	24.46	0.79
P 1 G 1: 1 (4011)				0.0000	77.00	1" Ice	25.23	25.23	1.09
Radome Cylinder (40"Ø x	C	None		0.0000	75.00	No Ice 1/2" Ice	17.04 24.46	17.04	0.50
10')						1/2 Ice 1" Ice	25.23	24.46	0.79
**						1 Ice	25.25	25.23	1.09
(3) Commscope	C	None		0.0000	117.00	No Ice	11.65	9.86	0.09
FVV-65C-R3 w/ mount pipe	C	None		0.0000	117.00	1/2" Ice	12.36	11.39	0.18
(T-Mobile)						1" Ice	13.09	12.93	0.28
(3) Ericsson 4408 B71	С	None		0.0000	117.00	No Ice	0.55	0.28	0.01
(T-Mobile)						1/2" Ice	0.65	0.35	0.02
(1" Ice	0.75	0.43	0.02
(6) Commscope	C	None		0.0000	117.00	No Ice	0.24	0.17	0.01
SDX1926Q-43 E14F05P86						1/2" Ice	0.31	0.23	0.01
(T-Mobile)						1" Ice	0.38	0.29	0.01
(3) Andrew Top Bias T	C	None		0.0000	117.00	No Ice	0.50	0.50	0.01
(T-Mobile)						1/2" Ice	0.75	0.75	0.01
						1" Ice	1.00	1.00	0.02
(3) Commscope Flagpole	C	None		0.0000	117.00	No Ice	2.50	2.50	0.07
Mount						1/2" Ice	3.00	3.00	0.10
(T-Mobile)						1" Ice	3.50	3.50	0.13
• •	C	N		0.0000	106.00	NI- I	0.17	6.92	0.06
(3) Andrew LNX-6514DS w/	C	None		0.0000	106.00	No Ice 1/2" Ice	8.17 8.63	6.83 7.79	0.06 0.13
mount pipe (Verizon)						172 Ice 1" Ice	9.10	8.62	0.13
(V E112011) **						1 100	9.10	8.02	0.20
(3) Andrew	C	None		0.0000	96.00	No Ice	5.24	4.73	0.04
HBX-6517DS-VTM w/	~	1,5110		0.0000	, 5.00	1/2" Ice	5.71	5.68	0.08
mount pipe						1" Ice	6.18	6.50	0.13
(Verizon)							-		
(3) Quintel QS66512-2 Panel	C	None		0.0000	86.00	No Ice	8.40	8.22	0.13
w/ mount pipe	-					1/2" Ice	8.95	9.19	0.20
(ATT)						1" Ice	9.51	10.09	0.28
(6) Kaelus	C	None		0.0000	86.00	No Ice	1.17	0.23	0.03
TMA2117F00V1-1						1/2" Ice	1.32	0.31	0.04
(ATT)						1" Ice	1.48	0.39	0.05

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Job		Page		
	120-ft Monopole - MFP #94122-008	5 of 8		
Project		Date		
	CT1192 New Canaan	11:55:52 07/22/22		
Client		Designed by		
	Tarpon Towers			

Load Combinations

Comb.	Description
No.	· · · · · · · · · · · · · · · · · · ·
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 90 deg - No Ice
5	0.9 Dead+1.6 Wind 90 deg - No Ice
6	1.2 Dead+1.6 Wind 180 deg - No Ice
7	0.9 Dead+1.6 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section	Elevation	Component	Condition	Gov.	Axial	Major Axis	Minor Axis
No.	ft	Туре		Load		Moment	Moment
				Comb.	K	kip-ft	kip-ft
L1	120 - 110	Pole	Max Tension	2	0.00	0.00	-0.00
			Max. Compression	8	-4.63	0.00	0.00
			Max. Mx	4	-1.68	-6.02	0.00
			Max. My	2	-1.68	0.00	6.02
			Max. Vy	4	1.19	-6.02	0.00
			Max. Vx	2	-1.19	0.00	6.02
L2	110 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-8.07	0.00	0.00
			Max. Mx	4	-2.93	-23.50	0.00
			Max. My	2	-2.93	0.00	23.50
			Max. Vy	4	2.31	-23.50	0.00
			Max. Vx	2	-2.31	0.00	23.50
L3	100 - 90	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-11.22	0.00	0.00
			Max. Mx	4	-4.18	-51.91	0.00
			Max. My	2	-4.18	0.00	51.91
			Max. Vy	4	3.37	-51.91	0.00
			Max. Vx	2	-3.37	0.00	51.91
L4	90 - 80	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-15.42	0.00	0.00
			Max. Mx	4	-6.06	-90.66	0.00
			Max. My	2	-6.06	0.00	90.66
			Max. Vy	4	4.37	-90.66	0.00
			Max. Vx	2	-4.37	0.00	90.66
L5	80 - 70.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-17.88	0.00	0.00
			Max. Mx	4	-7.32	-135.88	0.00
			Max. My	2	-7.32	0.00	135.88
			Max. Vy	4	5.18	-135.88	0.00
			Max. Vx	2	-5.18	0.00	135.88
L6	70.5 - 70	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-17.96	0.00	0.00
			Max. Mx	4	-7.37	-138.47	0.00
			Max. My	2	-7.37	0.00	138.47
			Max. Vy	4	5.21	-138.47	0.00
			Max. Vx	2	-5.21	0.00	138.47
L7	70 - 32	Pole	Max Tension	1	0.00	0.00	0.00

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Job		Page
	120-ft Monopole - MFP #94122-008	6 of 8
Project		Date
	CT1192 New Canaan	11:55:52 07/22/22
Client	Tarpon Towers	Designed by JC

Section No.	Elevation ft	Component Type	Condition	Gov. Load	Axial	Major Axis Moment	Minor Axis Moment
	v	21		Comb.	K	kip-ft	kip-ft
			Max. Compression	8	-25.74	0.00	0.00
			Max. Mx	4	-12.41	-356.18	0.00
			Max. My	2	-12.41	0.00	356.18
			Max. Vy	4	8.37	-356.18	0.00
			Max. Vx	2	-8.37	0.00	356.18
L8	32 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-36.78	0.00	0.00
			Max. Mx	4	-19.87	-740.20	0.00
			Max. My	2	-19.87	0.00	740.20
			Max. Vy	4	11.82	-740.20	0.00
			Max. Vx	2	-11.82	0.00	740.20

Maximum Tower Deflections - Service Wind

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	in	Comb.	0	٥
L1	120 - 110	6.242	12	0.6040	0.0000
L2	110 - 100	4.978	12	0.6005	0.0000
L3	100 - 90	3.743	12	0.5730	0.0000
L4	90 - 80	2.611	12	0.4987	0.0000
L5	80 - 70.5	1.702	12	0.3558	0.0000
L6	70.5 - 70	1.196	12	0.1381	0.0000
L7	70 - 32	1.182	12	0.1375	0.0000
L8	38 - 0	0.404	12	0.0898	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov.	Deflection	Tilt	Twist	Radius of
		Load				Curvature
ft		Comb.	in	٥	٥	ft
117.00	(3) Commscope FVV-65C-R3 w/	12	5.862	0.6038	0.0000	129521
	mount pipe					
115.00	Radome Cylinder (40"Ø x 10')	12	5.609	0.6035	0.0000	129521
106.00	(3) Andrew LNX-6514DS w/ mount	12	4.478	0.5944	0.0000	24240
	pipe					
105.00	Radome Cylinder (40"Ø x 10')	12	4.353	0.5920	0.0000	20979
96.00	(3) Andrew HBX-6517DS-VTM w/	12	3.272	0.5477	0.0000	8385
	mount pipe					
95.00	Radome Cylinder (40"Ø x 10')	12	3.158	0.5402	0.0000	7747
86.00	(3) Quintel QS66512-2 Panel w/	12	2.212	0.4603	0.0000	4215
	mount pipe					
85.00	Radome Cylinder (40"Ø x 10')	12	2.119	0.4481	0.0000	3969
75.00	Radome Cylinder (40"Ø x 10')	12	1.383	0.2131	0.0000	2545

Maximum Tower Deflections - Design Wind

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	in	Comb.	0	0
L1	120 - 110	37.842	4	3.6695	0.0000
L2	110 - 100	30.171	4	3.6482	0.0000
L3	100 - 90	22.673	4	3.4805	0.0000
L4	90 - 80	15.800	4	3.0276	0.0000

tnxTow

Michael Plahovinsak, P.E.

18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com

Job		Page
	120-ft Monopole - MFP #94122-008	7 of 8
Project		Date
	CT1192 New Canaan	11:55:52 07/22/22
Client		Designed by
	Tarpon Towers	JC

Section	Elevation	Horz.	Gov.	Tilt	Twist
No.		Deflection	Load		
	ft	in	Comb.	0	0
L5	80 - 70.5	10.288	4	2.1578	0.0000
L6	70.5 - 70	7.223	4	0.8346	0.0000
L7	70 - 32	7.136	4	0.8310	0.0000
L8	38 - 0	2.436	2	0.5419	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	0	0	ft
117.00	(3) Commscope FVV-65C-R3 w/	4	35.535	3.6687	0.0000	21302
	mount pipe					
115.00	Radome Cylinder (40"Ø x 10')	4	33.999	3.6665	0.0000	21302
106.00	(3) Andrew LNX-6514DS w/ mount	4	27.131	3.6108	0.0000	3999
	pipe					
105.00	Radome Cylinder (40"Ø x 10')	4	26.378	3.5963	0.0000	3461
96.00	(3) Andrew HBX-6517DS-VTM w/	4	19.813	3.3259	0.0000	1384
	mount pipe					
95.00	Radome Cylinder (40"Ø x 10')	4	19.118	3.2802	0.0000	1279
86.00	(3) Quintel QS66512-2 Panel w/	4	13.379	2.7933	0.0000	695
	mount pipe					
85.00	Radome Cylinder (40"Ø x 10')	4	12.814	2.7192	0.0000	655
75.00	Radome Cylinder (40"Ø x 10')	4	8.354	1.2902	0.0000	419

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio P _u
	ft		ft	ft		in^2	K	K	ϕP_n
L1	120 - 110 (1)	TP14x14x0.2188	10.00	0.00	0.0	9.5685	-1.68	710.89	0.002
L2	110 - 100 (2)	TP14x14x0.2188	10.00	0.00	0.0	9.5685	-2.93	710.89	0.004
L3	100 - 90 (3)	TP14x14x0.2188	10.00	0.00	0.0	9.5685	-4.18	710.89	0.006
L4	90 - 80 (4)	TP14x14x0.2188	10.00	0.00	0.0	9.5685	-6.06	710.89	0.009
L5	80 - 70.5 (5)	TP14x14x0.2188	9.50	0.00	0.0	9.5685	-7.32	710.89	0.010
L6	70.5 - 70 (6)	TP40x14x0.2188	0.50	0.00	0.0	9.5685	-7.35	710.89	0.010
L7	70 - 32 (7)	TP45.16x40x0.25	38.00	0.00	0.0	34.9896	-12.41	2102.06	0.006
L8	32 - 0 (8)	TP49x43.8453x0.25	38.00	0.00	0.0	38.6831	-19.87	2189.77	0.009

Pole Bending Design Data

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio M_{ux}	M_{uy}	ϕM_{ny}	Ratio M_{uy}
	ft		kip-ft	kip-ft	ϕM_{nx}	kip-ft	kip-ft	ϕM_{ny}
L1	120 - 110 (1)	TP14x14x0.2188	6.02	199.87	0.030	0.00	199.87	0.000
L2	110 - 100 (2)	TP14x14x0.2188	23.50	199.87	0.118	0.00	199.87	0.000
L3	100 - 90 (3)	TP14x14x0.2188	51.91	199.87	0.260	0.00	199.87	0.000
L4	90 - 80 (4)	TP14x14x0.2188	90.66	199.87	0.454	0.00	199.87	0.000
L5	80 - 70.5 (5)	TP14x14x0.2188	135.88	199.87	0.680	0.00	199.87	0.000
L6	70.5 - 70 (6)	TP40x14x0.2188	135.88	199.87	0.680	0.00	199.87	0.000
L7	70 - 32 (7)	TP45.16x40x0.25	356.18	1910.18	0.186	0.00	1910.18	0.000
L8	32 - 0 (8)	TP49x43.8453x0.25	740.20	2201.13	0.336	0.00	2201.13	0.000

Michael Plahovinsak, P.E. 18301 State Route 161

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Job		Page
	120-ft Monopole - MFP #94122-008	8 of 8
Project		Date
	CT1192 New Canaan	11:55:52 07/22/22
Client	Tarpon Towers	Designed by JC

Pole Shear Design Data

Section No.	Elevation	Size	$Actual\ V_u$	ϕV_n	Ratio V_u	$Actual \ T_u$	ϕT_n	Ratio T_u
	ft		K	K	ϕV_n	kip-ft	kip-ft	ϕT_n
L1	120 - 110 (1)	TP14x14x0.2188	1.19	355.45	0.003	0.00	401.18	0.000
L2	110 - 100 (2)	TP14x14x0.2188	2.31	355.45	0.006	0.00	401.18	0.000
L3	100 - 90 (3)	TP14x14x0.2188	3.37	355.45	0.009	0.00	401.18	0.000
L4	90 - 80 (4)	TP14x14x0.2188	4.37	355.45	0.012	0.00	401.18	0.000
L5	80 - 70.5 (5)	TP14x14x0.2188	5.18	355.45	0.015	0.00	401.18	0.000
L6	70.5 - 70 (6)	TP40x14x0.2188	5.21	815.59	0.006	0.00	401.18	0.000
L7	70 - 32 (7)	TP45.16x40x0.25	8.37	1051.03	0.008	0.00	3828.30	0.000
L8	32 - 0 (8)	TP49x43.8453x0.25	11.82	1094.88	0.011	0.00	4411.05	0.000

Pole Interaction Design Data

Section No.	Elevation	$Ratio$ P_u	$Ratio$ M_{ux}	Ratio M_{uy}	$Ratio$ V_u	$Ratio$ T_u	Comb. Stress	Allow. Stress	Criteria
	ft	ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n	Ratio	Ratio	
L1	120 - 110 (1)	0.002	0.030	0.000	0.003	0.000	0.032	1.000	4.8.2
L2	110 - 100 (2)	0.004	0.118	0.000	0.006	0.000	0.122	1.000	4.8.2
L3	100 - 90 (3)	0.006	0.260	0.000	0.009	0.000	0.266	1.000	4.8.2
L4	90 - 80 (4)	0.009	0.454	0.000	0.012	0.000	0.462	1.000	4.8.2
L5	80 - 70.5 (5)	0.010	0.680	0.000	0.015	0.000	0.690	1.000	4.8.2
L6	70.5 - 70 (6)	0.010	0.680	0.000	0.006	0.000	0.690	1.000	4.8.2
L7	70 - 32 (7)	0.006	0.186	0.000	0.008	0.000	0.192	1.000	4.8.2
L8	32 - 0 (8)	0.009	0.336	0.000	0.011	0.000	0.345	1.000	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$\phi P_{allow} \ K$	% Capacity	Pass Fail
L1	120 - 110	Pole	TP14x14x0.2188	1	-1.68	710.89	3.2	Pass
L2	110 - 100	Pole	TP14x14x0.2188	2	-2.93	710.89	12.2	Pass
L3	100 - 90	Pole	TP14x14x0.2188	3	-4.18	710.89	26.6	Pass
L4	90 - 80	Pole	TP14x14x0.2188	4	-6.06	710.89	46.2	Pass
L5	80 - 70.5	Pole	TP14x14x0.2188	5	-7.32	710.89	69.0	Pass
L6	70.5 - 70	Pole	TP40x14x0.2188	6	-7.35	710.89	69.0	Pass
L7	70 - 32	Pole	TP45.16x40x0.25	7	-12.41	2102.06	19.2	Pass
L8	32 - 0	Pole	TP49x43.8453x0.25	8	-19.87	2189.77	34.5	Pass
							Summary	
						Pole (L5)	69.0	Pass
						RATING =	69.0	Pass

Michael F. Plahovinsak, P.E.

18301 State Route 161 W Plain City, OH 43064 Phone: 614-398-6250 email: mike@mfpeng.com

Job	120-ft monopole - MFP #94122-008	Page BP & AB Calc
Project	CT1192 New Canaan	Date 7/22/2022
Client	Tarpon Towers	Designed by Mike

Anchor Rod and Base Plate Calculation

ANSI/TIA-222-G

Factored Base Reactions: Pole Shape: Anchor Rods: Base Plate:

(6) 2.25 in. A615 GR. 75 Moment: 740 ft-kips 18-Sided 1.75 in. x 62 in. Round Shear: *Pole Dia.* (D_f):

12 kips Anchor Rods Evenly Spaced fy = 60 ksiAxial: 49.00 in On a 56 in Bolt Circle 20 kips

Anchor Rod Calculation According to TIA-222-G section 4.9.9

0.80 TIA 4.9.9 ϕ_t , $\phi_v =$

2352.00 in Momet of Inertia $I_{\text{bolts}} =$

 $P_{ii} =$ 109 kips Compr Force $V_u =$ 2.0 kips Shear Force

Rnt =325.00 kips Nominal Tensile Strength

 $0.50 \,\, \text{for detail type (d)}$ n

Stress Rating = **43.5%** Satisfies TIA-G 4.9.9

Base Plate Calculation According to TIA-222-G

 $0.90\,$ tia 4.7

L =

 $M_{PL} =$ 393.3 in-kip Plate Moment

Calculated Moment vs Factored Resistance

 $\mathbf{Z} =$ 19.6 Plastic Section Modulus 393.33 in-kip ≤ 1061 in-kip

1178.6 in-kip Plastic Moment $M_P =$ 1060.7 in-kip Factored Resistance $\phi M_n =$

25.7 in Section Length

Stress Rating = 37.1%

> **Anchor Rods Are Adequate 43.5%** ✓ **37.1%** ✓ **Base Plate is Adequate**

Exhibit E



Radio Frequency Emissions Analysis Report

T Mobile

Site ID: CT11098B

CT098/Silver Hill_RL 208 Valley Road New Canaan, CT 06840

July 12, 2022

Fox Hill Telecom Project Number: 221459

Site Compliance Summary					
Compliance Status:	COMPLIANT				
Site total MPE% of FCC general population allowable limit:	10.19 %				



July 12, 2022

T-MOBILE Attn: RF Manager 35 Griffin Road South Bloomfield, CT 06009

Emissions Analysis for Site: CT11098B – CT098/Silver Hill_RL

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **208 Valley Road**, **New Canaan**, **CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μ W/cm2). The number of μ W/cm² calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

General population/uncontrolled exposure limits apply to situations in which the general 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.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (μ W/cm²). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately 400 μ W/cm² and 467 μ W/cm² respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) bands is 1000 μ W/cm². Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **208 Valley Road, New Canaan, 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 antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	2100 MHz (AWS)	4	40
UMTS	2100 MHz (AWS)	1	40

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the 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.

			Antenna
	Antenna		Centerline
Sector	Number	Antenna Make / Model	(ft)
A	1	Commscope FVV-65C-R3	117
В	1	Commscope FVV-65C-R3	117
C	1	Commscope FVV-65C-R3	117

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
	Commscope	600 MHz / 700 MHz /	13.85 / 14.15 /	_			
Antenna A1	FVV-65C-R3	2100 MHz (AWS)	16.45	9	320	11,812.76	4.65
					Sector A Cor	mposite MPE%	4.65
	Commscope	600 MHz / 700 MHz /	13.85 / 14.15 /				
Antenna B1	FVV-65C-R3	2100 MHz (AWS)	16.45	9	320	11,812.76	4.65
					Sector B Con	nposite MPE%	4.65
	Commscope	600 MHz / 700 MHz /	13.85 / 14.15 /				
Antenna C1	FVV-65C-R3	2100 MHz (AWS)	16.45	9	320	11,812.76	4.65
Sector C Composite MPE%						4.65	

Table 3: T-MOBILE Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%				
Carrier	MPE%			
T-MOBILE – Max Per Sector Value	4.65 %			
Verizon Wireless	2.78 %			
AT&T	2.76 %			
Site Total MPE %:	10.19 %			

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	4.65 %
T-MOBILE Sector B Total:	4.65 %
T-MOBILE Sector C Total:	4.65 %
Site Total:	10.19 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table* 6 below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (µW/cm²)	Frequency (MHz)	Allowable MPE (µW/cm²)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	970.64	117	5.66	600 MHz	400	1.42%
T-Mobile 700 MHz LTE	2	520.03	117	3.03	700 MHz	467	0.65%
T-Mobile 2100 MHz (AWS) LTE	4	1,766.28	117	20.61	2100 MHz (AWS)	1000	2.06%
T-Mobile 2100 MHz (AWS) UMTS	1	1,766.28	117	5.15	2100 MHz (AWS)	1000	0.52%
						Total:	4.65%

Table 6: T-MOBILE Maximum Sector MPE Power Values



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:	4.65 %	
Sector B:	4.65 %	
Sector C:	4.65 %	
T-MOBILE Maximum	4.65 %	
Total (per sector):		
Site Total:	10.19 %	
Site Compliance Status:	COMPLIANT	

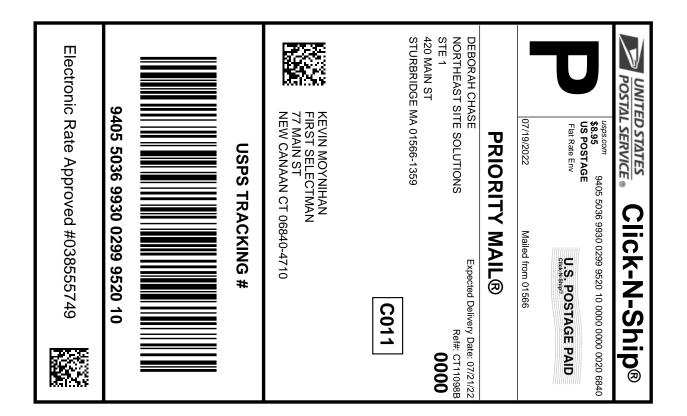
The anticipated composite MPE value for this site assuming all carriers present is **10.19** % of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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.

Scott Heffernan Principal RF Engineer

Fox Hill Telecom, Inc Holden, MA 01520 (978)660-3998

Exhibit F





Instructions

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567899318 07/19/2022 07/19/2022 Trans. #: Print Date: Ship Date: 07/21/2022 Delivery Date:

Priority Mail® Postage: Total:

\$8.95 \$8.95

Ref#: CT11098B

From: **DEBORAH CHASE**

NORTHEAST SITE SOLUTIONS

STE 1

420 MAIN ST

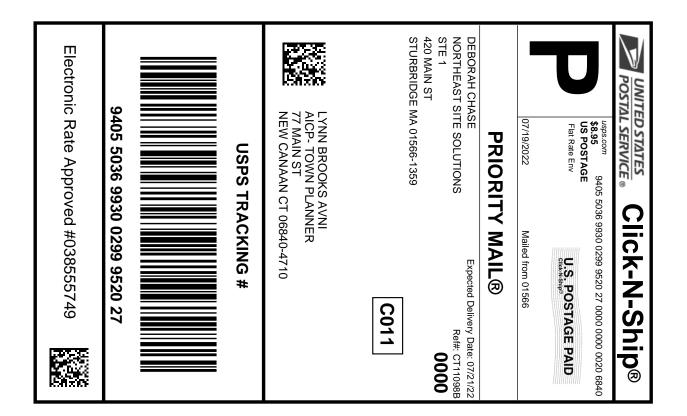
STURBRIDGE MA 01566-1359

KEVIN MOYNIHAN

FIRST SELECTMAN

77 MAIN ST

NEW CANAAN CT 06840-4710





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567899318 07/19/2022 07/19/2022 Trans. #: Print Date: Ship Date: 07/21/2022 Delivery Date:

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\$8.95 \$8.95

Ref#: CT11098B

From: **DEBORAH CHASE**

NORTHEAST SITE SOLUTIONS

STE 1

420 MAIN ST

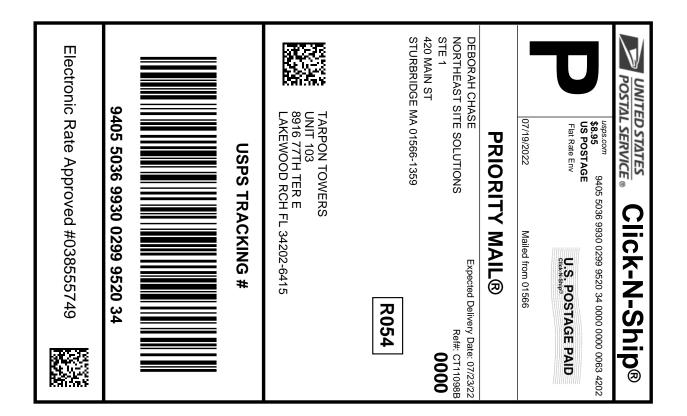
STURBRIDGE MA 01566-1359

LYNN BROOKS AVNI

AICP- TOWN PLANNER

77 MAIN ST

NEW CANAAN CT 06840-4710





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567899318 07/19/2022 07/19/2022 Trans. #: Print Date: Ship Date: 07/23/2022 Delivery Date:

Priority Mail® Postage: Total:

\$8.95 \$8.95

From: **DEBORAH CHASE**

Ref#: CT11098B NORTHEAST SITE SOLUTIONS

STE 1

420 MAIN ST

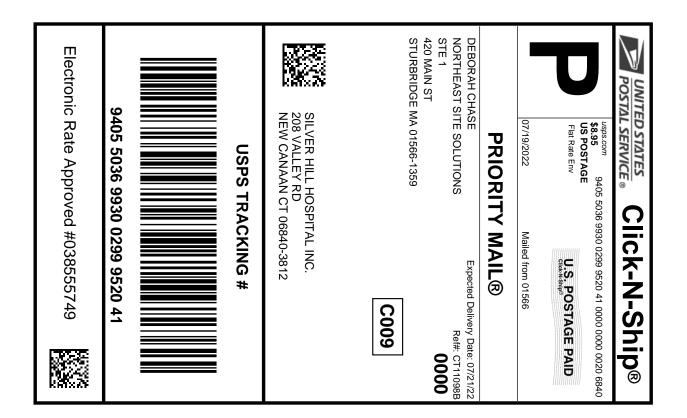
STURBRIDGE MA 01566-1359

TARPON TOWERS

UNIT 103

8916 77TH TER E

LAKEWOOD RCH FL 34202-6415





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- 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 0299 9520 41

567899318 07/19/2022 07/19/2022 Trans. #: Print Date: Ship Date: 07/21/2022 Delivery Date:

Priority Mail® Postage: Total:

Ref#: CT11098B

\$8.95

\$8.95

From: **DEBORAH CHASE**

NORTHEAST SITE SOLUTIONS

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420 MAIN ST

STURBRIDGE MA 01566-1359

SILVER HILL HOSPITAL INC.

208 VALLEY RD

NEW CANAAN CT 06840-3812



FARMINGTON 210 MAIN ST FARMINGTON, CT 06032-9998 (800)275-8777

07/25/2022 03:02 PM

Product Qty Unit Price
Price

Prepaid Mail 1 \$0.00

New Canaan, CT 06840
Weight: 0 lb 5.70 oz
Acceptance Date:
Mon 07/25/2022
Tracking #:
9405 5036 9930 0299 9520 10

Prepaid Mail 1 \$0.00

Prepaid Mail 1 \$0.00 New Canaan, CT 06840 Weight: 0 lb 5.70 oz Acceptance Date: Mon 07/25/2022 Tracking #: 9405 5036 9930 0299 9520 27

Prepaid Mail 1 \$0.00
Bradenton, FL 34202
Weight: 0 1b 5.70 oz
Acceptance Date:
Mon 07/25/2022
Tracking #:
9405 5036 9930 0299 9520 34

Prepaid Mail 1 \$0.00

New Canaan, CT 06840

Weight: 0 lb 5.70 oz

Acceptance Date:

Mon 07/25/2022

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