UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

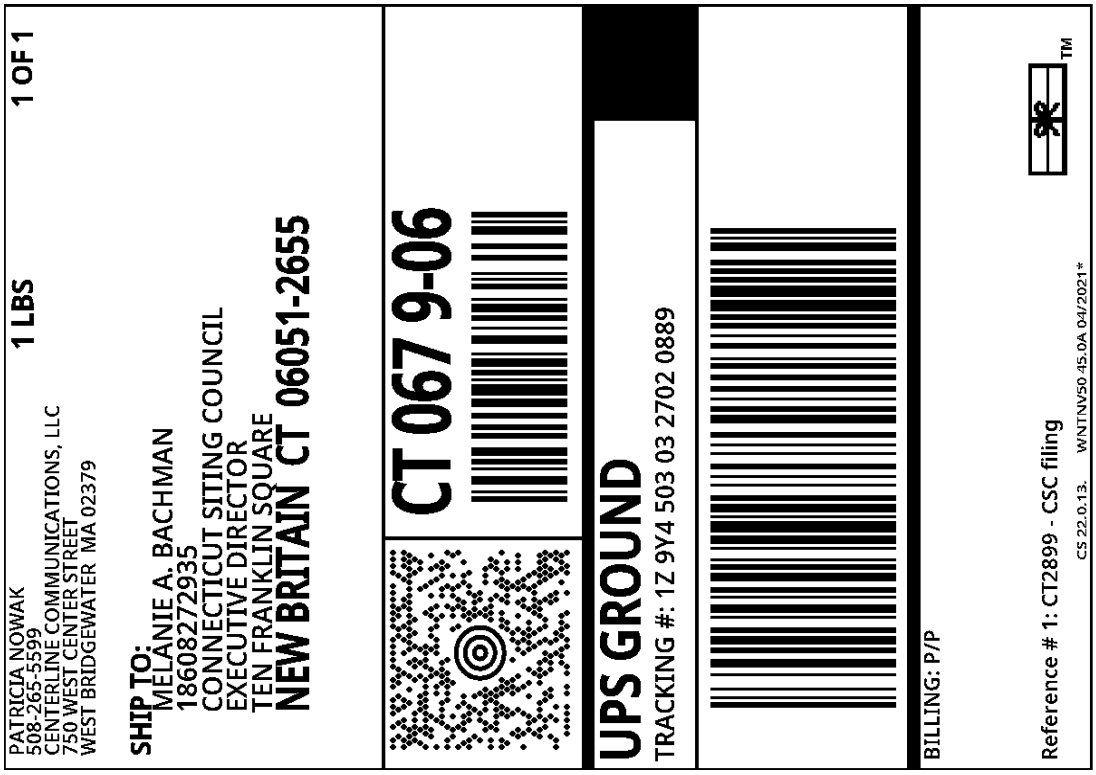
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 972
555 WASHINGTON ST
SOUTH EASTON ,MA 02375

UPS Access Point™
CVS STORE # 7232
689 DEPOT ST
NORTH EASTON ,MA 02356

UPS Access Point™
TOWN LINE GENERAL STORE
450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

FOLD HERE



June 2, 2021

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

Regarding: Notice of Exempt Modification – AT&T Site CT2899
Address: 668 Jones Hill Road, West Haven, CT 06516

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (hereinafter "AT&T") currently maintains a wireless telecommunications facility on an existing 149' Monopole Tower (the "Tower") at the above-referenced address, latitude 41.25640278, longitude -72.97236111. Said Tower is owned by American Tower Corporation.

AT&T desires to modify its facility at the Tower by adding (3) remote radio units, adding (1) surge arrestor, and other related modifications as more particularly detailed and described in the enclosed Construction Drawings prepared by Infinigy Engineering, PLLC dated February 10, 2021 and last revised May 19, 2021. Please note this modification includes B2, B5, and B12 hardware that is both 4G (LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times. Enclosed please also find an Antennas Mount Analysis Report prepared by American Tower Corporation dated February 24, 2021. The centerline height of the antennas will be at 125 feet.

The Tower was approved by the Connecticut Siting Council on May 11, 2005 in the attached Decision as Docket No. 293. Enclosed please also find a copy of Petition No. 1108.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: The Honorable Nancy R. Rossi, Mayor, City of West Haven; Catherine Conniff, Zoning Enforcement Officer, City of West Haven; Fred Messore, Commissioner of the Department of Planning and Development, City of West Haven; American Tower Corporation, as Tower Owner; and Robert E. Newkirk, as the property owner at the above referenced address. Enclosed please find property cards and a GIS map for the above-referenced address.

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

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

2. The proposed modifications will not require an 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 modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF Emissions Analysis Report for AT&T's modified facility enclosed herewith.*

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

6. The existing structure and its foundation can support the proposed loading. *Please see the Structural Analysis Report dated January 28, 2021 and prepared by American Tower Corporation enclosed herewith.*

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

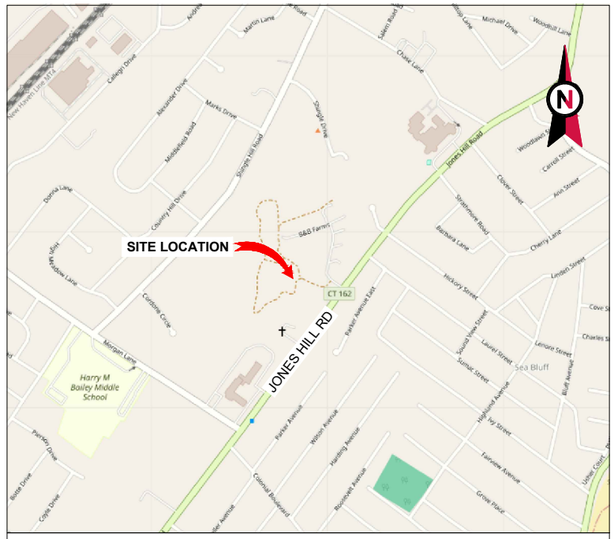
Sincerely,

Patricia Nowak
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
pnowak@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 – Mount Analysis Report
Exhibit 3 – CSC Decision and Petition
Exhibit 4 – Property Cards and GIS Map
Exhibit 5 – RF Emissions Analysis Report
Exhibit 6 – Structural Analysis

cc:
The Honorable Nancy R. Rossi, Mayor
Catherine Conniff, Zoning Enforcement Officer
Fred Messore, Commissioner of the Dept. of Planning and Development
American Tower Corporation, as Tower Owner
Robert E. Newkirk, as the property owner

EXHIBIT 1

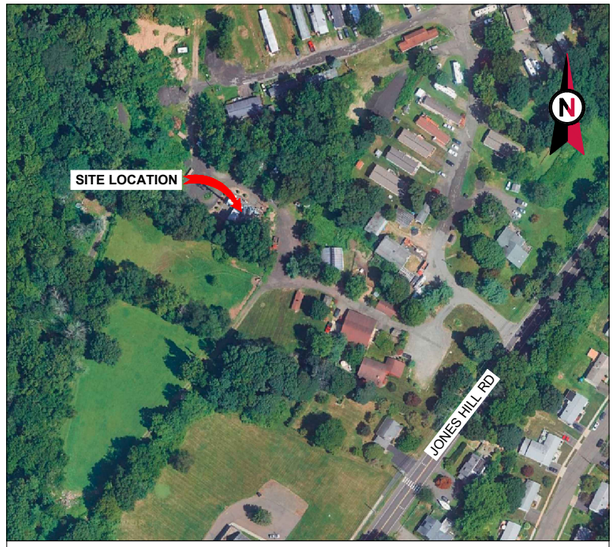


VICINITY MAP

CURRENT PROJECTS:
LTE 6C - PACE #: MRCTB049218

AMERICAN TOWER®

ATC SITE NAME: WEST HAVEN & RT 162 CT
ATC SITE NUMBER: 243036
AT&T PACE NUMBER: MRCTB049218
AT&T SITE ID: CTL02899
AT&T FA CODE:10578274
AT&T SITE NAME: WEST HAVEN JONES HILL ROAD
SITE ADDRESS: 668 JONES HILL ROAD
WEST HAVEN, CT 06516
AT&T MOBILITY PLAN: LTE 6C
AT&T MOBILITY
ANTENNA AMENDMENT PLAN



LOCATION MAP

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. 2018 INTERNATIONAL BUILDING CODE (IBC)
2. 2017 NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: N/A
PHONE: N/A

TELEPHONE COMPANY: N/A
PHONE: N/A

811 Know what's below. Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

668 JONES HILL ROAD

WEST HAVEN, CT 06516

COUNTY: NEW HAVEN

GEOGRAPHIC COORDINATES:

LATITUDE: 41.25640278

LONGITUDE: -72.97236111

GROUND ELEVATION: 145' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

AT&T MOBILITY

ENGINEER:

INFINIGY ENGINEERING, PLLC
1033 WATERVLIET SHAKER RD
ALBANY, 12205

PROPERTY OWNER:

NEWKIRK ROBERT E
668 JONES HILL RD
WEST HAVEN CT 06516

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

TOWER WORK:

INSTALL MOUNT MODIFICATIONS PER MA, (3) RRUS, (1) SQUID AND (1) RING MOUNT

EXISTING (9) ANTENNAS, (9) RRUS, (2) SQUIDS, (4) 8 AWG 6 DC TRUNK AND (5) 18 PAIR FIBER TO REMAIN

GROUND WORK:

ADD (1) 6601 AND (1) IDLE

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

ROUTE 24, EXIT 186. TURN EAST ON 27. CONTINUE FOR 1/2 MILE UNTIL A T JUNCTION AT A SET OF LIGHTS. TURN LEFT. GO 300' THEN TURN RIGHT ONTO WEST STREET. CONTINUE FOR 1.5 MILES AND THEN TURN/ VEER RIGHT ONTO BELMOUNT STREET. GO 1/2 MILE AND TURN LEFT INTO PARKING LOT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	5/19/2021	SP
G-002	GENERAL NOTES	0	5/19/2021	SP
C-001	OVERALL SITE PLAN	0	5/19/2021	SP
C-101	DETAILED SITE PLAN	0	5/19/2021	SP
C-102	DETAILED EQUIPMENT LAYOUT	0	5/19/2021	SP
C-201	TOWER ELEVATION	0	5/19/2021	SP
C-401	RF SCHEDULE AND ANTENNA INSTALLATION	0	5/19/2021	SP
C-501	CONSTRUCTION DETAILS	0	5/19/2021	SP
C-502	EQUIPMENT SPECIFICATIONS	0	5/19/2021	SP
E-501	GROUNDING DETAILS	0	5/19/2021	SP
R-601	SUPPLEMENTAL	0	5/19/2021	SP
R-602	SUPPLEMENTAL	0	5/19/2021	SP
R-603	SUPPLEMENTAL	0	5/19/2021	SP
R-604	SUPPLEMENTAL	0	5/19/2021	SP
R-605	SUPPLEMENTAL	0	5/19/2021	SP

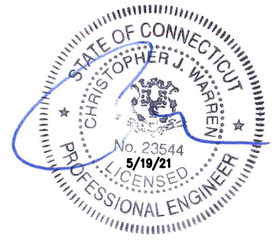
AMERICAN TOWER®
ATC TOWER SERVICES, LLC

INFINIGY ENGINEERING, PLLC
1033 WATERVLIET SHAKER RD
ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SP	02/10/21
B	PRELIM	SP	03/31/21
C	PRELIM	SP	05/17/21
0	FINAL	SP	05/19/21

ATC SITE NUMBER:
243036
ATC SITE NAME:
WEST HAVEN & RT 162 CT
AT&T MOBILITY SITE NAME:
WEST HAVEN JONES HILL ROAD
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:



AT&T

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

TITLE SHEET

SHEET NUMBER: G-001
REVISION: 0

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T MOBILITY "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
   - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   - B. AC/TELCO INTERFACE BOX (PPC)
   - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   - D. TOWERS, MONOPOLES
   - E. TOWER LIGHTING
   - F. GENERATORS & LIQUID PROPANE TANK
   - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   - H. ANTENNAS (INSTALLED BY OTHERS)
   - I. TRANSMISSION LINE
   - J. TRANSMISSION LINE JUMPERS
   - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   - L. TRANSMISSION LINE GROUND KITS
   - M. HANGERS
   - N. HOISTING GRIPS
   - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T MOBILITY TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T MOBILITY REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T MOBILITY REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T MOBILITY REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T MOBILITY CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T MOBILITY REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH AT&T MOBILITY AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T MOBILITY REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T MOBILITY REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MOBILITY MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T MOBILITY SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T MOBILITY FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T MOBILITY SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY AT&T MOBILITY REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE AT&T MOBILITY REP. ANY WORK FOUND BY THE AT&T MOBILITY REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. AT&T MOBILITY FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T MOBILITY WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. AT&T MOBILITY OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T MOBILITY OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
   - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T MOBILITY UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND
   - B. INSTALL ANTENNA AS INDICATED ON DRAWINGS AND AT&T MOBILITY SPECIFICATIONS.
   - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS
   - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
   - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
   - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
   - G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

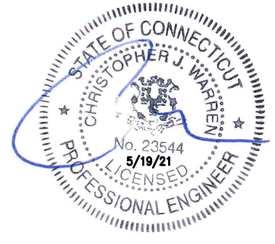
AMERICAN TOWER®
ATC TOWER SERVICES, LLC

INFINIGY
ENGINEERING, PLLC
1033 WATERVLIET SHAKER RD
ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SP	02/10/21
B	PRELIM	SP	03/31/21
C	PRELIM	SP	05/17/21
0	FINAL	SP	05/19/21

ATC SITE NUMBER:
243036
ATC SITE NAME:
WEST HAVEN & RT 162 CT
AT&T MOBILITY SITE NAME:
WEST HAVEN JONES HILL ROAD
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:



AT&T

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

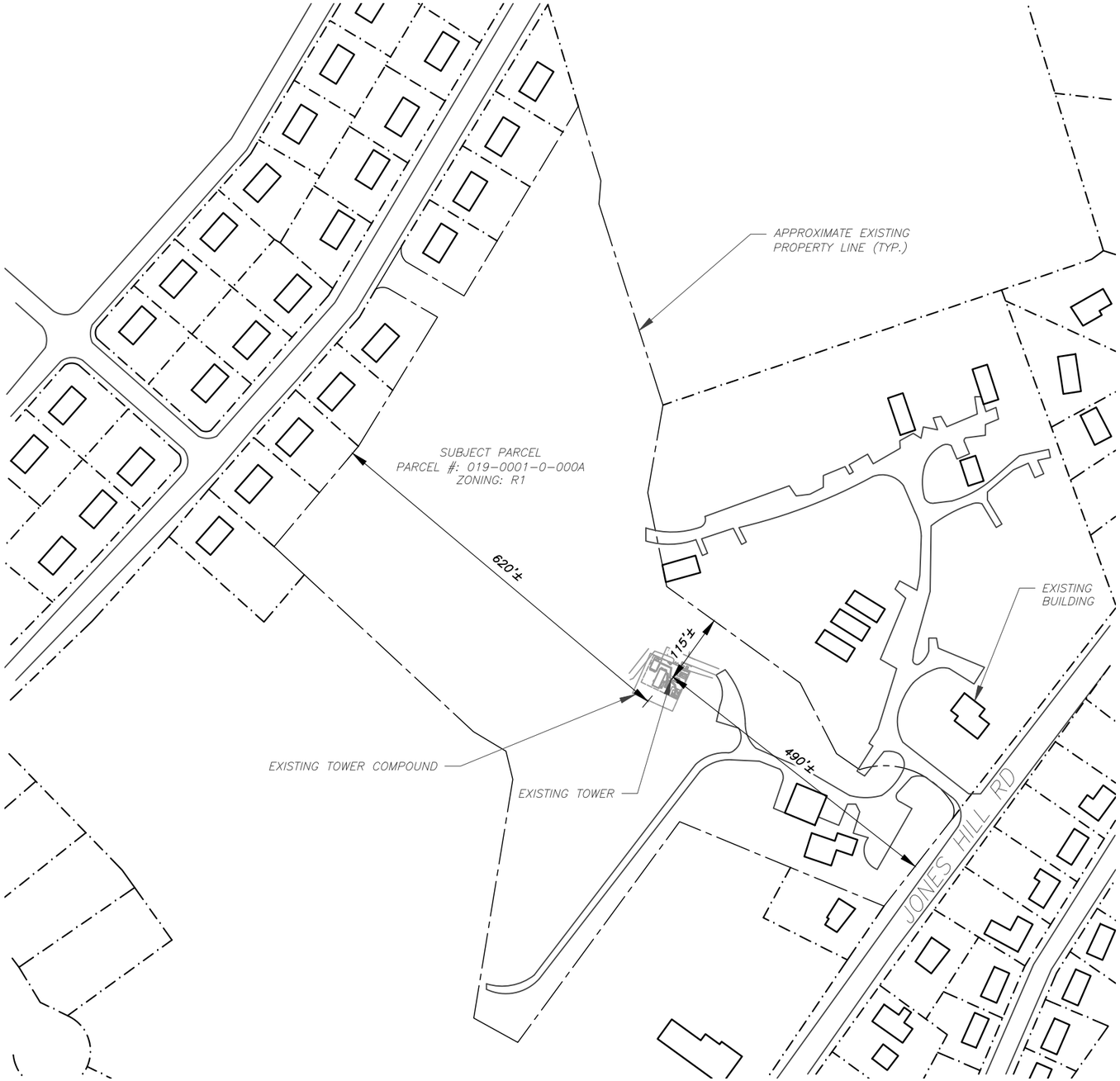
GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

NOTES:

1. BOUNDARY LINES OBTAINED FROM WEST HAVEN ONLINE GIS.
2. ZONING INFORMATION OBTAINED FROM WEST HAVEN

INFORMATION CONTAINED WITHIN THESE DRAWINGS IS BASED ON PROVIDED INFORMATION. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.



1 OVERALL SITE PLAN

0 20' 40'

SCALE: 1"=20' (11X17)
1"=10' (22X34)

N

AMERICAN TOWER®
ATC TOWER SERVICES, LLC

INFINIGY
ENGINEERING, PLLC
1211 SR 436, SUITE 101
CASSELBERRY, FL 32707 OFFICE: 407-278-6750

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SP	02/10/21
B	PRELIM	SP	03/31/21
C	PRELIM	SP	05/17/21
0	FINAL	SP	05/19/21

ATC SITE NUMBER:
243036

ATC SITE NAME:
WEST HAVEN & RT 162 CT

AT&T MOBILITY SITE NAME:
WEST HAVEN JONES HILL ROAD

SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
5/19/21
LICENSED
PROFESSIONAL ENGINEER

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

OVERALL SITE PLAN

SHEET NUMBER:	REVISION:
C-001	0

SITE PLAN NOTES:

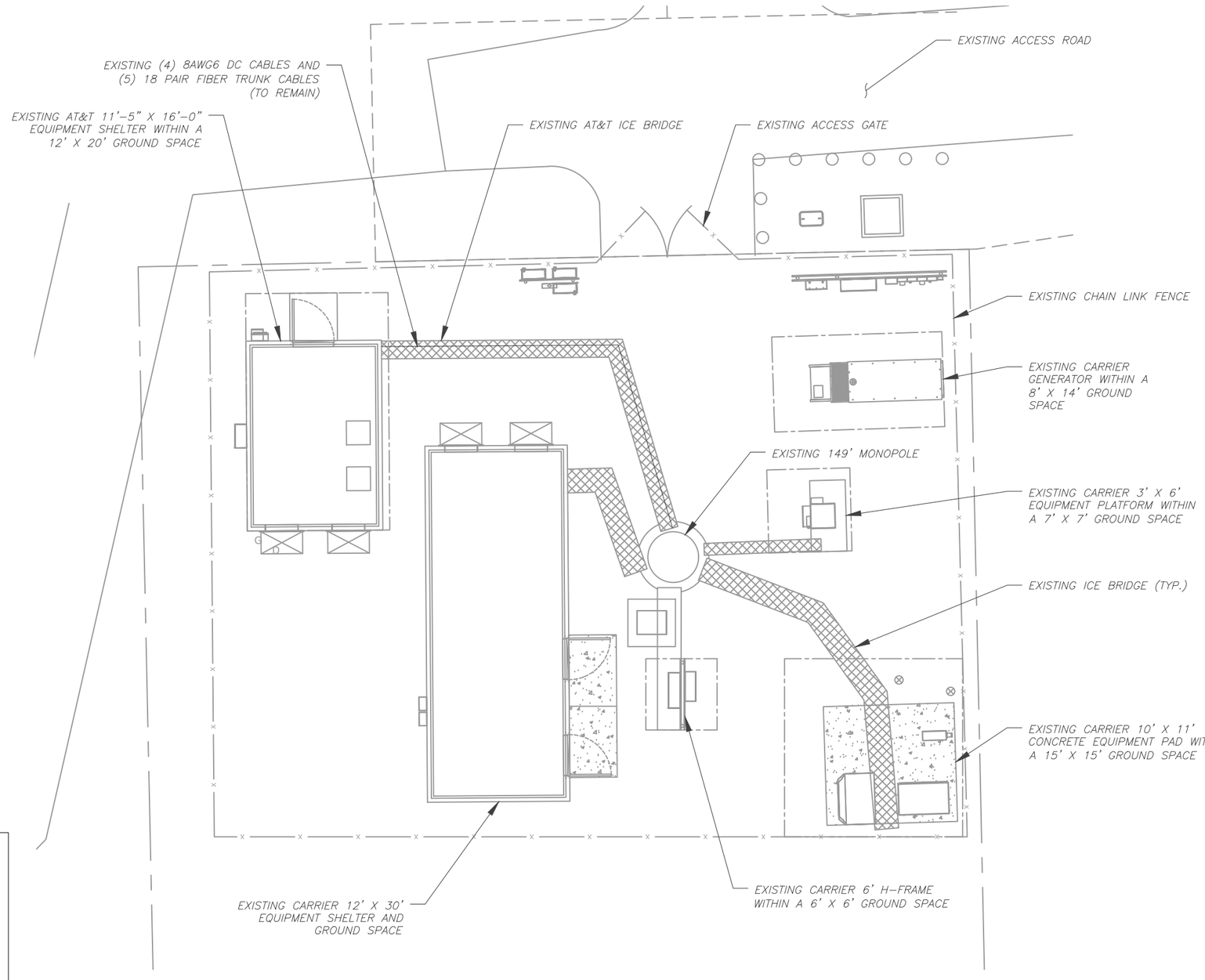
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.

INFORMATION CONTAINED WITHIN THESE DRAWINGS IS BASED ON PROVIDED INFORMATION. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.

LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
——x——	CHAINLINK FENCE



PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **185'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)

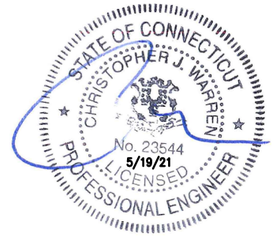
AMERICAN TOWER®
ATC TOWER SERVICES, LLC

INFINIGY
ENGINEERING, PLLC
1033 WATERVLIET SHAKER RD
ALBANY, NY 12205

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SP	02/10/21
B	PRELIM	SP	03/31/21
C	PRELIM	SP	05/17/21
0	FINAL	SP	05/19/21

ATC SITE NUMBER:
243036
ATC SITE NAME:
WEST HAVEN & RT 162 CT
AT&T MOBILITY SITE NAME:
WEST HAVEN JONES HILL ROAD
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:



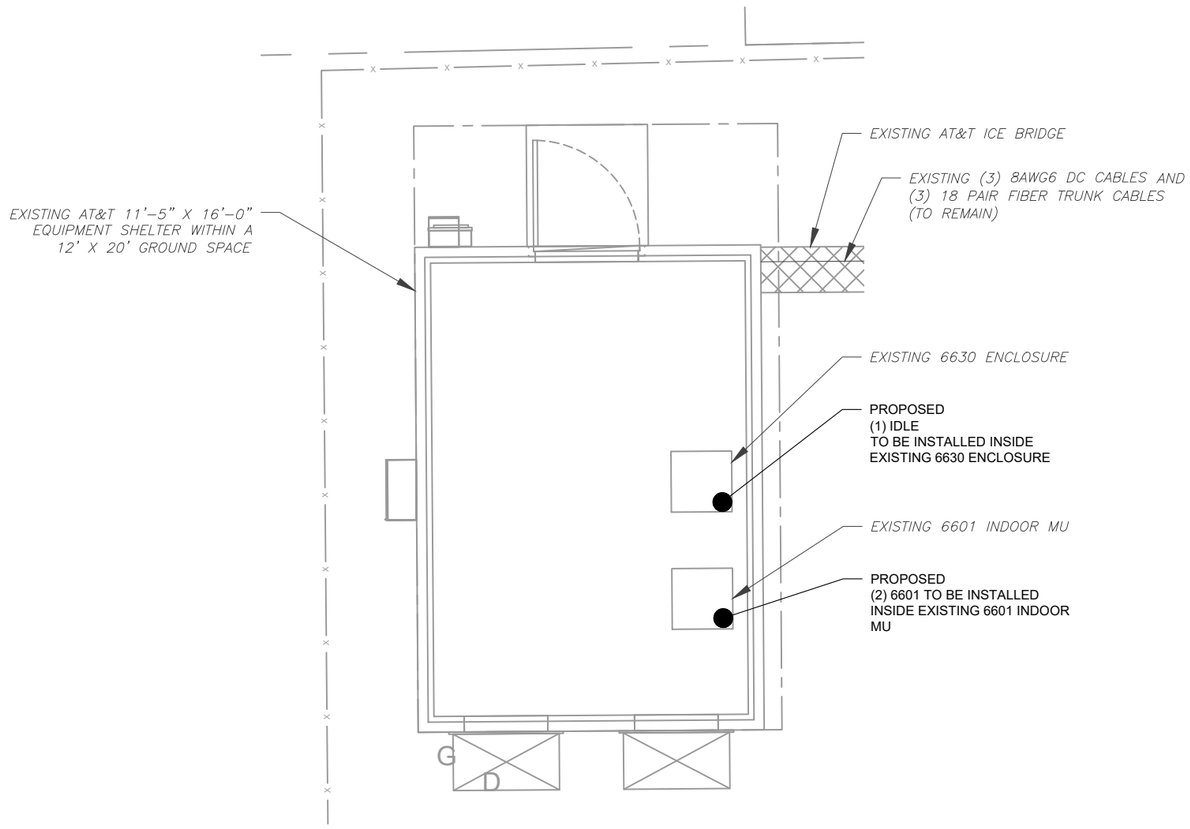
AT&T

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

DETAILED SITE PLAN

SHEET NUMBER: C-101
REVISION: 0

INFORMATION CONTAINED WITHIN THESE DRAWINGS IS BASED ON PROVIDED INFORMATION.
CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.



2 PROPOSED GROUND EQUIPMENT LAYOUT

0 5' 10'

SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

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0	FINAL	SP	05/19/21

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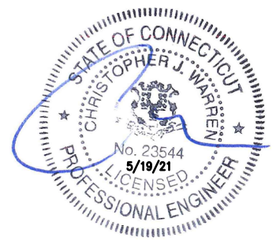
AT&T MOBILITY SITE NAME:
WEST HAVEN JONES HILL ROAD
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:



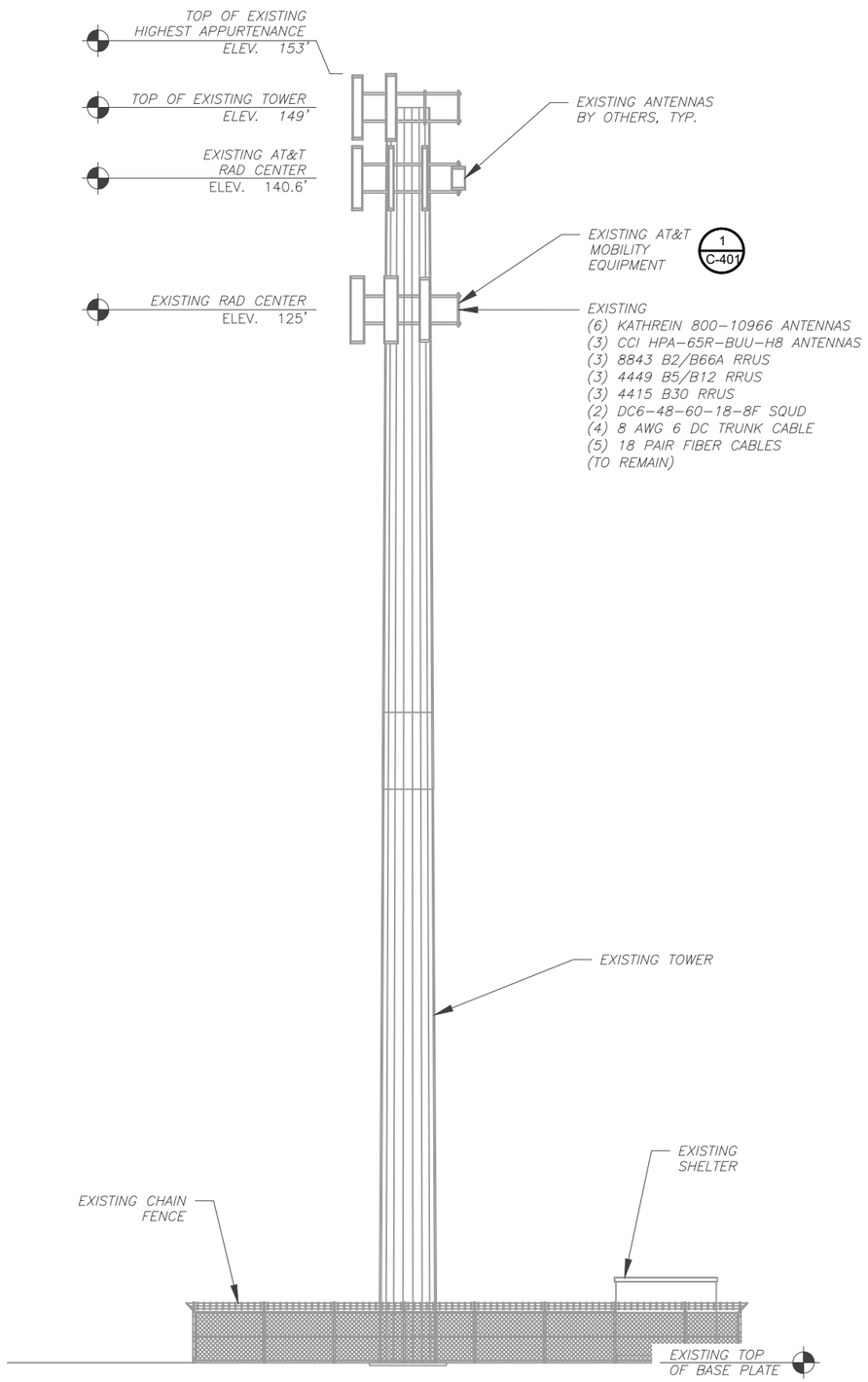
AT&T

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

DETAILED EQUIPMENT LAYOUT

SHEET NUMBER:	REVISION:
C-102	0

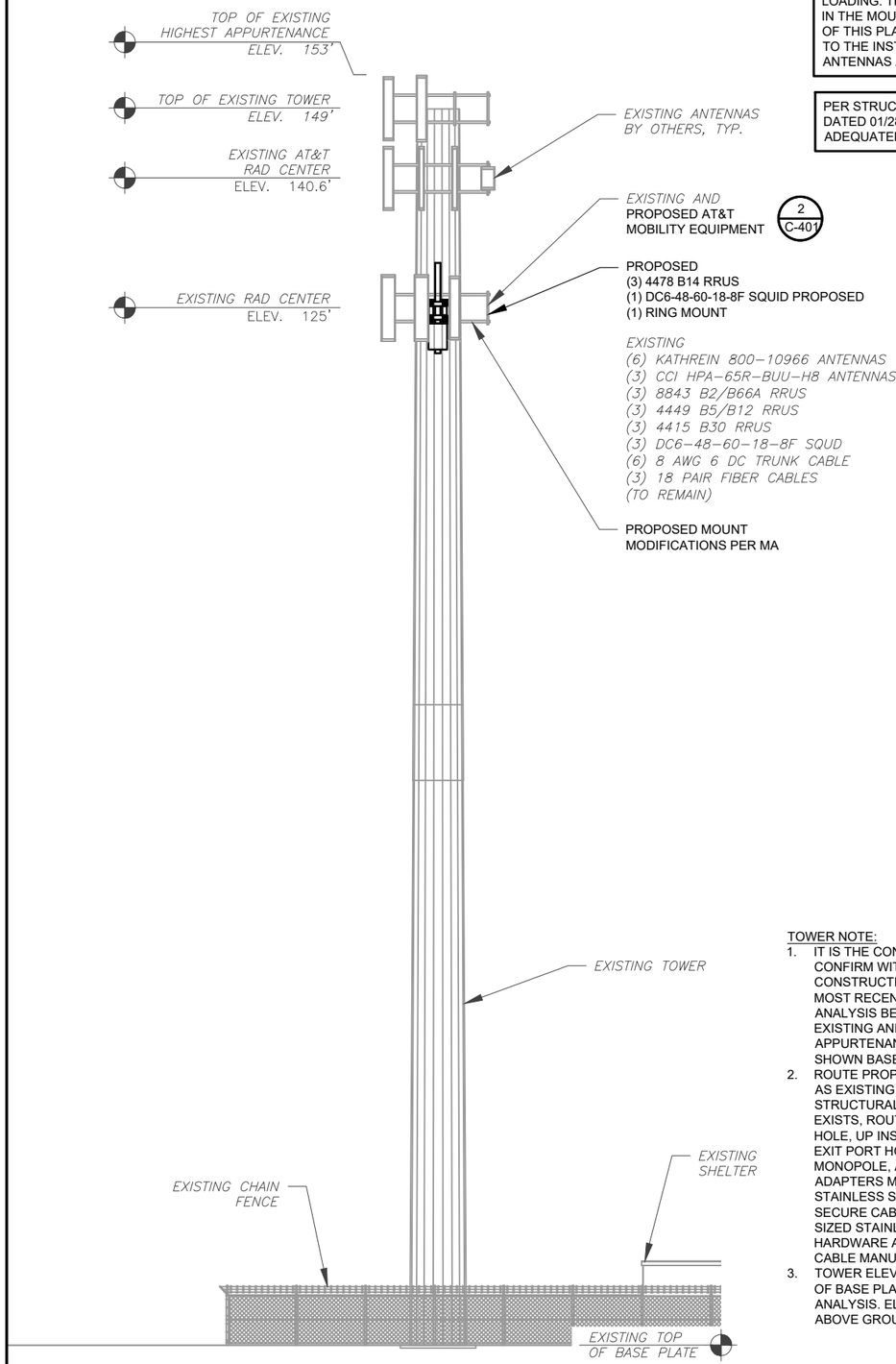
EXISTING CONFIGURATION IS BASED ON RFDS.
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



1 EXISTING TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 02/25/21, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT

PER STRUCTURAL ANALYSIS COMPLETED BY ATC, DATED 01/28/21, THE EXISTING TOWER CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 PROPOSED TOWER ELEVATION
SCALE: N.T.S.

TOWER NOTE:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
3. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

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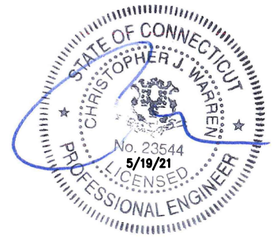
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:



AT&T

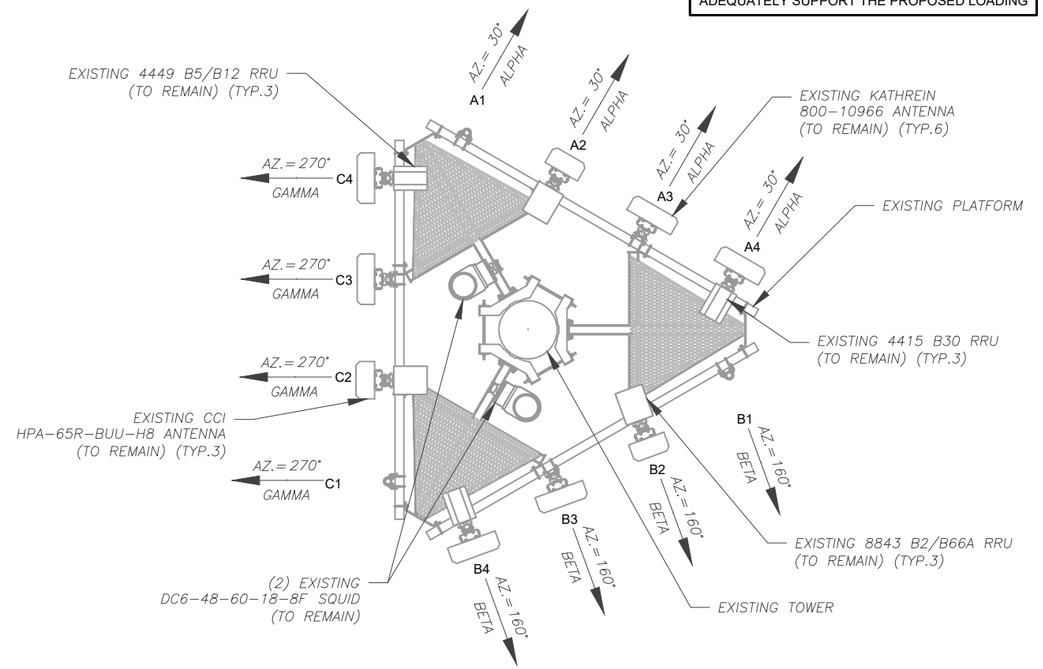
DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

TOWER ELEVATION

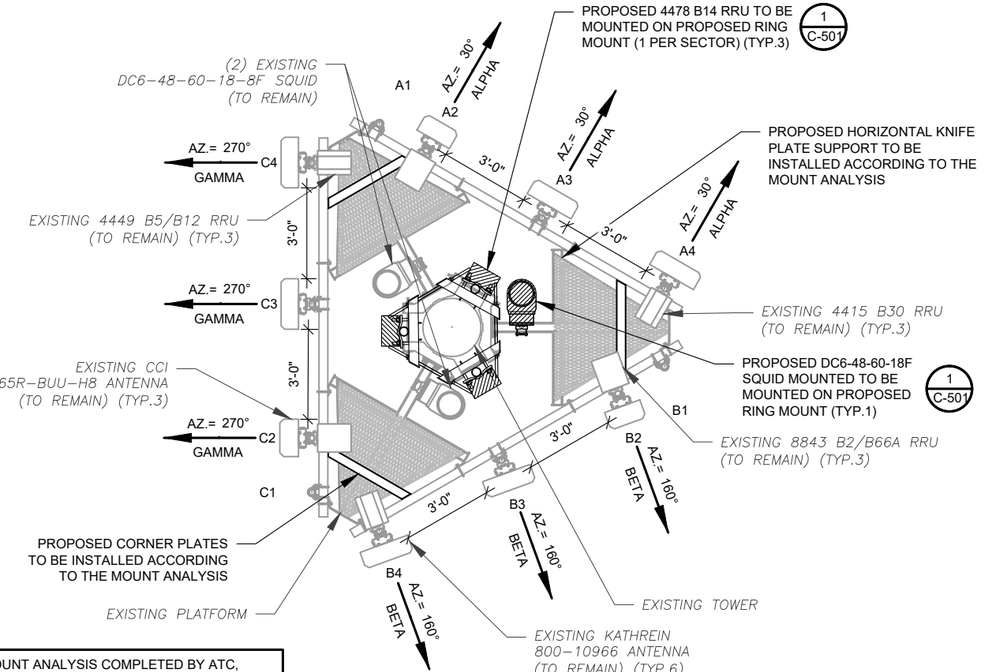
SHEET NUMBER:	REVISION:
C-201	0

EXISTING CONFIGURATIONS ARE BASED ON RFDS. CONTRACTOR TO VERIFY EXISTING CONDITIONS.

PER STRUCTURAL ANALYSIS COMPLETED BY ATC, DATED 01/28/21, THE EXISTING TOWER CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



1 CURRENT ANTENNA PLAN
SCALE: N.T.S.



PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 02/25/21, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT

2 FINAL ANTENNA PLAN
SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	125'	30°	A1	–	–	–	–	–
			A2	CCI HPA-65R-BUU-H8	LTE 1900	RMN	8843 B2/B66A	RMN
			A3	KATHRIEN 800-10966	LTE AWS	RMN	–	–
			A4	KATHRIEN 800-10966	LTE 700/LTE 850 LTE WCS/5G 850	RMN	4449 B5/B12 4415 B30	RMN
BETA	125'	160°	B1	–	–	–	–	–
			B2	CCI HPA-65R-BUU-H8	LTE 1900	RMN	8843 B2/B66A	RMN
			B3	KATHRIEN 800-10966	LTE AWS	RMN	–	–
			B4	KATHRIEN 800-10966	LTE 700/LTE 850 LTE WCS/5G 850	RMN	4449 B5/B12 4415 B30	RMN
GAMMA	125'	270°	C1	–	–	–	–	–
			C2	CCI HPA-65R-BUU-H8	LTE 1900	REL	8843 B2/B66A	RMN
			C3	KATHRIEN 800-10966	LTE AWS	RMN	–	–
			C4	KATHRIEN 800-10966	LTE 700/LTE 850 LTE WCS/5G 850	RMN	4449 B5/B12 4415 B30	RMN

NOTES

1. CONFIRM WITH AT&T MOBILITY REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
3. THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.
4. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	125'	30°	A1	–	–	–	–	–
			A2	CCI HPA-65R-BUU-H8	LTE 1900	RMN	8843 B2/B66A	RMN
			A3	KATHRIEN 800-10966	LTE 700/LTE AWS	RMN	4478 B14	ADD
			A4	KATHRIEN 800-10966	LTE 700/LTE 850 LTE WCS/5G 850	RMN	4449 B5/B12 4415 B30	RMN
BETA	125'	160°	B1	–	–	–	–	–
			B2	CCI HPA-65R-BUU-H8	LTE 1900	RMN	8843 B2/B66A	RMN
			B3	KATHRIEN 800-10966	LTE 700/LTE AWS	RMN	4478 B14	ADD
			B4	KATHRIEN 800-10966	LTE 700/LTE 850 LTE WCS/5G 850	RMN	4449 B5/B12 4415 B30	RMN
GAMMA	125'	270°	C1	–	–	–	–	–
			C2	CCI HPA-65R-BUU-H8	LTE 1900	RMN	8843 B2/B66A	RMN
			C3	KATHRIEN 800-10966	LTE 700/LTE AWS	RMN	4478 B14	ADD
			C4	KATHRIEN 800-10966	LTE 700/LTE 850 LTE WCS/5G 850	RMN	4449 B5/B12 4415 B30	RMN

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC6-48-60-18-8F	RMN	–	(4) 8 AWG 6	(5) 18 PAIR	RMN
–	–	–	–	–	–

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC6-48-60-18-8F	RMN	-	(4) 8 AWG 6	(5) 18 PAIR	RMN
(1) DC6-48-60-18-8F	ADD	-	-	-	-

3 EQUIPMENT SCHEDULES

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WEST HAVEN & RT 162 CT
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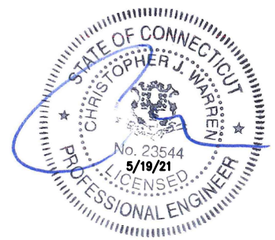
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:

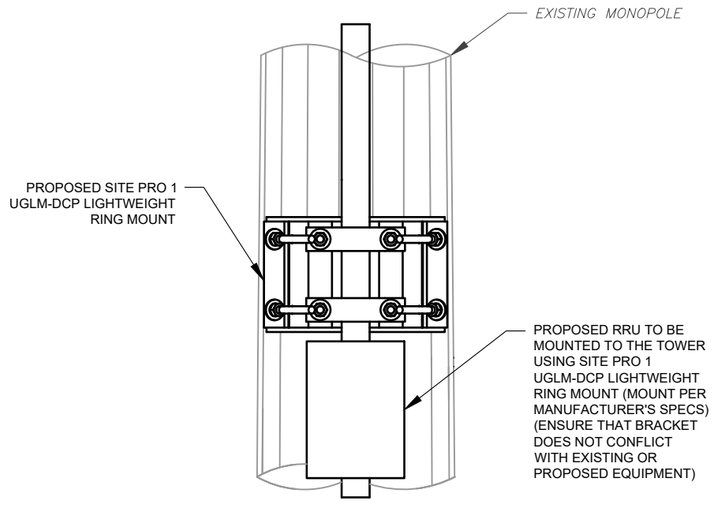


AT&T

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER:	REVISION:
C-401	0



1 PROPOSED RRU MOUNTING DETAIL

SCALE: N.T.S.

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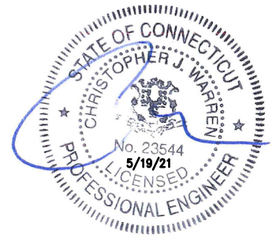
SEAL:



AT&T

DATE DRAWN:	02/10/21
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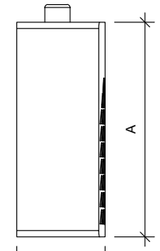
CUSTOMER #:	10578274

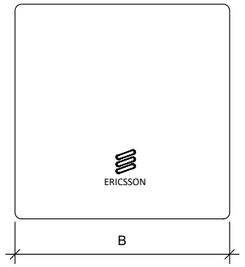
CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

TOP VIEW

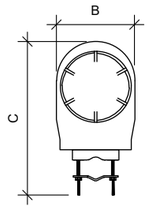


SIDW VIEW

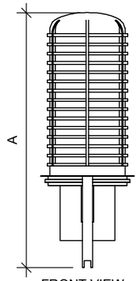


FRONT VIEW

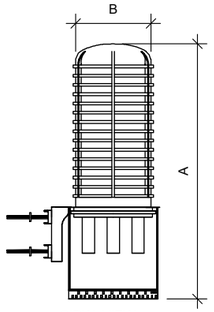
RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4478 B14	18.1"	13.4"	8.3"	59.4



PLAN VIEW



FRONT VIEW



SIDW VIEW

RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
RAYCAP DC6-48-60-18-8F	23.5"	9.7"	9.7"	20.0

1 EQUIPMENT SPECIFICATIONS

SCALE: N.T.S.

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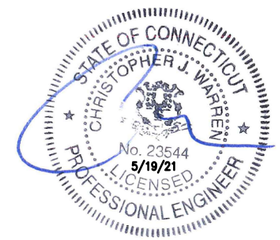
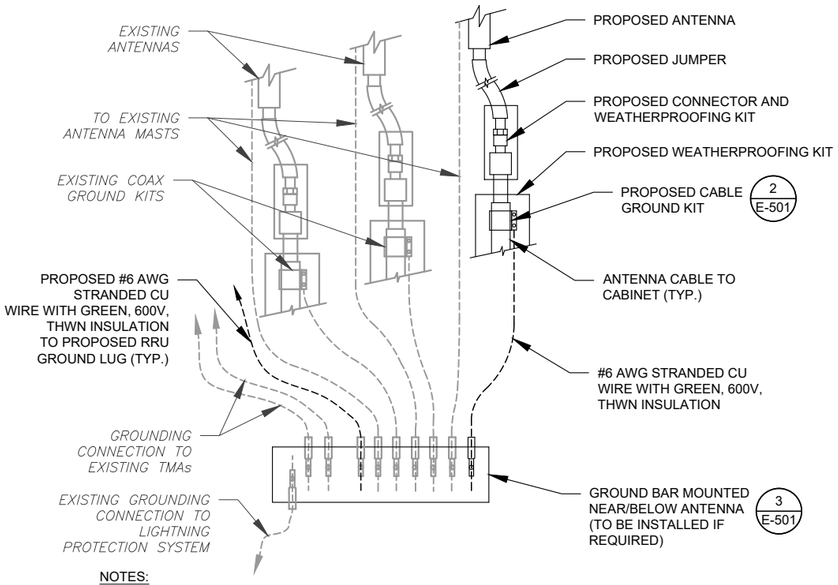


AT&T

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

EQUIPMENT SPECIFICATIONS

SHEET NUMBER:	REVISION:
C-502	0

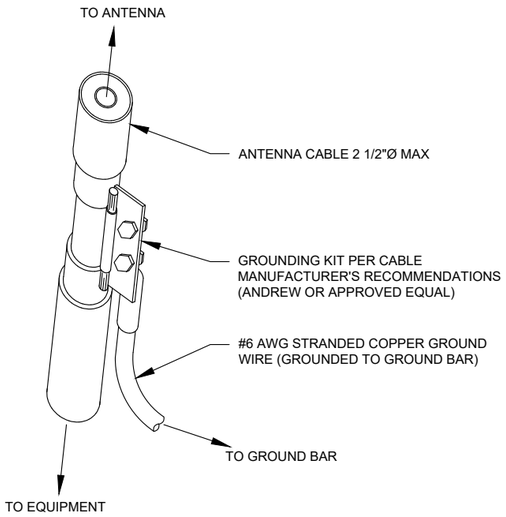


NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH AT&T MOBILITY GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T MOBILITY GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: N.T.S.

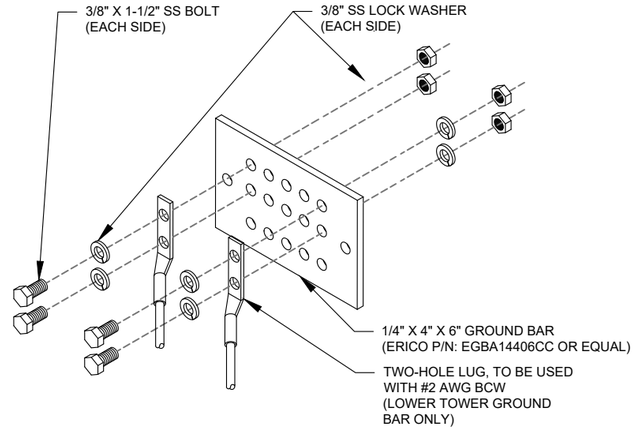


GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: N.T.S.

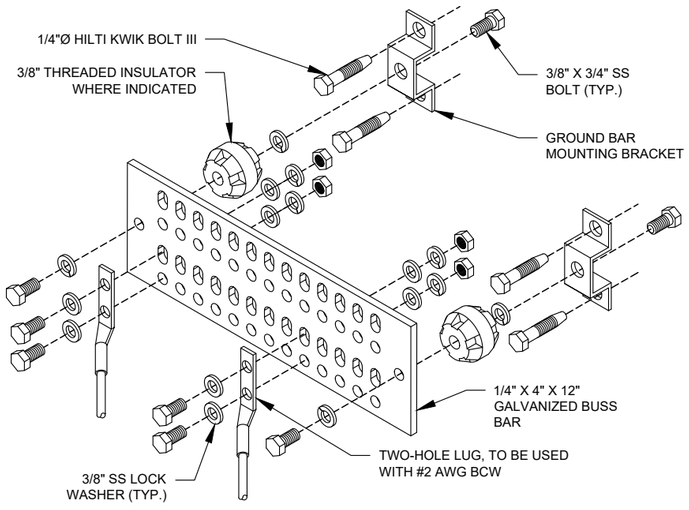


GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.

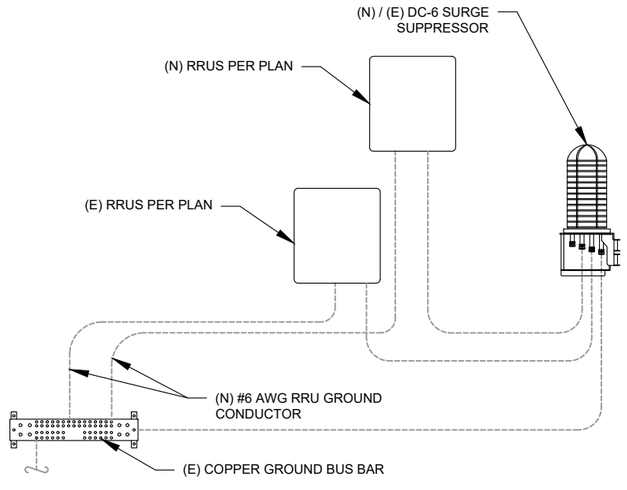


GROUND BAR NOTES

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

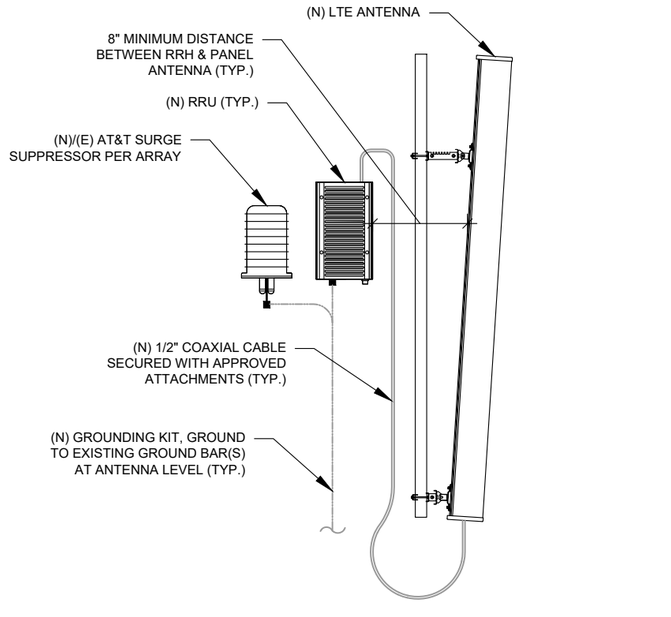
4 MAIN GROUND BAR DETAIL

SCALE: N.T.S.



5 RRU GROUNDING

SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING

SCALE: N.T.S.

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ALBANY, NY 12205

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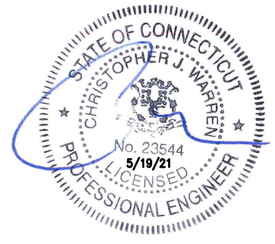
C	PRELIM	SP	05/17/21
0	FINAL	SP	05/19/21

ATC SITE NUMBER:
243036
ATC SITE NAME:
WEST HAVEN & RT 162 CT
AT&T MOBILITY SITE NAME:
WEST HAVEN JONES HILL ROAD
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

SEAL:



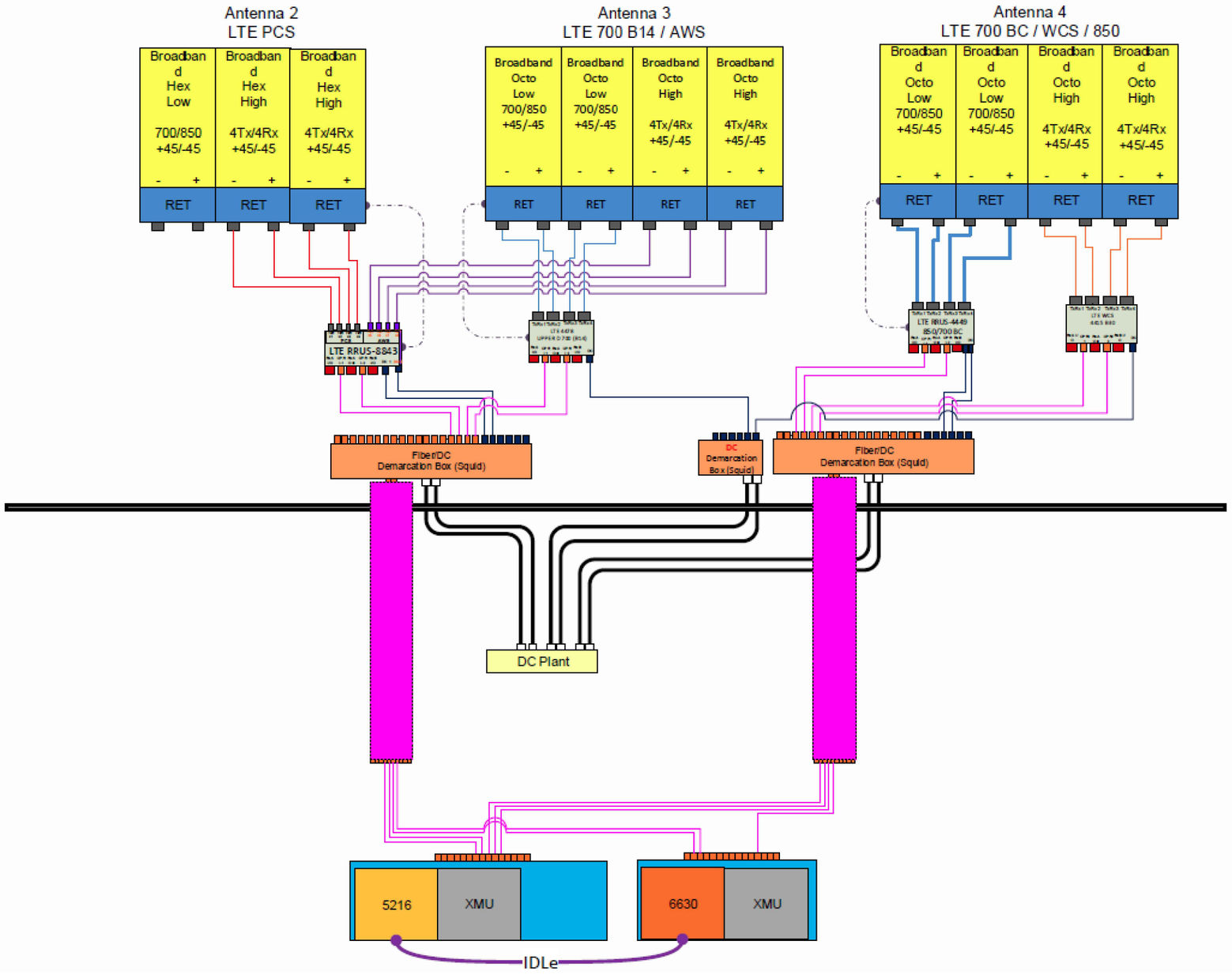
AT&T

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

Diagram - Sector	A	Diagram File Name - CT2899_AB_B14_d1.vsd					
Atoll Site Name -	CTL02899	Location Name -	WEST HAVEN JONES HILL ROAD	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson"							



1 PLUMBING DIAGRAM

SCALE: NOT TO SCALE

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WEST HAVEN, CT 06516

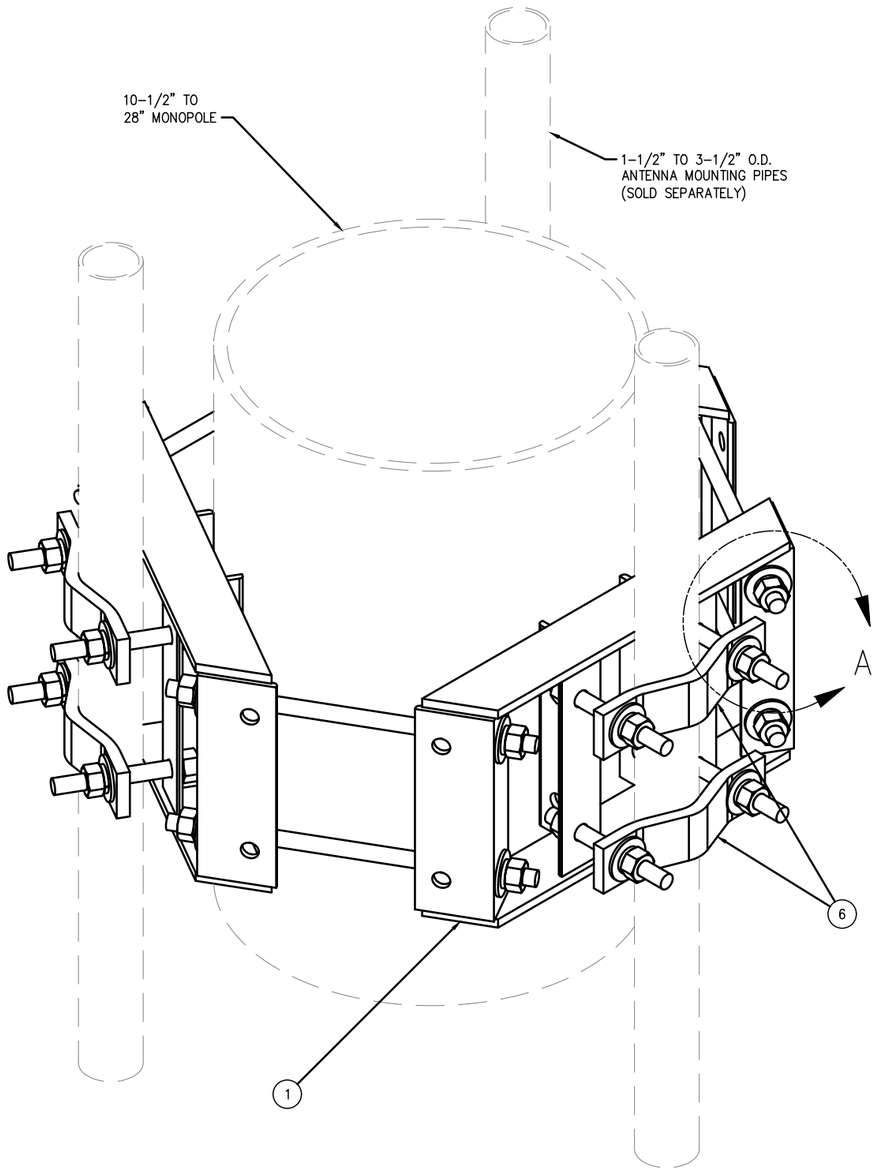
FOR REFERENCE ONLY

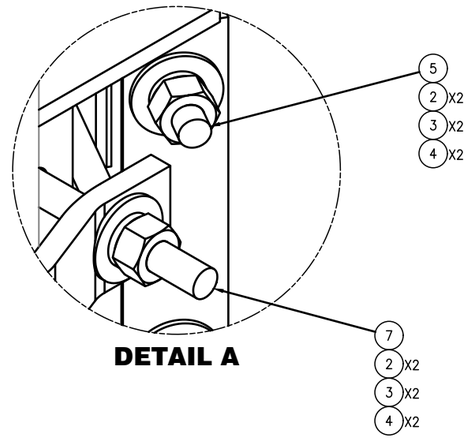
DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-UGLM	MINI RING MOUNT WELDMENT		21.67	65.00
2	24	G58FW	5/8" HDG USS FLATWASHER		0.07	1.69
3	36	G58LW	5/8" HDG LOCKWASHER		0.03	0.94
4	36	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	4.67
5	6	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	12.54
5	6	G58R-14	5/8" x 14" THREADED ROD (HDG.)		1.22	7.32
6	6	DCP	5-3/4" CLAMP HALF, 1/2" THK.		2.42	14.52
7	12	G58R-6	5/8" x 6" THREADED ROD (HDG.)		0.52	6.27
					TOTAL WT. #	112.95





DETAIL A

SITEPRO1 LIGHTWEIGHT RING
MOUNT AND 5-3/4" V-CLAMP
MODEL: UGLM-DCP

1 RING MOUNT DETAIL

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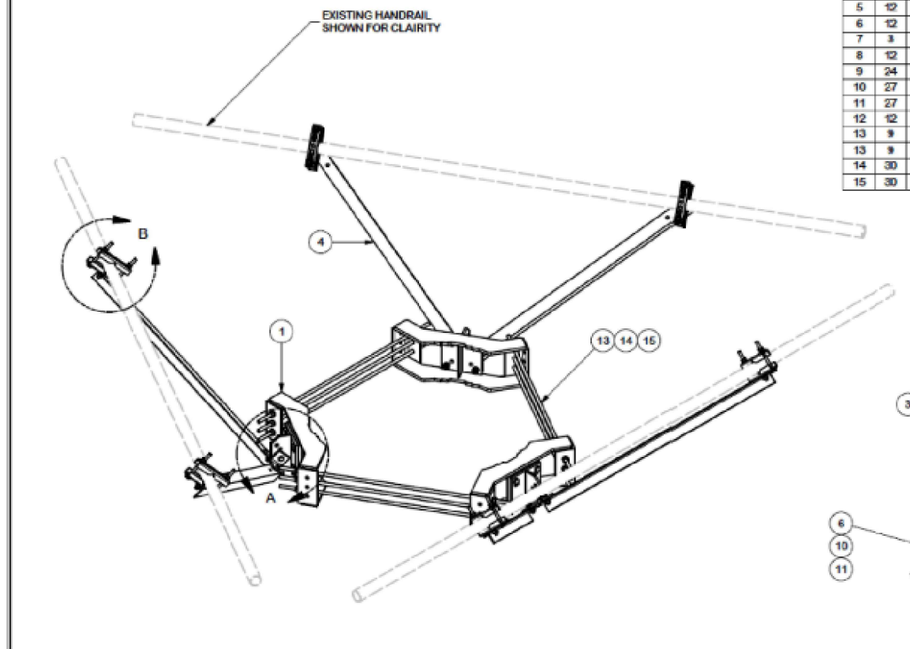
CUSTOMER #:	10578274

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	0



PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	3	X-TBW	T-BRACKET WELDMENT		13.60	40.80
3	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
4	6	X-232697	TRPD-HD DIAGONAL ANGLE - SITE PRO 1	52 1/2 in	14.35	86.08
5	12	X-STU	STIFF ARM CHANNEL BRACKET	8 1/2 in	1.37	16.46
6	12	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	1.77
7	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
8	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
9	24	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.82
10	27	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.38
11	27	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.93
12	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
13	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	3.59
13	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	3.59
14	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
15	30	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	3.90
					TOTAL WT. #	587.71

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1	BC	10/23/2017
	REVISION HISTORY			

DESCRIPTION: HANDRAIL REINFORCEMENT KIT

SITE PRO 1 — A Valmont Company
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL3 2/23/2017	3RD PARTY	PRK-SFS
CLASS: B1 / SUB: 02	DRAWING USAGE: SHOP	CHECKED BY: BMC 3/16/2017	DWG. NO.: PRK-SFS

PAGE 1 OF 3

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1 MOUNT ANALYSIS

Authorized by "EOR"
26 Feb 2021 04:35:02 cosign

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

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AT&T MOBILITY SITE NAME:
WEST HAVEN JONES HILL ROAD
SITE ADDRESS:
668 JONES HILL ROAD
WEST HAVEN, CT 06516

FOR REFERENCE ONLY

DATE DRAWN:	02/10/21
ATC JOB NO:	13333743
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-603	0

AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

ATC Site Name	:	**WEST HAVEN & RT 162 CT, CT**
ATC Site Number	:	**243036**
Engineering Number	:	**13333743_C9_03**
Mount Elevation	:	**125 ft**
Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**MRCTB049218**
Carrier Site Number	:	**CTL02899**
Site Location	:	**668 Jones Hill Road** **West Haven, CT 06516-6311** **41.25640278 , -72.97236111**
County	:	**New Haven**
Date	:	**February 24, 2021**
Max Usage	:	**54%**
Result	:	**Contingent Pass**

Prepared By:
Mitchell Chen
Structural Engineer I

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 125 ft.

Supporting Documents

Specifications Sheet	Commscope MT-196, dated August 17, 2011
Radio Frequency Data Sheet	RFDS ID #10578274, dated September 9, 2020
Reference Photos	Site photos from 2020

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.2, S1 = 0.053
Site Class:	D - Stiff Soil
Live Loads: *	Lm = 500 lbs

*** Based on experience, it has been determined that the Lv load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.**

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

A.T. Engineering Service, PLLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.468.5414 Fax - www.americantower.com

1 MOUNT ANALYSIS

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WEST HAVEN, CT 06516

FOR REFERENCE ONLY

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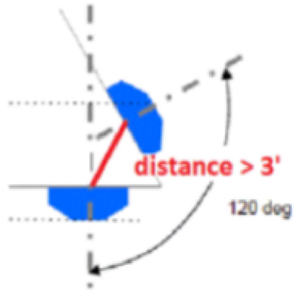
CUSTOMER ID:	WEST HAVEN JONES HILL ROAD
CUSTOMER #:	10578274

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-604	0

RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- ❑ Horizontal separation (side to side of antenna): >= 3’
- ❑ Vertical separation (between the tips of the antennas): > 3’
- ❑ Inter-sector separation: > 3’ between the center of the antenna backplanes.



- ❑ Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- ❑ Typical 3' horizontal separation can tolerate skew angle up to 6º.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-605	0

EXHIBIT 2

AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

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ATC Site Number	:	**243036**
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Prepared By:
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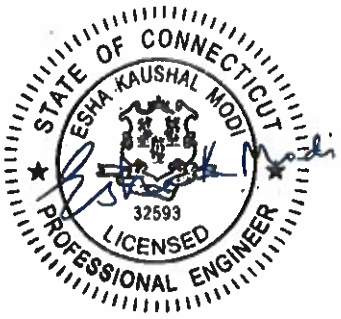
Structural Engineer I

Reviewed By:



cosign

COA: PEC.0001553

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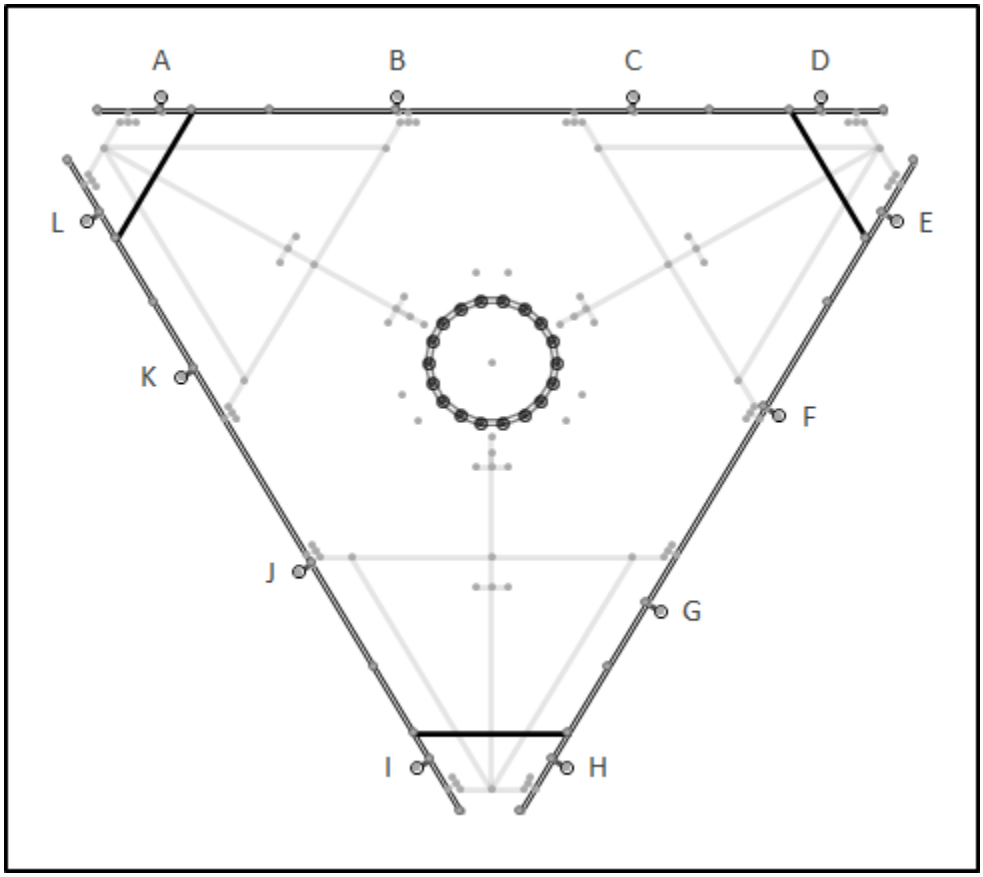
Application Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
125.0	125.0	6	Kathrein Scala 80010966
		3	CCI CCI-HPA-65R-BUU-H8
		1	Raycap DC6-48-60-0-8F (24" Height)
		1	Raycap DC6-48-60-0-8F (24" Height)
		1	Raycap DC6-48-60-0-8F
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 8843 B2, B66A
		3	Ericsson Radio 4415 B30
		3	Ericsson RRUS 4449 B5, B12
		1	Commscope WCS-IMFQ-AMT

Structure Usages

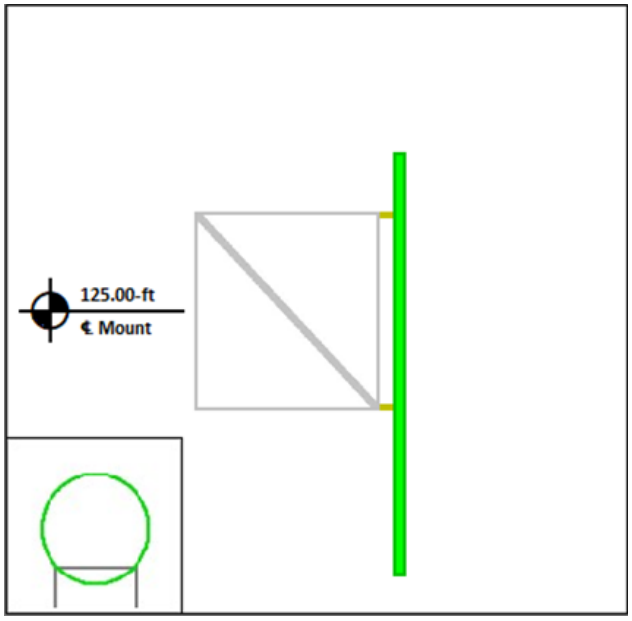
Structural Component	Controlling Usage	Pass/Fail
Horizontals	30%	Pass
Diagonals	11%	Pass
Mount Pipes	54%	Pass
Handrail	38%	Pass
Mod-Kit	8%	Pass

Mount Layout

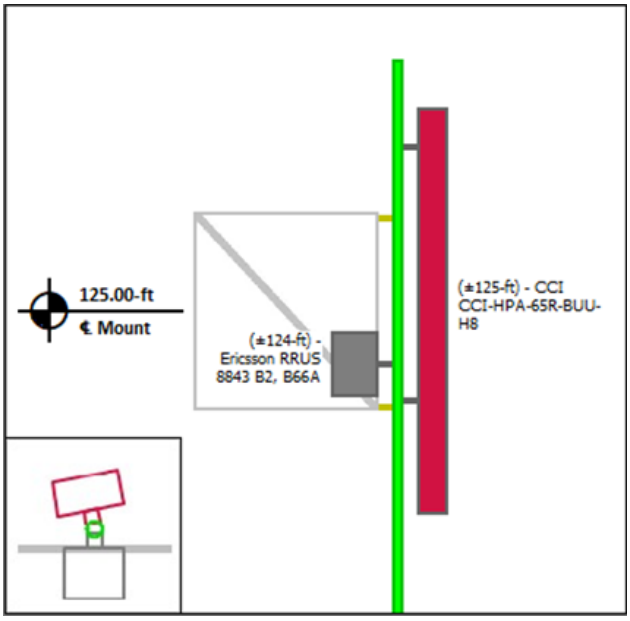


Equipment Layout

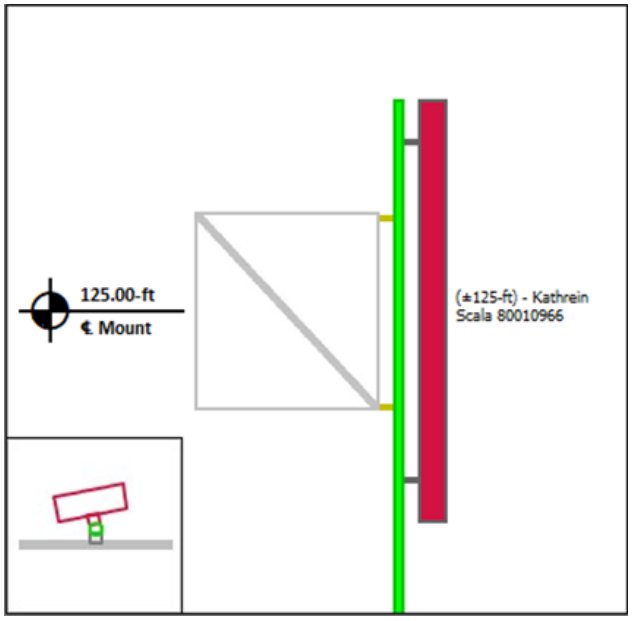
Mount Pipe A



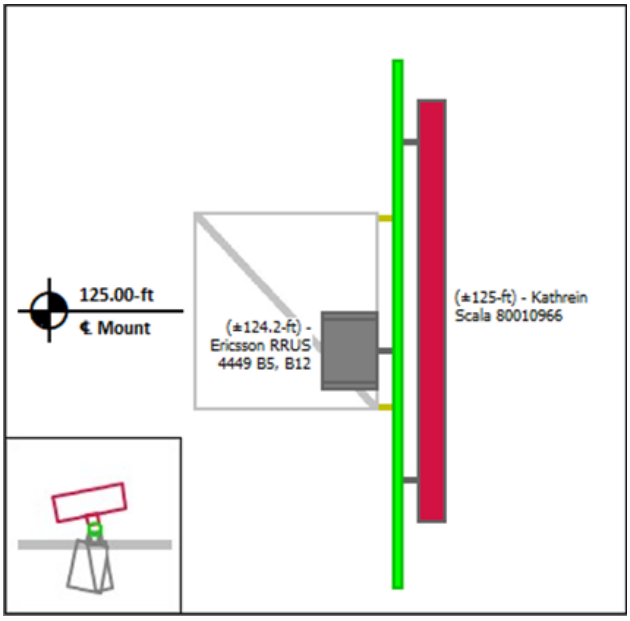
Mount Pipe B



Mount Pipe C

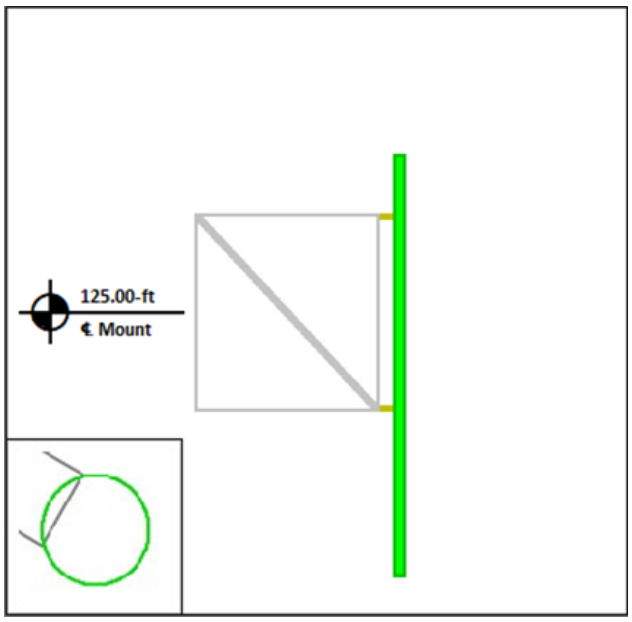


Mount Pipe D

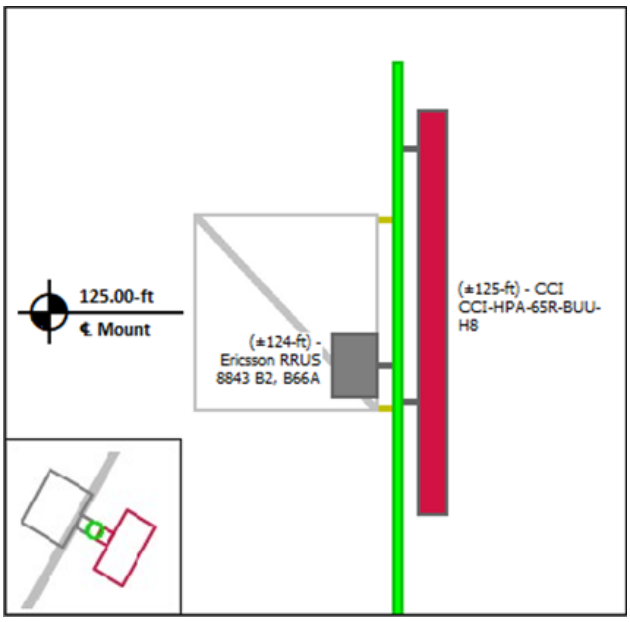


Equipment Layout Cont'd.

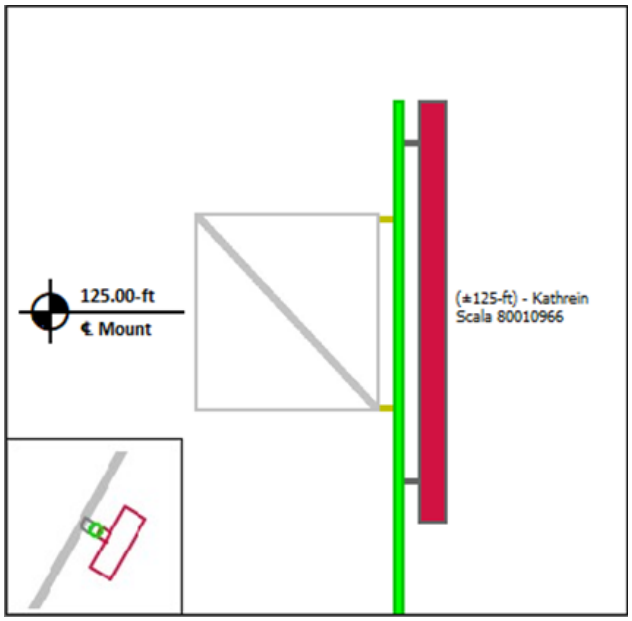
Mount Pipe E



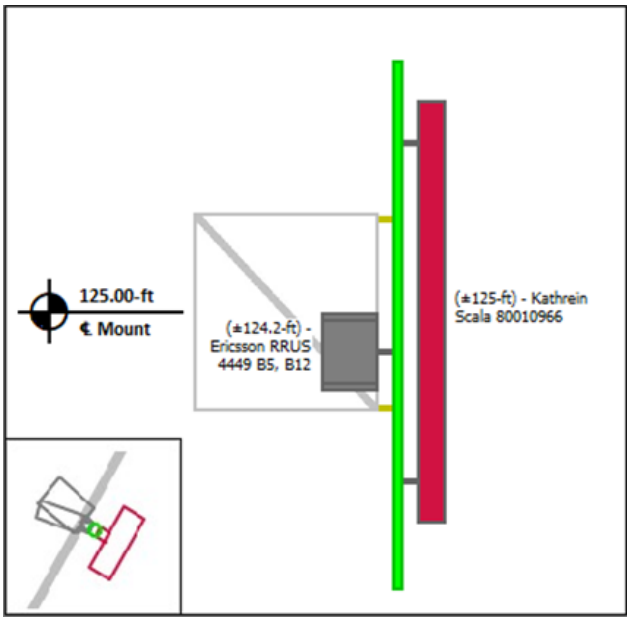
Mount Pipe F



Mount Pipe G

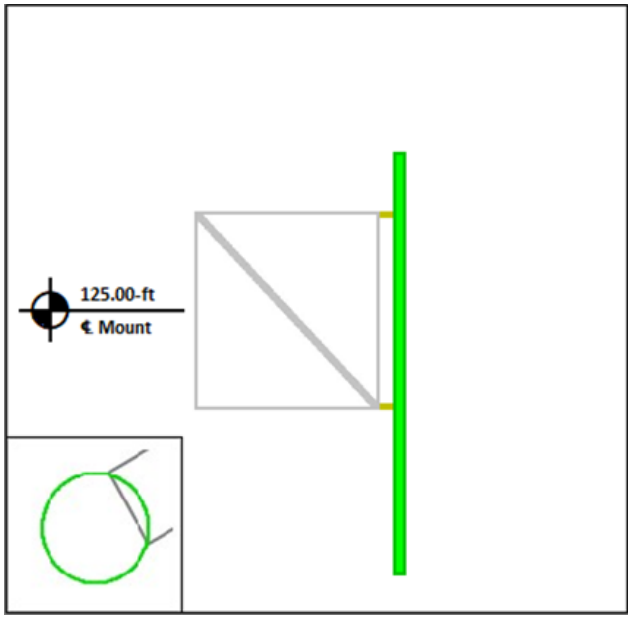


Mount Pipe H

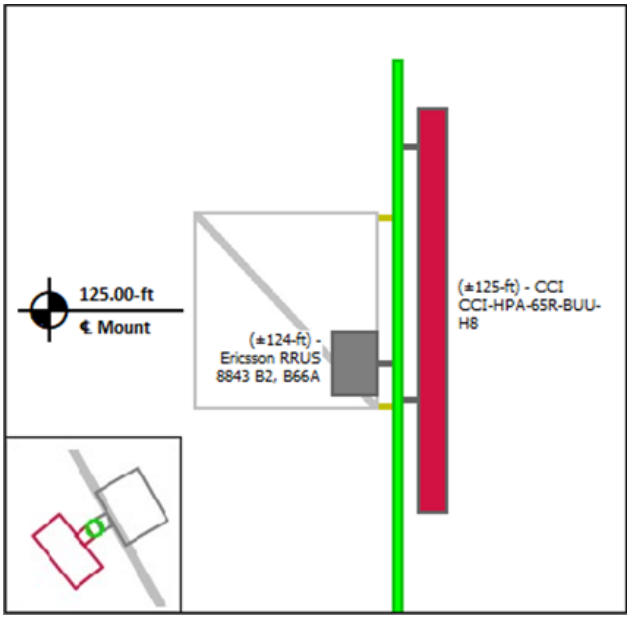


Equipment Layout Cont'd.

Mount Pipe I



Mount Pipe J



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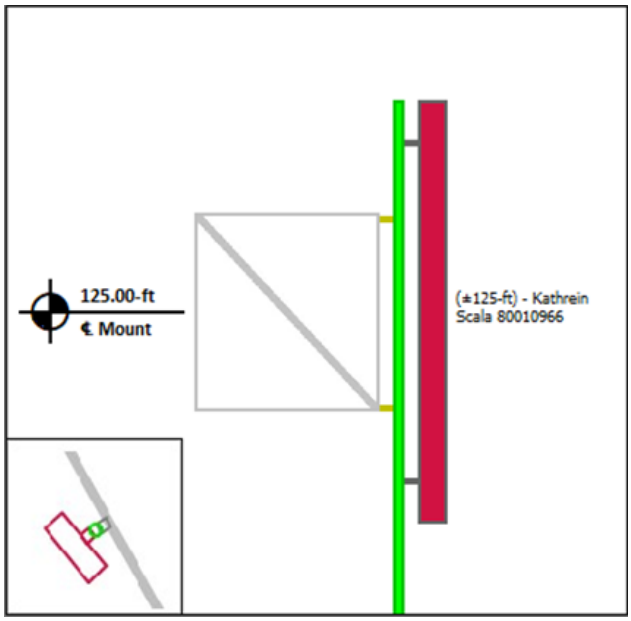
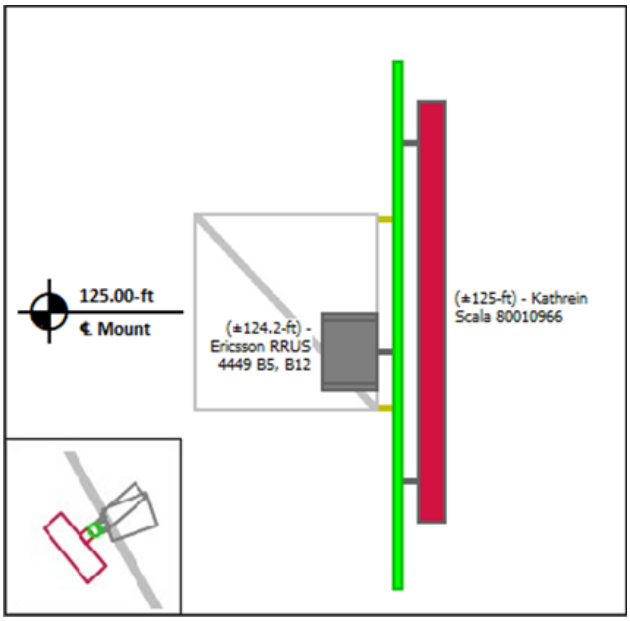


Mount Pipe L



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

AMERICAN TOWER®
CORPORATION

Site Number:	*243036*
Project Number:	*13333743_C9_03*
Carrier:	*AT&T Mobility*
Mount Elevation:	*125 ft*
Date:	2/24/2021

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.05	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	1.00	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	120	mph
Velocity Pressure	q_z	36.7	psf
Height Escalation Factor	K_{iz}	1.14	
Thickness of Radial Glaze Ice	T_{iz}	1.14	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.213	
1 Second DSRAP	S_{D1}	0.085	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_S	0.107	
Amplification Factor	A	1.0	
Total Weight	W	2979.4	lbs
Total Shear Force	V_S	317.8	lbs
Horizontal Seismic Load	Eh	317.8	lbs
Vertical Seismic Load	Ev	127.1	lbs

Antenna Calculations (Elevations per Application/RFDS)*

Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
Kathrein Scala 80010966	96.0	20.0	6.9	114.6	17.36	2.94	19.81	4.01
CCI CCI-HPA-65R-BUU-H8	92.4	14.8	7.4	68.0	12.98	2.90	15.35	3.89
Raycap DC6-48-60-0-8F (24" Height)	24.0	11.0	11.0	32.8	N/A	N/A	N/A	N/A
Raycap DC6-48-60-0-8F (24" Height)	24.0	11.0	11.0	32.8	N/A	N/A	N/A	N/A
Raycap DC6-48-60-0-8F	22.3	11.0	11.0	32.8	N/A	N/A	N/A	N/A
Ericsson RRUS 4478 B14	16.5	13.4	7.7	59.9	N/A	N/A	N/A	N/A
Ericsson RRUS 8843 B2, B66A	14.9	13.2	10.9	72.0	1.64	1.35	2.22	1.89
Ericsson Radio 4415 B30	15.0	13.2	5.0	43.0	1.65	0.64	2.23	1.07
Ericsson RRUS 4449 B5, B12	17.9	13.2	9.4	71.0	1.97	1.40	2.60	1.97
Commscope WCS-IMFQ-AMT	11.2	10.6	6.9	29.5	N/A	N/A	N/A	N/A

**** Equipment with EPA values N/A were not considered in the mount analysis***

EXHIBIT 3

DOCKET NO. 293 – Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two locations off of Route 162, West Haven, Connecticut.	}	Connecticut Siting Council May 11, 2005

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, operation, and maintenance 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 Omnipoint Communications, Inc. (T-Mobile), hereinafter referred to as the Certificate Holder, for a telecommunications facility at the Alternate Site, located at 668 Jones Hill Road, West Haven, Connecticut. The Council denies certification of the Prime Site, located at 600 Jones Hill Road, West Haven, Connecticut.

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, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile and other entities, both public and private, but such tower including antennas shall not exceed a height of 153 feet above ground level. The monopole shall be designed with an engineered yield point of sufficient height to prevent the tower from encroaching upon adjacent property in the event of a tower failure.
2. The tower and compound location shall be relocated 100 feet to the southwest.

3. 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 City of West Haven 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 building, access road, utility line, and landscaping; and
   b. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of 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 electromagnetic radio frequency power density is 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.

5. 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.

6. 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.
7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of West Haven public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
8. If the facility does not initially provide wireless services within one year of completion of construction or 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.
9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extension of this period shall be filed with the Council not later than sixty 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 City of West Haven. Any proposed modifications to this Decision and Order shall likewise be so served.
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.

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 The New Haven Register and the West Haven News.

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**
Omnipoint Communications, Inc	Stephen J. Humes, Esq. McCarter & English, LLP CityPlace I, 185 Asylum Street Hartford, CT 06103

Content Last Modified on 5/18/2005 11:16:18 AM

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 22, 2014

Jennifer Young Gaudet, Esq.
HPC Wireless Services
22 Shelter Rock Lane
Building C
Danbury, CT 06810

RE: **PETITION NO. 1108** – American Tower Corporation and New Cingular Wireless PCS, LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the expansion of an existing telecommunications facility located at 668 Jones Hill Road, West Haven, Connecticut.

Dear Attorney Gaudet:

At a public meeting held on August 21, 2014, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need with the following conditions:

- that AT&T/ATC retain as much of the existing vegetation as possible, including the large diameter ash tree;
- install new evergreens along the northwest corner of the new fence line adjacent to the dirt road;
- the tower and foundation shall be reinforced in accordance with the structural analysis report prepared by ATC dated May 9, 2014 and stamped by William Garrett;
- within 45 days following completion of the equipment installation, ATC shall provide documentation certified by a professional engineer that its installation complied with the recommendations of the structural analysis;
- within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed; and
- any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by the Petitioner shall be removed within 60 days of the date the antenna ceased to function.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated June 30, 2014.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,

Robert Stein LHAB

Robert Stein
Chairman

RS/RDM/lm

Enclosure: Staff Report dated August 21, 2014

c: The Honorable Edward M. O'Brien, Mayor, City of West Haven
Joseph A. Riccio, Jr., Commissioner, Planning & Development, City of West Haven

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
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www.ct.gov/csc

Petition No. 1108
New Cingular Wireless PCS, LLC/ATC
668 Jones Hill Road, West Haven, Connecticut
Staff Report
August 21, 2014

On July 1, 2014, the Connecticut Siting Council (Council) received a petition from New Cingular Wireless PCS, LLC (AT&T)/American Tower Corporation (ATC) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the expansion of an existing compound at an existing telecommunications facility located at 668 Jones Hill Road in West Haven, Connecticut. Council member Dr. Barbara Bell and staff member Robert Mercier visited the site on July 28, 2014 to review the proposal. Jennifer Young Gaudet represented the petitioner at the field review.

Pursuant to § 16-50j-40 of the Regulations of Connecticut State Agencies, on June 30, 2014, AT&T/ATC notified the City of Milford and abutting property owners of the proposed project. No abutters or City officials attended the field review.

The existing facility was approved on May 11, 2005 under Council Docket 293 and consists of a 150-foot monopole and a 50-foot by 50-foot compound/lease area. The 668 Jones Hill Road property consists of a small farm with related outbuildings. The facility is located in a wooded/shrubby area approximately 100 feet west of a barn and immediately south of a field. ATC, the current Certificate Holder, has negotiated a new 70-foot by 70-foot lease area with the underlying property owner.

AT&T proposes to install 12 antennas at the 125-foot level of the tower and install a 12-foot by 16-foot equipment shelter and an emergency diesel generator at the site. The existing compound does not have enough space to accommodate AT&T's ground equipment. The site currently supports T-Mobile, Clearwire, Verizon, MetroPCS, and a local user. The existing tower and foundation would need reinforcement to support AT&T's equipment.

AT&T/ATC propose to expand the compound fence line to the northwest by 16 feet to create 784 square feet of new compound space to accommodate the proposed ground equipment. The expansion area contains small diameter trees/shrubs and pine trees that were planted along the northwest side of the existing compound fence. One large diameter ash tree is near the proposed expanded fence edge and may be removed as part of the project. AT&T/ATC propose new evergreen plantings along the expanded fence line.

During the field review it was noted that the existing shrub vegetation along the proposed west fence perimeter would serve to screen the facility from adjacent areas. Given this shrub buffer, it was determined that there was no need to remove the existing shrubs and install evergreens, except where there was more exposure along the northwest corner of the compound where it is adjacent to a dirt road. AT&T/ATC would also examine the possibility of shifting the fence line slightly to prevent the loss of the large ash tree, one of a few in the area that serve to screen the tower from surrounding areas.

Staff recommends approval with the following conditions:

- that AT&T/ATC retain as much of the existing vegetation as possible, including the large diameter ash tree;
- install new evergreens along the northwest corner of the new fence line adjacent to the dirt road;
- the tower and foundation shall be reinforced in accordance with the structural analysis report prepared by ATC dated May 9, 2014 and stamped by William Garrett; and,
- within 45 days following completion of the equipment installation, ATC shall provide documentation certified by a professional engineer that its installation complied with the recommendations of the structural analysis.

Google Earth Image of site location at 668 Jones Hill Road, West Haven.
Yellow box is approximate expansion area.
Red outline is existing compound.

STATE OF CONNECTICUT
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E-Mail: siting.council@ct.gov
www.ct.gov/csc

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

October 3, 2014

Jennifer Young Gaudet, Esq.
HPC Wireless Services
22 Shelter Rock Lane
Building C
Danbury, CT 06810

RE: **PETITION NO. 1108** – American Tower Corporation and New Cingular Wireless PCS, LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the expansion of an existing telecommunications facility located at 668 Jones Hill Road, West Haven, Connecticut.

Dear Attorney Gaudet:

At a public meeting held on October 2, 2014, the Connecticut Siting Council (Council) considered and approved the revisions to this petition to install a shared generator submitted on June 30, 2014 and additional information received on September 25, 2014.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated June 30, 2014, and in the revision submission dated September 25, 2014.

Very truly yours,

Robert Stein/MAB

Robert Stein
Chairman

RS/RM/lm

c: The Honorable Edward M. O'Brien, Mayor, City of West Haven
Joseph A. Riccio, Jr., Commissioner, Planning & Development, City of West Haven

EXHIBIT 4

City of West Haven, CT

Property Listing Report

Map Block Lot	019-0001-0-000A-C	Building #	1	Section #	1	Account	00019113

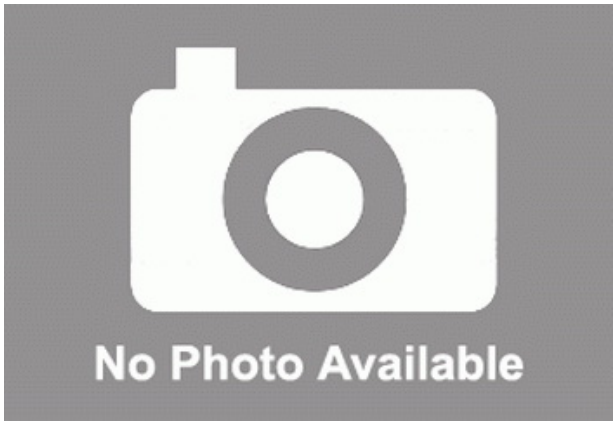
Property Information

Property Location	668 JONES HILL RD
Owner	AMERICAN TOWERS INC.
Co-Owner	ATTN TAX DEPT
Mailing Address	PO BOX 723597 ATLANTA GA 31139
Land Use	431V TEL REL TW MDL-00
Land Class	I
Zoning Code	
Census Tract	

Street Index	
Acreage	0
Utilities	
Lot Setting/Desc	
Additional Info	

Photo

Sketch



Primary Construction Details

Year Built	0
Stories	
Building Style	UNKNOWN
Building Use	Vacant
Building Condition	
Occupancy	
Extra Fixtures	0
Bath Style	NA
Kitchen Style	NA
AC Type	
Heating Type	
Heating Fuel	

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	
Roof Cover	
Interior Floors 1	
Interior Floors 2	
Exterior Walls	
Exterior Walls 2	NA
Interior Walls	
Interior Walls 2	NA

(*Industrial / Commercial Details)

Building Desc.	TEL REL TW
Building Grade	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA

Report Created On 1/23/2020

City of West Haven, CT

Property Listing Report

Map Block Lot	019-0001-0-000A-C	Building #	1	Section #	1	Account	00019113

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	431800	302260
Land	0	0
Total	431800	302260

Outbuilding and Extra Features

Type	Description
TOWER	2 SITES
CELL SHED	288 S.F.
FENCE-6' CHAIN	200 L.F.

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
AMERICAN TOWERS INC.	0000/0000	2010-10-01	0

Report Created On 1/23/2020

City of West Haven, CT

Property Listing Report

Map Block Lot	019-0001-0-000A	Building #	1	Section #	1	Account	00022558

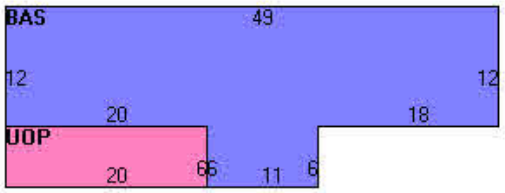
Property Information

Property Location	668 JONES HILL RD
Owner	NEWKIRK ROBERT E
Co-Owner	
Mailing Address	668 JONES HILL RD WEST HAVEN CT 06516
Land Use	3220 STORE MDL-94
Land Class	C
Zoning Code	R1
Census Tract	

Street Index	
Acreage	13.09
Utilities	Public Water,Public Sewer
Lot Setting/Desc	Above Street
Additional Info	

Photo

Sketch



Primary Construction Details

Year Built	1998
Stories	1
Building Style	Store
Building Use	Comm/Ind
Building Condition	F
Occupancy	1.00
Extra Fixtures	0
Bath Style	NA
Kitchen Style	NA
AC Type	01
Heating Type	None
Heating Fuel	Coal or Wood

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	Gable
Roof Cover	Asph/F Gls/Cmp
Interior Floors 1	Hardwood
Interior Floors 2	
Exterior Walls	Wood on Sheath
Exterior Walls 2	NA
Interior Walls	Wall Brd/Wood
Interior Walls 2	NA

(*Industrial / Commercial Details)

Building Desc.	STORE MDL-94
Building Grade	Low Cost
Heat / AC	NONE
Frame Type	WOOD FRAME
Baths / Plumbing	LIGHT
Ceiling / Wall	NONE
Rooms / Prtns	AVERAGE
Wall Height	8.00
First Floor Use	NA

Report Created On 1/23/2020

City of West Haven, CT

Property Listing Report

Map Block Lot	019-0001-0-000A	Building #	1	Section #	1	Account	00022558

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	149600	104720
Extras	0	0
Improvements		
Outbuildings	36500	25550
Land	397600	213140
Total	583700	343410

Outbuilding and Extra Features

Type	Description
SHED FRAME	120 S.F.
W/IMPROVEMENTS	1764 S.F.
SCREEN HOUSE	600 S.F.
GAZEBO	240 S.F.
W/LIGHTS ETC	360 S.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	654	654
Porch, Open, Unfinished	120	0
Total Area	774	654

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
NEWKIRK ROBERT E	1043/1000	1997-10-16	0

Report Created On 1/23/2020

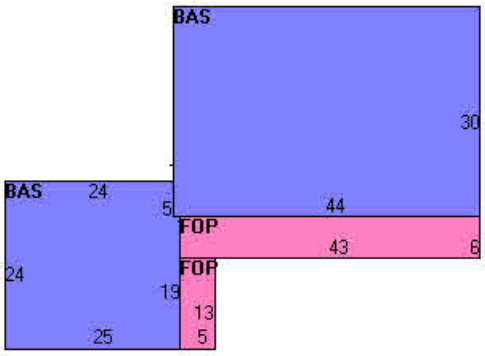
City of West Haven, CT

Property Listing Report

Map Block Lot	019-0001-0-000A	Building #	2	Section #	1	Account	00022558

Photo

Sketch



Primary Construction Details

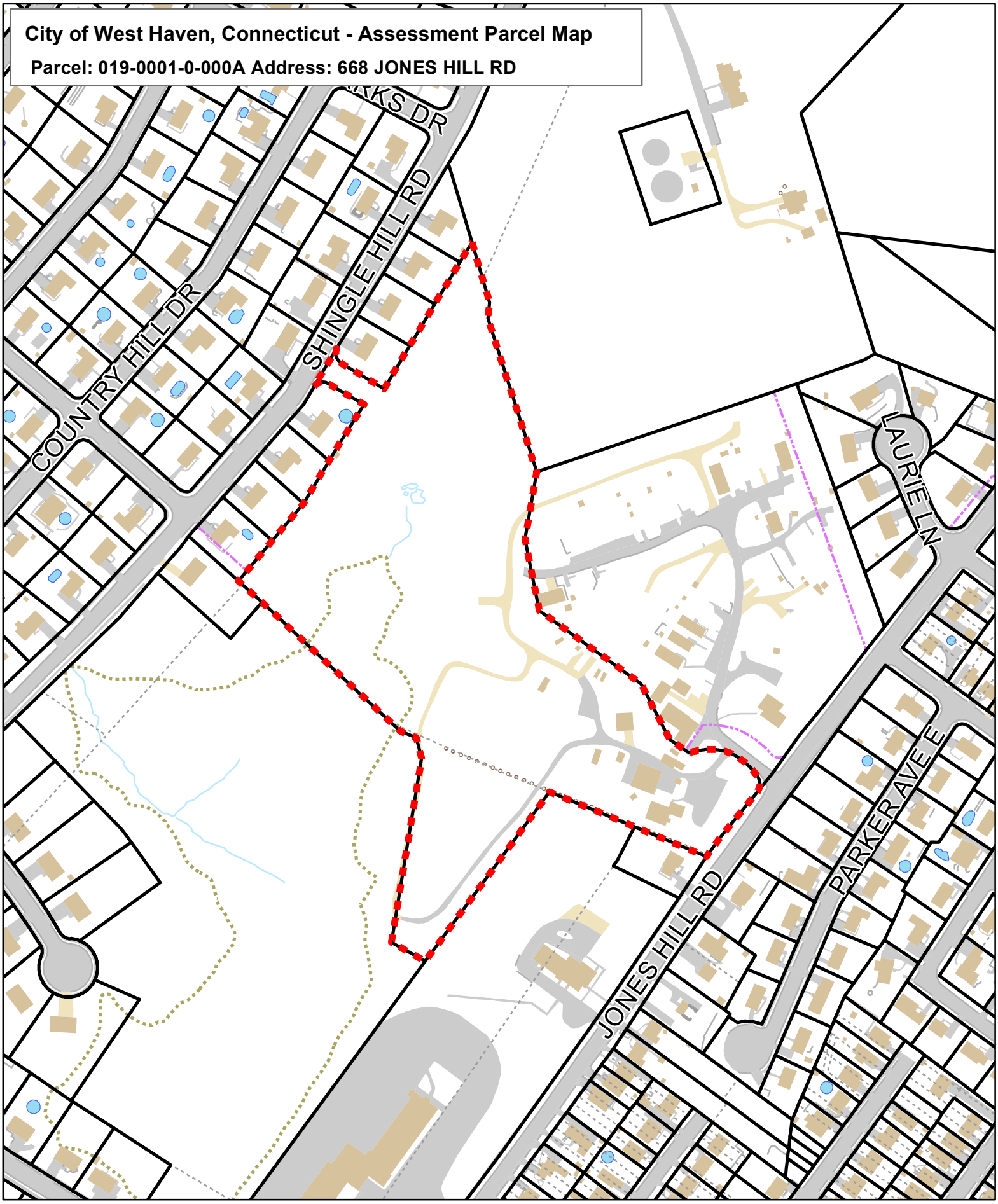
				(*Industrial / Commercial Details)	
Year Built	1998	Bedrooms	2 Bedrooms	Building Desc.	Single Fam MDL-01
Stories	1	Full Bathrooms	1	Building Grade	Average
Building Style	Ranch	Half Bathrooms	1	Heat / AC	NA
Building Use	Residential	Total Rooms	5	Frame Type	NA
Building Condition	A	Roof Style	Gable	Baths / Plumbing	NA
Occupancy	1.00	Roof Cover	Asph/F Gls/Cmp	Ceiling / Wall	NA
Extra Fixtures	0	Interior Floors 1	Hardwood	Rooms / Prtns	NA
Bath Style	Average	Interior Floors2	Carpet	Wall Height	NA
Kitchen Style	Average	Exterior Walls	Wood on Sheath	First Floor Use	NA
AC Type	03	Exterior Walls 2	NA		
Heating Type	Forced Air-Duc	Interior Walls	Drywall/Sheet		
Heating Fuel	Oil	Interior Walls 2	NA		

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	1915	1915
Porch, Open, Finished	323	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	2238	1915

Report Created On



Map Produced: August 2019

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

EXHIBIT 5

Lawrence Behr Associates INC
www.lbagroup.com

NIER Study Report

SITE NAME:

243036 West Haven & RT 162 CT

LOCATION:

West Haven, Connecticut

COMPANY:

American Tower Corporation
Woburn, Massachusetts

March 10, 2021

3400 Tupper Drive | Greenville, NC 27834
252-757-0279 | 800-522-4464 | lbagrp@lbagroup.com

Contents

Lawrence Behr Associates INC

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NIER STUDY REPORT

243036 West Haven & RT 162 CT

West Haven, Connecticut

Lawrence Behr Associates, Inc. (LBA) has been retained by American Tower Corporation (ATC) of Woburn, Massachusetts to evaluate the RF emissions of an existing tower at this location.

Site 243036 West Haven & RT 162 CT is located at 668 Jones Hill Road, in West Haven, Connecticut at coordinates 41.2564, -72.97236. The support structure is a 151' monopole. The installation consists of one antenna level with radiation center of 151', 143', 134', and 125' above ground level. All antennae will have a radiation center as described above. All data used in this study was provided by one or more of the following sources:

ATC furnished data

Compiled from carrier and manufacturer standard configurations

Empirical data collected by LBA

A satellite view of the study area is located in Appendix 2. The load list may be seen in Appendix 3.

Graphs of the power density at different distances from the transmitter, compared to FCC MPE general population and occupational limits, may be seen in Appendix 7. These limits are based upon the Information Relating to MPE Standards found in Appendix 8. Study methodology may be seen in Appendix 9, which describes the Non-Ionizing Radiation Prediction Models. As long as the site has perimeter fencing of at least 15 feet from the tower base, with signage in compliance with OET-65 and internal vendor compliance, this site WILL BE in compliance with FCC OET-65 MPE limits. This site IS in compliance with FCC OET-65 MPE limits.

March 10, 2021

Jeutuanna Walston

Jeutuanna Walston
Wireless Services Coordinator

APPENDIX 1 *Executive Summary*

This report presents non-ionizing radio frequency (RF) emissions analysis, which predicts the Maximum Permissible Exposure (MPE) potential to humans at or near wireless communication sites. The predicted RF emissions are evaluated against acceptable MPE limits as defined by specific established standards. The analysis then determines if the communications site is in compliance with these standards or other regulations regarding safe human exposure to radio frequency radiation.

The analysis was performed on the ATC_243036 West Haven & RT 162 CT site/tower. The report consists of Sections that provide details of the communications site, antenna systems, operational frequencies, MPE analysis and associated Appendices.

A summary of the MPE analysis results is depicted in the following Table.

MPE Zone	Max %	Feet	% of Total	Status
Zone 1				
Zone 2				
Zone 3				Pass
Zone 4				Pass
Zone 5				

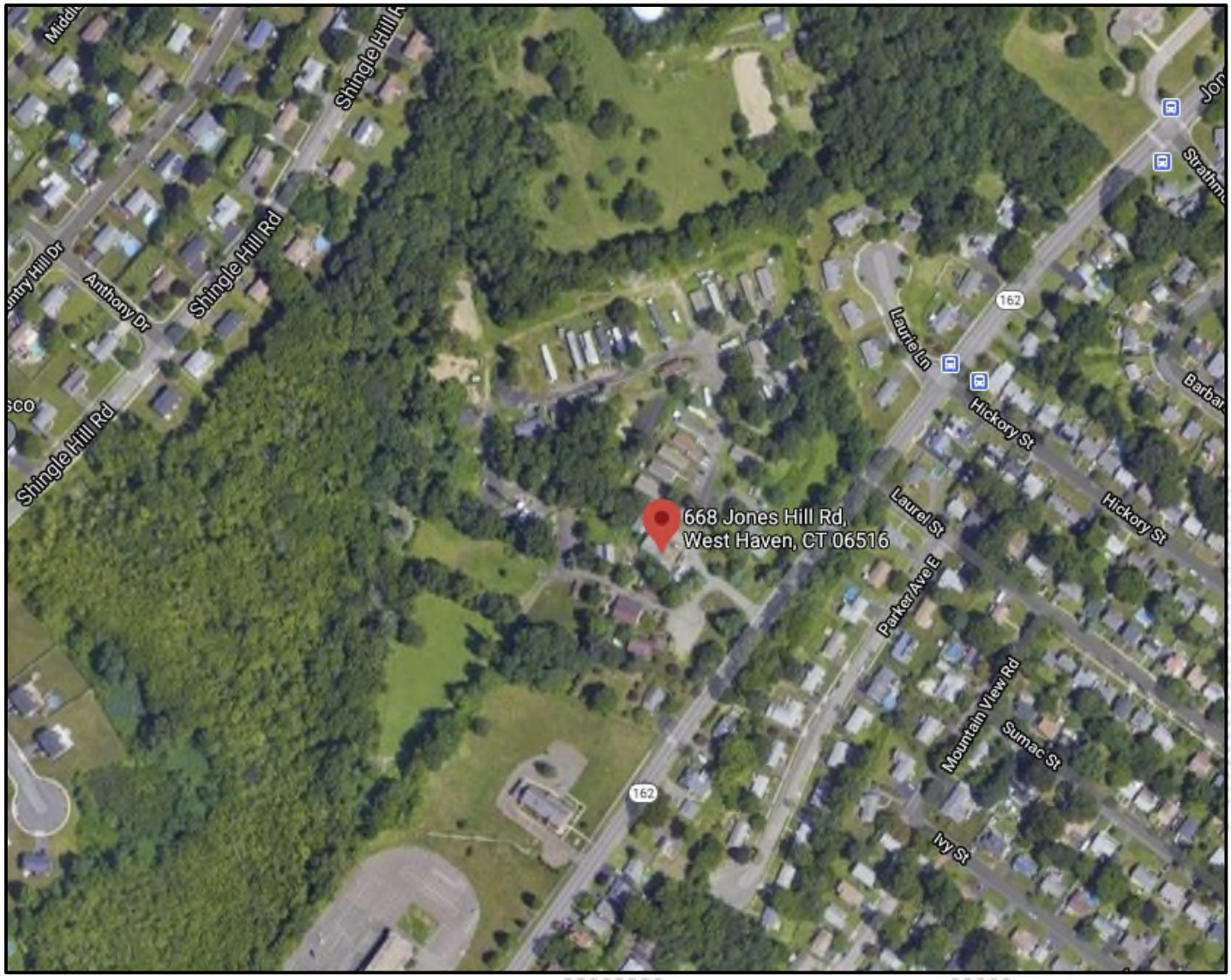
The *MPE Zone* column represents the five MPE Zone classifications. The *Max %* column indicates the maximum percentage level calculated for that particular Zone.

The *Feet* column indicates the number of feet on a tower or area (square feet) on a rooftop that has MPE levels for that particular Zone. The *% of Total* column indicates the percentage of the total tower height or total area of a rooftop that has MPE levels for that particular Zone.

The *Status* column indicates a Pass or Fail of the analysis for that particular Zone.

APPENDIX 2

Satellite Photo



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APPENDIX 3 *Load List*

Proposed	Customer	RAD Height (ft)	Equipment Quantity	Equipment Type	Manufacturer	Model Number	Line Quantity	Line size	Mount Type	Azimuths	Power		Frequency	Frequency
									Low Profile Platform					
					Nokia				Low Profile Platform					
				DISH-HP	DragonWave	A-ANT-11G-2-		Coax	Flush					
				DISH-HP	DragonWave	A-ANT-23G-1-		Coax	Flush					
					Ericsson	Air6449 B41			Platform with					
					Ericsson	Air 3246 B66			Platform with					
					Ericsson				Platform with Handrails					
								Coax	Platform with Handrails					
					JMA Wireless				Low Profile Platform					
					Andrew			Coax	Low Profile Platform					
					Kathrein Scala	80010966			Low Profile Platform					
									Low Profile Platform					

APPENDIX 4

Communication Systems

The Table below presents a list of the communications systems at the site.

System	Provider	Technology	Frequency Band
	Clearwire Corporation		746 - 806 MHz - 700 MHz Band
	Clearwire Corporation		1710 - 1990 MHz - PCS
	Clearwire Corporation		2400 - 2483.5 MHz - ISM Wireless Data
	T-Mobile		614 - 746 MHz - Broadcast
	T-Mobile		614 - 746 MHz - Broadcast
	T-Mobile		1710 - 1990 MHz - PCS
	T-Mobile		2110 - 2200 MHz - E-Technology
	T-Mobile		2110 - 2200 MHz - E-Technology
	T-Mobile		2400 - 2483.5 MHz - ISM Wireless Data
	Verizon Wireless		614 - 746 MHz - Broadcast
	Verizon Wireless		806 - 896 MHz - Land Mobile
	Verizon Wireless		806 - 896 MHz - Land Mobile
	Verizon Wireless		1710 - 1990 MHz - PCS
	Verizon Wireless		2110 - 2200 MHz - E-Technology
			614 - 746 MHz - Broadcast
			806 - 896 MHz - Land Mobile
			806 - 896 MHz - Land Mobile
			806 - 896 MHz - Land Mobile
			1710 - 1990 MHz - PCS
			2110 - 2200 MHz - E-Technology
			2305/2345 MHz - WCS Wireless Data

APPENDIX 5 *Antenna Systems*

The Table below presents a list of the antenna systems at the site.

Ant	Mfg	Antenna Model	Gain (dBd)	Hgt (ft)	Orient (deg)	Sec-tor	Ant Use	Transmission Line Type	Line Loss (dB)	Line Length (ft)
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
	Nokia						Dplx	1-5/8 in. Air		
	Nokia						Dplx	1-5/8 in. Air		
	Nokia						Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
	Ericsson						Dplx	1-5/8 in. Air		
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	Ericsson						Dplx	1-5/8 in. Air		
	Ericsson						Dplx	1-5/8 in. Air		
	Ericsson						Dplx	1-5/8 in. Air		
	Ericsson						Dplx	1-5/8 in. Air		
	Ericsson	Air6449 B41					Dplx	1-5/8 in. Air		
	Ericsson	Air6449 B41					Dplx	1-5/8 in. Air		
	Ericsson	Air6449 B41					Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
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							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		
	Andrew						Dplx	1-5/8 in. Air		
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	Andrew						Dplx	1-5/8 in. Air		
	Kathrein						Dplx	1-5/8 in. Air		
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	Kathrein						Dplx	1-5/8 in. Air		
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							Dplx	1-5/8 in. Air		
							Dplx	1-5/8 in. Air		

APPENDIX 6 *Transmitter Frequencies*

The Table below presents a list of all transmitter frequencies at the site.

Freq	Ant	Provider	Model	Technology	Channel Label	ID	Frequency	Power (Watts)	(KHz)
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		Clearwire Corporation	Ericsson						
		T-Mobile	Ericsson						
		T-Mobile	Ericsson						
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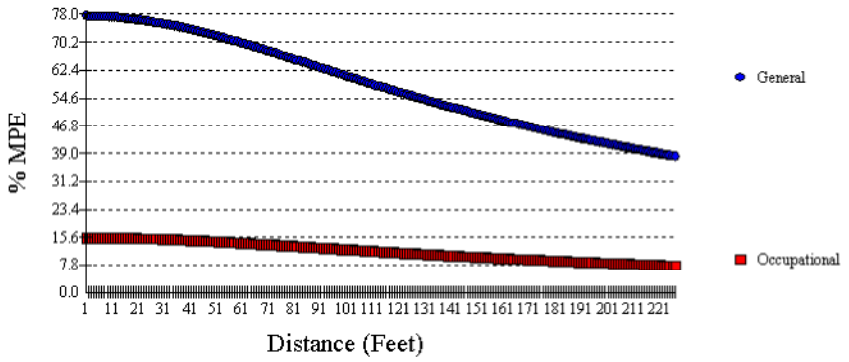
APPENDIX 7

Maximum Permissible Emission Analysis

The MPE analysis consists of evaluating the RF transmitter power being emitted from each active antenna at the communications site. Power density calculations are performed based on where a human (observer) would be located at the site. The power density values are then converted to MPE percentages and each antenna's MPE percentages are summed together to provide a composite MPE percentage for each observer location.

The composite graph is presented below. As shown on the graph, the MPE levels are highest where the antennas are concentrated. Any MPE levels above the 100% Limit Line exceeds the maximum permissible exposure levels for humans, based on the MPE Standard selected.



Composite Maximum Permissible Emissions Graph

Calculation details for each antenna are provided in the following Table. The Max %MPE column depicts the General Population Maximum Permissible Exposure percentage for that particular antenna.

The calculated Antenna Gain and Antenna EIRP are based on the antenna pattern gain at the location where the Maximum %MPE is determined.

Provider	Ant Nbr	Ant Hgt (feet)	Ant Lgth (feet)	Frequency (MHz)	*Line Loss (dB)*	*Filter Loss (dB)*	Tx Qty	Total Tx Pwr (watts)	Calc'd Ant Gain (dB)	Ant (watts)	Max
Clearwire Corporation											
Clearwire Corporation											
Clearwire Corporation											
Clearwire Corporation											
Clearwire Corporation											
Clearwire Corporation											
Clearwire Corporation											
Clearwire Corporation											
Clearwire Corporation											
T-Mobile											
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In cases where the predicted power density levels exceed MPE limits, altering the location of the antennas can lead to changing the composite power spectral density and thus bringing the tower/site into compliance. Also, reducing the transmitter output power, if possible, can lead to lowering the average power density and thus reducing the amount of RF exposure.

APPENDIX 8

Information Pertaining to MPE Studies

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.

MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting antenna is where the electric field vector (E), the

magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

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.

General population/uncontrolled exposure limits apply to situations in which the general public 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 public 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. Additional details can be found in FCC OET 65.

APPENDIX 9

MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E)**	**Magnetic Field Strength (H)**	**Power Density (S) (mW/cm**	**Averaging Time |E| |H| or S (minutes)**
	1842/f	4.89/f		
			f/300	

f = frequency

* = Plane-wave equivalent power density

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E)**	**Magnetic Field Strength (H)**	**Power Density (mW/cm**	**Averaging Time |E| , |H| or S (minutes)**
	824/f	2.19/f		
			f/1500	

f = frequency
* = Plane-wave equivalent power density

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.

The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65. As this study is concerned only with Near Field calculations, we will only describe the model used for this study. For additional details, refer to FCC OET Bulletin 65.

Cylindrical Model (Near Field Predictions)

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

Where:
S = Power Density
P = Total Power into antenna
R = Distance from the antenna
L = Antenna aperture length

For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:
S = Power Density
θ = Beam width of antenna in degrees (3 dB half-power point)
P = Total Power into antenna
R = Distance from the antenna
L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.

Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:
S = Power Density
EIRP = Effective Radiated Power from antenna
Rc = Reflection Coefficient (2.56)
R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

EXHIBIT 6

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**149 ft Monopole**
ATC Site Name	:	**WEST HAVEN & RT 162 CT, CT**
ATC Asset Number	:	**243036**
Engineering Number	:	**13333743_C3_02**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**MRCTB049218**
Carrier Site Number	:	**CTL02899**
Site Location	:	**668 Jones Hill Road** **West Haven, CT 06516-6311** **41.256400,-72.972400**
County	:	**New Haven**
Date	:	**January 28, 2021**
Max Usage	:	**94%**
Result	:	**Pass**

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Prepared By:
Lucas Tait
Structural Engineer I

L Tait

Reviewed By:

Authorized by "EOR"
28 Jan 2021 08:48:31 cosign

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 149 ft monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	Sabre Job #06-08204, dated August 19, 2005
Foundation Drawing	Sabre Job #06-10095, dated October 12, 2005
Geotechnical Report	EBI Project #61051509, dated July 12, 2005

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	Ss = 0.20, S_1 = 0.05
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
151.0	3	DragonWave Horizon Compact	Collar Mount	(3) 1 1/4" Hybriflex Cable (1) 1.7" (43.2mm) Hybrid (4) 1/2" Coax (1) 2" conduit	CLEARWIRE CORPORATION
	1	DragonWave A-ANT-23G-1-C			
	6	Alcatel-Lucent RRH2x50-08			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
	3	Nokia 2.5G MAA - AAHC(64T64R)			
	2	DragonWave A-ANT-11G-2-C			
	3	RFS APXVFRR12X-C-I20			
143.0	3	Ericsson Radio 4449 B71 B85A	Platform with Site Pro1 HRK12-3HD Handrails	(15) 1 5/8" Coax (1) 1 1/4" (1.25"-31.8mm) Fiber (3) 1 5/8" (1.63"-41.3mm) Fiber (2) 1 1/4" Hybriflex Cable	T-MOBILE
	3	Ericsson AIR32 B66Aa/B2a			
	3	Ericsson Air 3246 B66			
	3	RFS APXVAARR24_43-U-NA20			
	3	Ericsson RRUS 4415 B25			
	3	Ericsson Air6449 B41			
134.0	1	RFS DB-T1-6Z-8AB-0Z	Low Profile Platform	(1) 1 5/8" (1.63"-41.3mm) Fiber (12) 1 5/8" Coax	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	6	JMA Wireless MX06FRO660-02			
	3	Andrew DB854DG65ESX			
	3	Samsung B2/B66A RRH-BR049			
125.0	2	Raycap DC6-48-60-0-8F (24" Height)	MTC196 Platform with Handrails	(2) 0.39" (10mm) Fiber Trunk (2) 0.39" (9.8mm) Cable (4) 0.78" (19.7mm) 8 AWG 6	AT&T MOBILITY
	3	Ericsson Radio 4415 B30			
	3	Ericsson RRUS 4449 B5, B12			
	3	CCI CCI-HPA-65R-BUU-H8			
	1	Commscope WCS-IMFQ-AMT			
	6	Kathrein Scala 80010966			
	1	Raycap DC6-48-60-0-8F			
115.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	METRO PCS INC
106.0	1	Generic 3' Dish w/ Radome	Side Arm	(1) 0.28" (7mm) RG-6	OTHER
	1	Proxim 5054-R-LR			

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
125.0	3	Ericsson 8843 Rev 2	-	(3) 3" conduit	AT&T MOBILITY

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
125.0	3	Ericsson RRUS 8843 B2, B66A	MTC196 Platform with Handrails	(1) 0.39" (9.8mm) Cable (2) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4478 B14			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	61%	Pass
Shaft	94%	Pass
Base Plate	47%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	2,840.0	3,834.0	2,860.1	75%
Shear (Kips)	26.3	35.5	24.9	70%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
149.0	DragonWave A-ANT-23G-1-C	CLEARWIRE CORPORATION	2.119	1.629
	DragonWave A-ANT-11G-2-C			
125.0	Ericsson RRUS 8843 B2, B66A	AT&T MOBILITY	1.454	1.495
	Ericsson RRUS 4478 B14			
106.0	Generic 3' Dish w/ Radome	Other	1.004	1.191

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

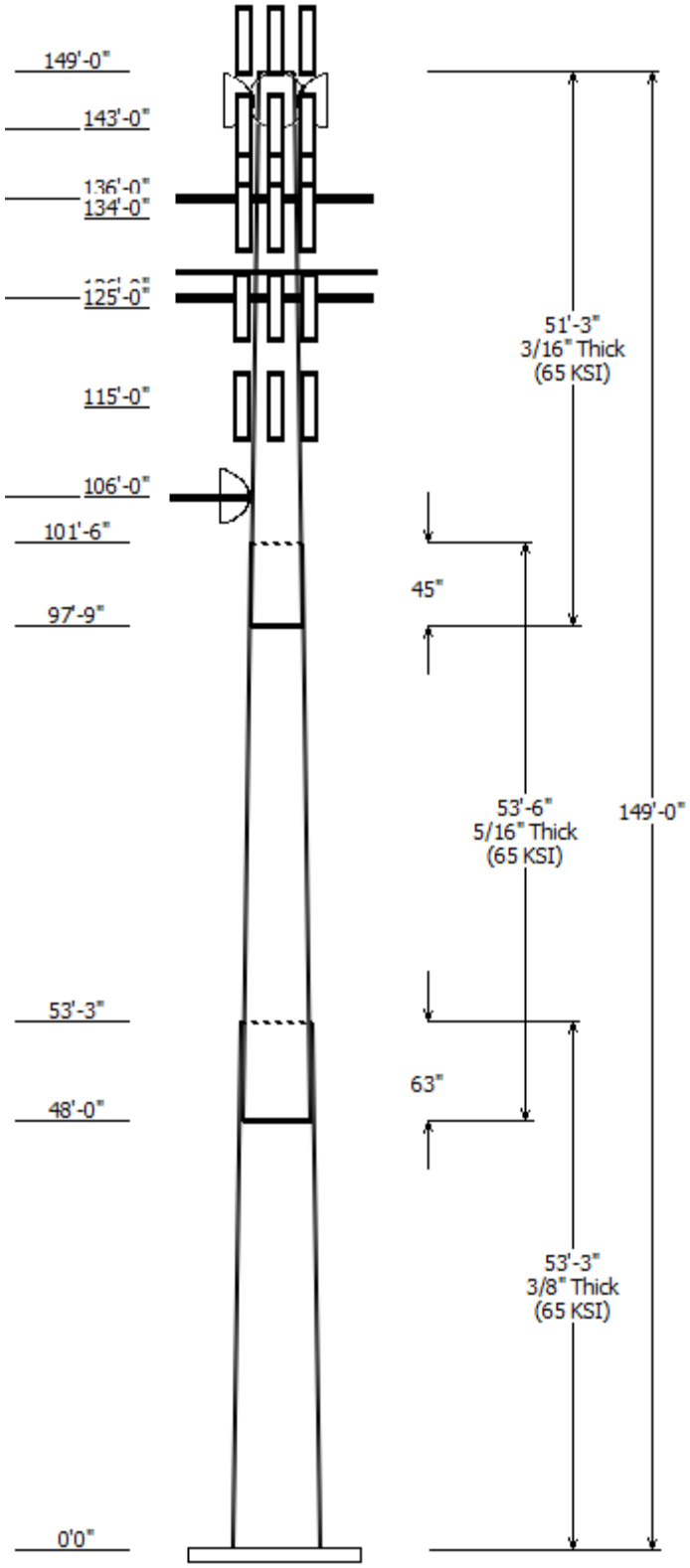
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

Client :	AT&T MOBILITY		
Pole :	243036	Code:	ANSI/TIA-222-H
Location :	WEST HAVEN & RT 162 CT, CT		
Description :	Tower Model Verified: 12/13/2012	Risk Category :	II
Shape :	18 Sides	Exposure :	B
Height :	149.00 (ft)	Topo Method :	Method 1
Base Elev (ft):	0.00	Topographic Category :	1
Taper:	0.234964 (in/ft)		

Sections Properties

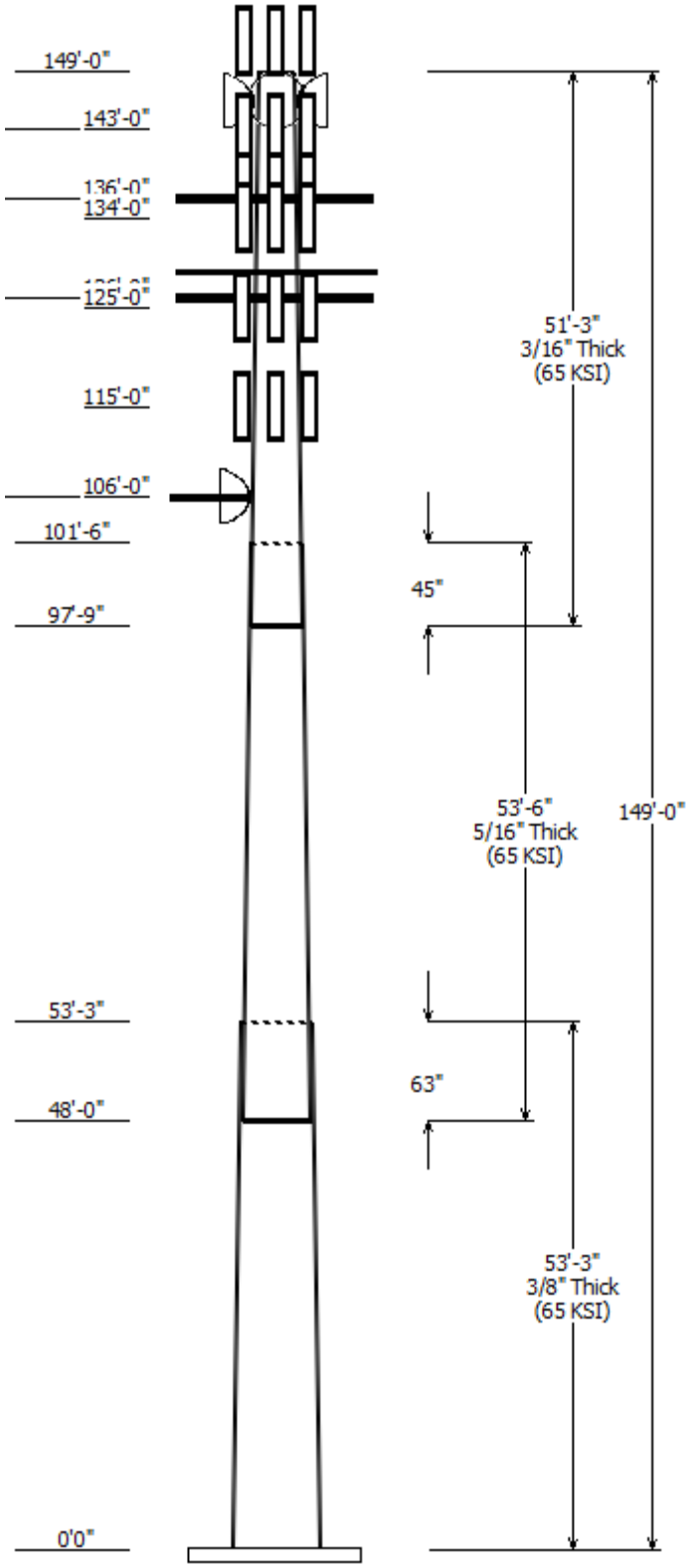
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	53.250	39.49	52.01	0.375		0.000	18 Sides	65
2	53.500	28.78	41.35	0.313	Slip Joint	63.000	18 Sides	65
3	51.250	18.00	30.04	0.188	Slip Joint	45.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
149.000	149.000	1	Collar Mount
149.000	151.000	3	RFS APXVFRR12X-C-I20
149.000	148.000	2	DragonWave A-ANT-11G-2-C
149.000	151.000	3	Nokia 2.5G MAA -
149.000	151.000	3	Alcatel-Lucent 1900 MHz 4X45
149.000	151.000	6	Alcatel-Lucent RRH2x50-08
149.000	148.000	1	DragonWave A-ANT-23G-1-C
149.000	148.000	3	DragonWave Horizon Compact
143.000	143.000	1	Platform with SitePro1 HRK12-
143.000	143.000	3	RFS APXVAARR24_43-U-NA20
143.000	143.000	3	Ericsson Air 3246 B66
143.000	143.000	3	Ericsson AIR32 B66Aa/B2a
143.000	143.000	3	Ericsson Air6449 B41
143.000	143.000	3	Ericsson RRUS 4415 B25
143.000	143.000	3	Ericsson Radio 4449 B71 B85A
136.000	136.000	1	Round Low Profile Platform
134.000	134.000	6	JMA Wireless MX06FRO660-02
134.000	137.000	3	Andrew DB854DG65ESX
134.000	136.000	1	RFS DB-T1-6Z-8AB-0Z
134.000	134.000	3	Samsung B5/B13 RRH-BR04C
134.000	134.000	3	Samsung B2/B66A RRH-BR049
126.000	126.000	1	Round Platform w/ Handrails
125.000	125.000	6	Kathrein Scala 80010966
125.000	125.000	3	CCI CCI-HPA-65R-BUU-H8
125.000	125.000	3	Ericsson RRUS 4449 B5, B12
125.000	125.000	3	Ericsson RRUS 4478 B14
125.000	125.000	3	Ericsson Radio 4415 B30
125.000	125.000	3	Ericsson RRUS 8843 B2, B66A
125.000	125.000	2	Raycap DC6-48-60-0-8F (24" Hei
125.000	125.000	1	Raycap DC6-48-60-0-8F
125.000	125.000	1	Commscope WCS-IMFQ-AMT
115.000	115.000	3	RFS APXV18-206517S-C
106.000	106.000	1	Flat Side Arm
106.000	106.000	1	Generic 3' Dish w/ Radome
106.000	106.000	1	Proxim 5054-R-LR

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
4.000	125.0	0.39" (10mm)	No
4.000	125.0	0.39" (9.8mm)	No
4.000	125.0	0.39" (9.8mm)	No
4.000	125.0	0.78" (19.7mm) 8	No



4.000	134.0	1 5/8" (1.63"-	No
4.000	134.0	1 5/8" Coax	No
4.000	106.0	0.28" (7mm) RG-6	No
4.000	115.0	1 5/8" Coax	No
4.000	143.0	1 5/8" Coax	No
4.000	144.0	1 5/8" Coax	No
4.000	148.0	1/2" Coax	No
4.000	151.0	1.7" (43.2mm)	No
4.000	151.0	1/2" Coax	No
0.000	151.0	1 1/4" Hybriflex	No
0.000	148.0	2" conduit	No
0.000	144.0	1 1/4" Hybriflex	Yes
0.000	125.0	2" conduit	No
0.000	143.0	1 1/4" (1.25"-	No
0.000	143.0	1 5/8" (1.63"-	Yes

Load Cases

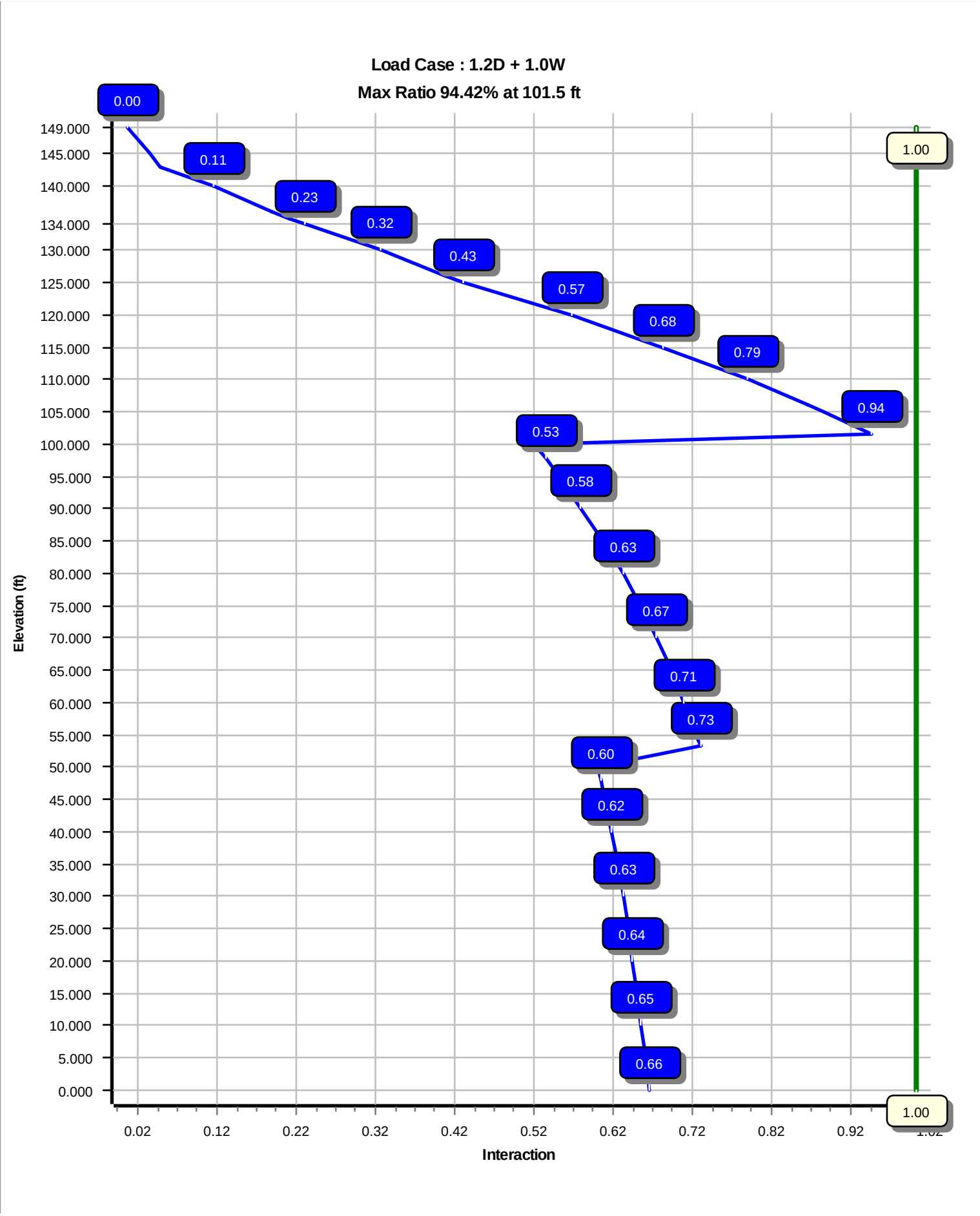
1.2D + 1.0W	120 mph with No Ice
0.9D + 1.0W	120 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	2860.10	24.93	46.00
0.9D + 1.0W	2811.47	24.91	34.49
1.2D + 1.0Di + 1.0Wi	739.17	6.41	66.15
1.2D + 1.0Ev + 1.0Eh	151.43	1.15	46.22
0.9D - 1.0Ev + 1.0Eh	148.12	1.15	31.89
1.0D + 1.0W	633.60	5.57	38.37

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	106.00	12.053	1.191
1.0D + 1.0W	149.00	25.432	1.629
1.0D + 1.0W	149.00	25.432	1.629


Load Case : 1.2D + 1.0W
Max Ratio 94.42% at 101.5 ft
0.00
0.11
0.23
0.32
0.43
0.57
0.68
0.79
0.94
0.53
0.58
0.63
0.67
0.71
0.73
0.60
0.62
0.63
0.64
0.65
0.66
1.00
1.00
149.000
145.000
140.000
134.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 243036 **Code: ANSI/TIA-222-H**

Site Name: WEST HAVEN & RT 162 CT, CT **Engineering Number:13333743_C3_02** **1/28/2021 2:50:35 PM**

Customer: AT&T MOBILITY

Analysis Parameters

Location :	**New Haven County, CT**	**Height (ft) :**	**149**
Code :	**ANSI/TIA-222-H**	**Base Diameter (in) :**	**52.01**
Shape :	**18 Sides**	**Top Diameter (in) :**	**18.00**
Pole Type :	**Taper**	**Taper (in/ft) :**	**0.235**
Pole Manfacturer :	**Sabre**	**Rotation (deg) :**	**0.00**
Kd (non-service) :	**0.95**	**Ke :**	**1.00**

Ice & Wind Parameters

Exposure Category:	**B**	**Design Wind Speed Without Ice:**	**120 mph**
Risk Category:	**II**	**Design Wind Speed With Ice:**	**50 mph**
Topographic Factor Procedure:	**Method 1**	**Operational Wind Speed:**	**60 mph**
Topographic Category:	**1**	**Design Ice Thickness:**	**1.00 in**
Crest Height:	**0 ft**	**HMSL:**	**138.00 ft**

Seismic Parameters

Analysis Method:	**Equivalent Lateral Force Method**				
Site Class:	**D - Stiff Soil**				
Period Based on Rayleigh Method (sec):	**2.87**				
T_L (sec):	**6**	**p:**	**1**	**C_s:**	**0.030**
S_s:	**0.200**	**S_1:**	**0.053**	**C_s Max:**	**0.030**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s Min:**	**0.030**
S_{ds}:	**0.213**	**S_{d1}:**	**0.085**		

Load Cases

1.2D + 1.0W	**120 mph with No Ice**
0.9D + 1.0W	**120 mph with No Ice (Reduced DL)**
1.2D + 1.0Di + 1.0Wi	**50 mph with 1.00 in Radial Ice**
1.2D + 1.0Ev + 1.0Eh	**Seismic**
0.9D - 1.0Ev + 1.0Eh	**Seismic (Reduced DL)**
1.0D + 1.0W	**Serviceability 60 mph**

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	53.250	0.3750	65		0.00	9,787	52.01	0.00	61.46	20701.4	22.69	138.69	39.49	53.25	46.56	9004.7	16.81	105.33	0.234964
2-18	53.500	0.3125	65	Slip	63.00	6,276	41.35	48.00	40.71	8664.4	21.57	132.34	28.78	101.50	28.24	2892.7	14.48	92.11	0.234964
3-18	51.250	0.1875	65	Slip	45.00	2,473	30.04	97.75	17.77	2000.7	26.49	160.22	18.00	149.00	10.60	424.9	15.16	96.00	0.234964
				Shaft Weight		18,536													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
149.00	DragonWave Horizon Compact	3	0.80	-1.000	10.60	0.721	0.50	25.59	1.100	0.50
149.00	DragonWave A-ANT-23G-1-C	1	1.00	-1.000	15.00	1.610	1.00	38.55	2.115	1.00
149.00	Alcatel-Lucent RRH2x50-08	6	0.80	2.000	52.90	1.701	0.50	92.41	2.276	0.50
149.00	Alcatel-Lucent 1900 MHz 4X45	3	0.80	2.000	60.00	2.322	0.50	113.73	3.042	0.50
149.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.80	2.000	103.60	4.203	0.64	178.76	5.097	0.64
149.00	DragonWave A-ANT-11G-2-C	2	1.00	-1.000	27.00	4.688	1.00	91.97	5.537	1.00
149.00	RFS APXVFRR12X-C-I20	3	0.80	2.000	46.00	4.994	0.71	129.34	6.240	0.71
149.00	Collar Mount	1	1.00	0.000	560.00	8.500	1.00	820.09	12.448	1.00
143.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	114.94	2.214	0.50
143.00	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	78.56	2.438	0.50
143.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	194.51	6.736	0.63
143.00	Ericsson AIR32 B66Aa/B2a	3	0.75	0.000	132.20	6.510	0.71	238.20	7.965	0.71
143.00	Ericsson Air 3246 B66	3	0.75	0.000	180.00	7.939	0.69	1,975.92	9.445	0.69
143.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	388.63	22.706	0.63
143.00	Platform with SitePro1 HRK12-	1	1.00	0.000	2,350.00	42.400	1.00	3,437.31	62.018	1.00
136.00	Round Low Profile Platform	1	1.00	0.000	1,500.00	21.700	1.00	1,928.44	34.396	1.00
134.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	126.48	2.470	0.50
134.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	108.03	2.470	0.50
134.00	RFS DB-T1-6Z-8AB-0Z	1	0.80	2.000	44.00	4.800	1.00	127.01	5.737	1.00
134.00	Andrew DB854DG65ESX	3	0.80	3.000	18.50	5.248	0.65	99.63	5.888	0.65
134.00	JMA Wireless MX06FRO660-02	6	0.80	0.000	46.00	9.872	0.71	204.14	11.682	0.71
126.00	Round Platform w/ Handrails	1	1.00	0.000	2,000.00	27.200	1.00	2,850.33	43.241	1.00
125.00	Commscope WCS-IMFQ-AMT	1	0.75	0.000	29.50	0.989	0.50	51.55	1.422	0.50
125.00	Raycap DC6-48-60-0-8F	1	0.75	0.000	32.80	1.360	1.00	70.86	1.794	1.00
125.00	Raycap DC6-48-60-0-8F (24"	2	0.75	0.000	32.80	1.470	1.00	102.91	1.927	1.00
125.00	Ericsson RRUS 8843 B2, B66A	3	0.75	0.000	72.00	1.639	0.50	112.13	2.192	0.50
125.00	Ericsson Radio 4415 B30	3	0.75	0.000	43.00	1.650	0.50	70.59	2.206	0.50
125.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.90	1.842	0.50	96.10	2.429	0.50
125.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	113.19	2.580	0.50
125.00	CCI CCI-HPA-65R-BUU-H8	3	0.75	0.000	68.00	12.976	0.67	236.21	15.319	0.67
125.00	Kathrein Scala 80010966	6	0.75	0.000	114.60	17.363	0.63	324.81	19.778	0.63
115.00	RFS APXV18-206517S-C	3	1.00	0.000	26.40	5.160	0.68	86.54	6.695	0.68
106.00	Proxim 5054-R-LR	1	1.00	0.000	6.00	1.323	1.00	26.14	1.813	1.00
106.00	Generic 3' Dish w/ Radome	1	1.00	0.000	100.00	6.100	1.00	217.40	6.873	1.00
106.00	Flat Side Arm	1	1.00	0.000	150.00	6.300	1.00	197.18	7.885	1.00
Totals	Num Loadings:35	90			12,384.30			27,344.00		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	151.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	CLEARWIRE
4.00	151.00	1	1.7" (43.2mm) Hybrid	1.70	1.78	N	0	0.00	0.00	0	0.00	N	CLEARWIRE
4.00	151.00	3	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	CLEARWIRE

0.00	148.00	1	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	CLEARWIRE
4.00	148.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	CLEARWIRE
0.00	144.00	2	1 1/4" Hybriflex Cable	1.54	1.00	N	2	0.00	0.50	110	0.50	Y	T-MOBILE
4.00	144.00	3	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	143.00	1	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	143.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	3	0.00	0.50	90	0.50	Y	T-MOBILE
4.00	143.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T-MOBILE
4.00	134.00	1	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
4.00	134.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	125.00	2	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
4.00	125.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
4.00	125.00	2	0.39" (9.8mm) Cable	0.39	0.07	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
4.00	125.00	1	0.39" (9.8mm) Cable	0.39	0.07	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
4.00	125.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
4.00	115.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	METRO PCS INC
4.00	106.00	1	0.28" (7mm) RG-6	0.28	0.03	N	0	0.00	0.00	0	0.00	N	Other

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.3750	52.010	61.456	20,701.4	22.69	138.69	74.7	784.0	0.0	0.0
5.00		0.3750	50.835	60.058	19,320.3	22.14	135.56	75.4	748.6	0.0	1,033.7
10.00		0.3750	49.660	58.659	18,002.0	21.59	132.43	76.0	714.0	0.0	1,009.9
15.00		0.3750	48.485	57.261	16,745.1	21.03	129.29	76.7	680.2	0.0	986.1
20.00		0.3750	47.310	55.863	15,548.1	20.48	126.16	77.3	647.3	0.0	962.3
25.00		0.3750	46.136	54.465	14,409.6	19.93	123.03	78.0	615.2	0.0	938.5
30.00		0.3750	44.961	53.066	13,328.0	19.38	119.90	78.6	583.9	0.0	914.8
35.00		0.3750	43.786	51.668	12,301.9	18.83	116.76	79.3	553.4	0.0	891.0
40.00		0.3750	42.611	50.270	11,329.9	18.27	113.63	79.9	523.7	0.0	867.2
45.00		0.3750	41.436	48.871	10,410.6	17.72	110.50	80.6	494.9	0.0	843.4
48.00	Bot - Section 2	0.3750	40.731	48.032	9,883.6	17.39	108.62	80.9	477.9	0.0	494.6
50.00		0.3750	40.261	47.473	9,542.3	17.17	107.36	81.2	466.8	0.0	600.4
53.25	Top - Section 1	0.3125	40.123	39.485	7,906.5	20.88	128.39	76.8	388.1	0.0	960.8
55.00		0.3125	39.712	39.078	7,664.0	20.64	127.08	77.1	380.1	0.0	233.9
60.00		0.3125	38.537	37.912	6,998.6	19.98	123.32	77.9	357.7	0.0	654.9
65.00		0.3125	37.362	36.747	6,373.0	19.32	119.56	78.7	336.0	0.0	635.1
70.00		0.3125	36.187	35.582	5,785.7	18.66	115.80	79.5	314.9	0.0	615.3
75.00		0.3125	35.012	34.417	5,235.7	17.99	112.04	80.2	294.5	0.0	595.5
80.00		0.3125	33.838	33.251	4,721.7	17.33	108.28	81.0	274.8	0.0	575.6
85.00		0.3125	32.663	32.086	4,242.5	16.67	104.52	81.8	255.8	0.0	555.8
90.00		0.3125	31.488	30.921	3,796.9	16.00	100.76	82.6	237.5	0.0	536.0
95.00		0.3125	30.313	29.756	3,383.6	15.34	97.00	82.6	219.9	0.0	516.2
97.75	Bot - Section 3	0.3125	29.667	29.115	3,169.7	14.98	94.93	82.6	210.4	0.0	275.4
100.0		0.3125	29.138	28.591	3,001.5	14.68	93.24	82.6	202.9	0.0	355.7
101.5	Top - Section 2	0.1875	29.161	17.242	1,828.7	25.66	155.52	71.2	123.5	0.0	233.6
105.0		0.1875	28.338	16.753	1,677.4	24.89	151.14	72.1	116.6	0.0	202.4
106.0		0.1875	28.103	16.613	1,635.7	24.67	149.89	72.4	114.6	0.0	56.8
110.0		0.1875	27.164	16.054	1,476.0	23.78	144.87	73.4	107.0	0.0	222.3
115.0		0.1875	25.989	15.354	1,291.4	22.68	138.61	74.7	97.9	0.0	267.2
120.0		0.1875	24.814	14.655	1,122.9	21.57	132.34	76.0	89.1	0.0	255.3
125.0		0.1875	23.639	13.956	969.8	20.47	126.08	77.3	80.8	0.0	243.4
126.0		0.1875	23.404	13.816	940.9	20.25	124.82	77.6	79.2	0.0	47.3
130.0		0.1875	22.464	13.257	831.2	19.36	119.81	78.6	72.9	0.0	184.2
134.0		0.1875	21.524	12.698	730.4	18.48	114.80	79.7	66.8	0.0	176.6
135.0		0.1875	21.290	12.558	706.5	18.26	113.54	79.9	65.4	0.0	43.0
136.0		0.1875	21.055	12.418	683.2	18.04	112.29	80.2	63.9	0.0	42.5
140.0		0.1875	20.115	11.859	595.0	17.15	107.28	81.2	58.3	0.0	165.2
143.0		0.1875	19.410	11.439	534.0	16.49	103.52	82.0	54.2	0.0	118.9
145.0		0.1875	18.940	11.160	495.8	16.05	101.01	82.5	51.6	0.0	76.9
149.0		0.1875	18.000	10.600	424.9	15.16	96.00	82.6	46.5	0.0	148.1
											18,536.1

Load Case: 1.2D + 1.0W — 120 mph with No Ice — 26 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		213.1	0.0					0.0	0.0	213.1	0.0	0.0	0.0
5.00		421.3	1,240.5					0.0	171.5	421.3	1,412.0	0.0	0.0
10.00		411.5	1,211.9					0.0	333.6	411.5	1,545.5	0.0	0.0
15.00		401.8	1,183.4					0.0	333.6	401.8	1,517.0	0.0	0.0
20.00		392.1	1,154.8					0.0	333.6	392.1	1,488.4	0.0	0.0
25.00		382.3	1,126.3					0.0	333.6	382.3	1,459.9	0.0	0.0
30.00		377.0	1,097.7					0.0	333.6	377.0	1,431.3	0.0	0.0
35.00		379.2	1,069.2					0.0	333.6	379.2	1,402.8	0.0	0.0
40.00		383.5	1,040.6					0.0	333.6	383.5	1,374.2	0.0	0.0
45.00		308.4	1,012.1					0.0	333.6	308.4	1,345.7	0.0	0.0
48.00	Bot - Section 2	194.3	593.5					0.0	200.2	194.3	793.7	0.0	0.0
50.00		206.0	720.5					0.0	133.4	206.0	854.0	0.0	0.0
53.25	Top - Section 1	196.1	1,153.0					0.0	216.8	196.1	1,369.8	0.0	0.0
55.00		264.0	280.7					0.0	116.8	264.0	397.5	0.0	0.0
60.00		389.5	785.9					0.0	333.6	389.5	1,119.5	0.0	0.0
65.00		386.4	762.1					0.0	333.6	386.4	1,095.7	0.0	0.0
70.00		382.2	738.4					0.0	333.6	382.2	1,072.0	0.0	0.0
75.00		377.2	714.6					0.0	333.6	377.2	1,048.2	0.0	0.0
80.00		371.3	690.8					0.0	333.6	371.3	1,024.4	0.0	0.0
85.00		364.7	667.0					0.0	333.6	364.7	1,000.6	0.0	0.0
90.00		357.4	643.2					0.0	333.6	357.4	976.8	0.0	0.0
95.00		272.3	619.4					0.0	333.6	272.3	953.0	0.0	0.0
97.75	Bot - Section 3	173.6	330.5					0.0	183.5	173.6	514.0	0.0	0.0
100.00		129.7	426.9					0.0	150.1	129.7	577.0	0.0	0.0
101.50	Top - Section 2	170.4	280.3					0.0	100.1	170.4	380.4	0.0	0.0
105.00		152.3	242.9					0.0	233.5	152.3	476.4	0.0	0.0
106.00	Appurtenance(s)	165.7	68.1	528.6	0.0	0.0	307.2	0.0	66.7	694.3	442.0	0.0	0.0
110.00		293.0	266.8					0.0	266.7	293.0	533.5	0.0	0.0
115.00	Appurtenance(s)	316.4	320.6	415.0	0.0	0.0	95.0	0.0	333.4	731.4	749.1	0.0	0.0
120.00		305.8	306.3					0.0	303.9	305.8	610.2	0.0	0.0
125.00	Appurtenance(s)	179.5	292.1	3,244.8	0.0	0.0	2,108.6	0.0	303.9	3,424.3	2,704.6	0.0	0.0
126.00	Appurtenance(s)	144.5	56.7	1,100.7	0.0	0.0	2,400.0	0.0	48.8	1,245.2	2,505.5	0.0	0.0
130.00		226.6	221.1					0.0	195.2	226.6	416.3	0.0	0.0
134.00	Appurtenance(s)	138.7	212.0	2,069.0	0.0	1,335.5	1,007.5	0.0	195.2	2,207.7	1,414.7	0.0	0.0
135.00		54.3	51.6					0.0	35.1	54.3	86.6	0.0	0.0
136.00	Appurtenance(s)	133.8	51.0	897.5	0.0	0.0	1,800.0	0.0	35.1	1,031.3	1,886.0	0.0	0.0
140.00		186.3	198.3					0.0	140.2	186.3	338.5	0.0	0.0
143.00	Appurtenance(s)	129.2	142.7	4,439.0	0.0	0.0	5,214.4	0.0	105.2	4,568.2	5,462.2	0.0	0.0
145.00		146.3	92.3					0.0	27.0	146.3	119.3	0.0	0.0
149.00	Appurtenance(s)	96.5	177.7	1,793.4	0.0	1,358.7	1,928.4	0.0	38.8	1,889.9	2,144.9	0.0	0.0
								Totals:		25,062.0	46,043.0	0.00	0.00

Load Case: 1.2D + 1.0W 120 mph with No Ice 26 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.00	-24.93	0.00	-2,860.10	0.00	2,860.10	4,132.29	1,078.55	5,030.04	4,392.82	0.00	0.00	0.663
5.00	-44.51	-24.66	0.00	-2,735.46	0.00	2,735.46	4,073.39	1,054.01	4,803.78	4,230.97	0.10	-0.19	0.658
10.00	-42.88	-24.38	0.00	-2,612.19	0.00	2,612.19	4,012.85	1,029.47	4,582.72	4,070.33	0.41	-0.39	0.653
15.00	-41.28	-24.12	0.00	-2,490.27	0.00	2,490.27	3,950.68	1,004.93	4,366.87	3,911.02	0.93	-0.59	0.648
20.00	-39.71	-23.85	0.00	-2,369.69	0.00	2,369.69	3,886.87	980.39	4,156.23	3,753.17	1.65	-0.80	0.642
25.00	-38.17	-23.59	0.00	-2,250.43	0.00	2,250.43	3,821.43	955.85	3,950.79	3,596.88	2.60	-1.01	0.636
30.00	-36.65	-23.32	0.00	-2,132.48	0.00	2,132.48	3,754.35	931.31	3,750.56	3,442.28	3.78	-1.22	0.630
35.00	-35.17	-23.05	0.00	-2,015.86	0.00	2,015.86	3,685.64	906.77	3,555.53	3,289.50	5.18	-1.45	0.623
40.00	-33.72	-22.76	0.00	-1,900.61	0.00	1,900.61	3,615.29	882.23	3,365.72	3,138.64	6.81	-1.67	0.616
45.00	-32.31	-22.52	0.00	-1,786.79	0.00	1,786.79	3,543.30	857.69	3,181.11	2,989.83	8.69	-1.90	0.607
48.00	-31.47	-22.36	0.00	-1,719.23	0.00	1,719.23	3,499.33	842.97	3,072.84	2,901.57	9.93	-2.05	0.602
50.00	-30.58	-22.20	0.00	-1,674.50	0.00	1,674.50	3,469.68	833.15	3,001.70	2,843.18	10.81	-2.15	0.598
53.25	-29.17	-22.01	0.00	-1,602.37	0.00	1,602.37	2,730.90	692.97	2,491.76	2,236.97	12.33	-2.30	0.728
55.00	-28.71	-21.82	0.00	-1,563.85	0.00	1,563.85	2,712.29	685.81	2,440.56	2,198.60	13.19	-2.39	0.723
60.00	-27.51	-21.52	0.00	-1,454.74	0.00	1,454.74	2,658.02	665.36	2,297.20	2,089.85	15.84	-2.67	0.707
65.00	-26.33	-21.21	0.00	-1,347.14	0.00	1,347.14	2,602.11	644.91	2,158.18	1,982.50	18.79	-2.96	0.691
70.00	-25.17	-20.90	0.00	-1,241.08	0.00	1,241.08	2,544.56	624.46	2,023.50	1,876.67	22.04	-3.25	0.672
75.00	-24.04	-20.59	0.00	-1,136.58	0.00	1,136.58	2,485.39	604.01	1,893.15	1,772.48	25.60	-3.54	0.652
80.00	-22.94	-20.27	0.00	-1,033.66	0.00	1,033.66	2,424.57	583.56	1,767.15	1,670.04	29.46	-3.83	0.630
85.00	-21.86	-19.95	0.00	-932.32	0.00	932.32	2,362.12	563.11	1,645.48	1,569.49	33.63	-4.13	0.605
90.00	-20.81	-19.63	0.00	-832.58	0.00	832.58	2,297.27	542.66	1,528.16	1,470.44	38.11	-4.42	0.577
95.00	-19.81	-19.36	0.00	-734.46	0.00	734.46	2,210.70	522.21	1,415.17	1,361.17	42.90	-4.72	0.550
97.75	-19.26	-19.19	0.00	-681.23	0.00	681.23	2,163.09	510.97	1,354.87	1,302.87	45.66	-4.88	0.533
100.00	-18.66	-19.05	0.00	-638.05	0.00	638.05	2,124.13	501.76	1,306.52	1,256.12	47.99	-5.02	0.518
101.50	-18.25	-18.89	0.00	-609.48	0.00	609.48	1,105.19	302.60	791.85	659.76	49.58	-5.10	0.944
105.00	-17.74	-18.74	0.00	-543.36	0.00	543.36	1,087.53	294.01	747.54	630.68	53.39	-5.30	0.882
106.00	-17.30	-18.07	0.00	-524.62	0.00	524.62	1,082.34	291.56	735.12	622.39	54.51	-5.39	0.863
110.00	-16.68	-17.84	0.00	-452.32	0.00	452.32	1,060.92	281.74	686.46	589.40	59.17	-5.73	0.787
115.00	-15.90	-17.14	0.00	-363.13	0.00	363.13	1,032.68	269.47	627.97	548.55	65.38	-6.13	0.681
120.00	-15.23	-16.85	0.00	-277.44	0.00	277.44	1,002.79	257.20	572.09	508.24	71.98	-6.48	0.565
125.00	-12.90	-13.18	0.00	-193.18	0.00	193.18	971.28	244.93	518.82	468.61	78.92	-6.78	0.428
126.00	-10.54	-11.67	0.00	-180.00	0.00	180.00	964.78	242.48	508.47	460.77	80.34	-6.83	0.404
130.00	-10.12	-11.42	0.00	-133.33	0.00	133.33	938.12	232.66	468.14	429.76	86.13	-7.02	0.323
134.00	-8.97	-9.07	0.00	-86.30	0.00	86.30	910.42	222.84	429.48	399.33	92.07	-7.17	0.228
135.00	-8.89	-9.01	0.00	-77.23	0.00	77.23	903.33	220.39	420.08	391.82	93.57	-7.20	0.209
136.00	-7.14	-7.76	0.00	-68.22	0.00	68.22	896.18	217.94	410.77	384.35	95.08	-7.23	0.187
140.00	-6.82	-7.54	0.00	-37.19	0.00	37.19	866.91	208.12	374.61	354.90	101.17	-7.32	0.114
143.00	-1.98	-2.31	0.00	-14.58	0.00	14.58	844.27	200.76	348.58	333.29	105.77	-7.36	0.046
145.00	-1.88	-2.15	0.00	-9.96	0.00	9.96	828.85	195.85	331.75	319.13	108.84	-7.37	0.034
149.00	0.00	-1.89	0.00	-1.36	0.00	1.36	787.55	186.03	299.33	287.88	115.01	-7.38	0.005

Load Case: 0.9D + 1.0W — 120 mph with No Ice (Reduced DL) — 26 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		213.1	0.0					0.0	0.0	213.1	0.0	0.0	0.0
5.00		421.3	930.3					0.0	128.6	421.3	1,059.0	0.0	0.0
10.00		411.5	908.9					0.0	250.2	411.5	1,159.1	0.0	0.0
15.00		401.8	887.5					0.0	250.2	401.8	1,137.7	0.0	0.0
20.00		392.1	866.1					0.0	250.2	392.1	1,116.3	0.0	0.0
25.00		382.3	844.7					0.0	250.2	382.3	1,094.9	0.0	0.0
30.00		377.0	823.3					0.0	250.2	377.0	1,073.5	0.0	0.0
35.00		379.2	801.9					0.0	250.2	379.2	1,052.1	0.0	0.0
40.00		383.5	780.5					0.0	250.2	383.5	1,030.7	0.0	0.0
45.00		308.4	759.0					0.0	250.2	308.4	1,009.2	0.0	0.0
48.00	Bot - Section 2	194.3	445.2					0.0	150.1	194.3	595.3	0.0	0.0
50.00		206.0	540.4					0.0	100.1	206.0	640.5	0.0	0.0
53.25	Top - Section 1	196.1	864.8					0.0	162.6	196.1	1,027.4	0.0	0.0
55.00		264.0	210.5					0.0	87.6	264.0	298.1	0.0	0.0
60.00		389.5	589.5					0.0	250.2	389.5	839.7	0.0	0.0
65.00		386.4	571.6					0.0	250.2	386.4	821.8	0.0	0.0
70.00		382.2	553.8					0.0	250.2	382.2	804.0	0.0	0.0
75.00		377.2	535.9					0.0	250.2	377.2	786.1	0.0	0.0
80.00		371.3	518.1					0.0	250.2	371.3	768.3	0.0	0.0
85.00		364.7	500.2					0.0	250.2	364.7	750.4	0.0	0.0
90.00		357.4	482.4					0.0	250.2	357.4	732.6	0.0	0.0
95.00		272.3	464.6					0.0	250.2	272.3	714.8	0.0	0.0
97.75	Bot - Section 3	173.6	247.9					0.0	137.6	173.6	385.5	0.0	0.0
100.00		129.7	320.2					0.0	112.6	129.7	432.7	0.0	0.0
101.50	Top - Section 2	170.4	210.2					0.0	75.1	170.4	285.3	0.0	0.0
105.00		152.3	182.2					0.0	175.1	152.3	357.3	0.0	0.0
106.00	Appurtenance(s)	165.7	51.1	528.6	0.0	0.0	230.4	0.0	50.0	694.3	331.5	0.0	0.0
110.00		293.0	200.1					0.0	200.1	293.0	400.1	0.0	0.0
115.00	Appurtenance(s)	316.4	240.5	415.0	0.0	0.0	71.3	0.0	250.1	731.4	561.8	0.0	0.0
120.00		305.8	229.8					0.0	227.9	305.8	457.7	0.0	0.0
125.00	Appurtenance(s)	179.5	219.1	3,244.8	0.0	0.0	1,581.5	0.0	227.9	3,424.3	2,028.5	0.0	0.0
126.00	Appurtenance(s)	144.5	42.5	1,100.7	0.0	0.0	1,800.0	0.0	36.6	1,245.2	1,879.1	0.0	0.0
130.00		226.6	165.8					0.0	146.4	226.6	312.2	0.0	0.0
134.00	Appurtenance(s)	138.7	159.0	2,069.0	0.0	1,335.5	755.6	0.0	146.4	2,207.7	1,061.0	0.0	0.0
135.00		54.3	38.7					0.0	26.3	54.3	65.0	0.0	0.0
136.00	Appurtenance(s)	133.8	38.2	897.5	0.0	0.0	1,350.0	0.0	26.3	1,031.3	1,414.5	0.0	0.0
140.00		186.3	148.7					0.0	105.2	186.3	253.9	0.0	0.0
143.00	Appurtenance(s)	129.2	107.0	4,439.0	0.0	0.0	3,910.8	0.0	78.9	4,568.2	4,096.7	0.0	0.0
145.00		146.3	69.2					0.0	20.3	146.3	89.5	0.0	0.0
149.00	Appurtenance(s)	96.5	133.3	1,793.4	0.0	1,358.7	1,446.3	0.0	29.1	1,889.9	1,608.7	0.0	0.0
								Totals:		25,062.0	34,532.3	0.00	0.00

Load Case: 0.9D + 1.0W 120 mph with No Ice (Reduced DL) 26 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.49	-24.91	0.00	-2,811.47	0.00	2,811.47	4,132.29	1,078.55	5,030.04	4,392.82	0.00	0.00	0.649
5.00	-33.35	-24.60	0.00	-2,686.93	0.00	2,686.93	4,073.39	1,054.01	4,803.78	4,230.97	0.10	-0.19	0.644
10.00	-32.11	-24.29	0.00	-2,563.96	0.00	2,563.96	4,012.85	1,029.47	4,582.72	4,070.33	0.40	-0.38	0.638
15.00	-30.89	-23.98	0.00	-2,442.52	0.00	2,442.52	3,950.68	1,004.93	4,366.87	3,911.02	0.91	-0.58	0.633
20.00	-29.70	-23.69	0.00	-2,322.61	0.00	2,322.61	3,886.87	980.39	4,156.23	3,753.17	1.63	-0.78	0.627
25.00	-28.52	-23.39	0.00	-2,204.18	0.00	2,204.18	3,821.43	955.85	3,950.79	3,596.88	2.56	-0.99	0.621
30.00	-27.37	-23.10	0.00	-2,087.23	0.00	2,087.23	3,754.35	931.31	3,750.56	3,442.28	3.71	-1.20	0.614
35.00	-26.24	-22.79	0.00	-1,971.76	0.00	1,971.76	3,685.64	906.77	3,555.53	3,289.50	5.08	-1.42	0.607
40.00	-25.13	-22.48	0.00	-1,857.80	0.00	1,857.80	3,615.29	882.23	3,365.72	3,138.64	6.68	-1.64	0.600
45.00	-24.06	-22.22	0.00	-1,745.40	0.00	1,745.40	3,543.30	857.69	3,181.11	2,989.83	8.52	-1.87	0.591
48.00	-23.43	-22.05	0.00	-1,678.74	0.00	1,678.74	3,499.33	842.97	3,072.84	2,901.57	9.74	-2.01	0.586
50.00	-22.75	-21.87	0.00	-1,634.64	0.00	1,634.64	3,469.68	833.15	3,001.70	2,843.18	10.60	-2.10	0.582
53.25	-21.68	-21.68	0.00	-1,563.56	0.00	1,563.56	2,730.90	692.97	2,491.76	2,236.97	12.08	-2.26	0.708
55.00	-21.33	-21.47	0.00	-1,525.61	0.00	1,525.61	2,712.29	685.81	2,440.56	2,198.60	12.93	-2.34	0.703
60.00	-20.41	-21.15	0.00	-1,418.24	0.00	1,418.24	2,658.02	665.36	2,297.20	2,089.85	15.53	-2.61	0.687
65.00	-19.50	-20.82	0.00	-1,312.50	0.00	1,312.50	2,602.11	644.91	2,158.18	1,982.50	18.41	-2.89	0.671
70.00	-18.62	-20.49	0.00	-1,208.42	0.00	1,208.42	2,544.56	624.46	2,023.50	1,876.67	21.59	-3.17	0.652
75.00	-17.75	-20.15	0.00	-1,105.99	0.00	1,105.99	2,485.39	604.01	1,893.15	1,772.48	25.07	-3.46	0.632
80.00	-16.91	-19.82	0.00	-1,005.23	0.00	1,005.23	2,424.57	583.56	1,767.15	1,670.04	28.84	-3.75	0.610
85.00	-16.09	-19.48	0.00	-906.14	0.00	906.14	2,362.12	563.11	1,645.48	1,569.49	32.91	-4.03	0.585
90.00	-15.29	-19.15	0.00	-808.71	0.00	808.71	2,297.27	542.66	1,528.16	1,470.44	37.29	-4.32	0.558
95.00	-14.53	-18.88	0.00	-712.96	0.00	712.96	2,210.70	522.21	1,415.17	1,361.17	41.96	-4.61	0.532
97.75	-14.11	-18.71	0.00	-661.04	0.00	661.04	2,163.09	510.97	1,354.87	1,302.87	44.66	-4.76	0.515
100.00	-13.65	-18.57	0.00	-618.94	0.00	618.94	2,124.13	501.76	1,306.52	1,256.12	46.94	-4.89	0.501
101.50	-13.34	-18.41	0.00	-591.08	0.00	591.08	1,105.19	302.60	791.85	659.76	48.49	-4.98	0.912
105.00	-12.95	-18.26	0.00	-526.64	0.00	526.64	1,087.53	294.01	747.54	630.68	52.20	-5.17	0.851
106.00	-12.62	-17.58	0.00	-508.39	0.00	508.39	1,082.34	291.56	735.12	622.39	53.30	-5.26	0.832
110.00	-12.14	-17.33	0.00	-438.05	0.00	438.05	1,060.92	281.74	686.46	589.40	57.84	-5.59	0.758
115.00	-11.55	-16.62	0.00	-351.40	0.00	351.40	1,032.68	269.47	627.97	548.55	63.89	-5.97	0.656
120.00	-11.04	-16.33	0.00	-268.31	0.00	268.31	1,002.79	257.20	572.09	508.24	70.32	-6.31	0.543
125.00	-9.37	-12.72	0.00	-186.68	0.00	186.68	971.28	244.93	518.82	468.61	77.08	-6.60	0.411
126.00	-7.63	-11.29	0.00	-173.95	0.00	173.95	964.78	242.48	508.47	460.77	78.47	-6.65	0.388
130.00	-7.31	-11.04	0.00	-128.81	0.00	128.81	938.12	232.66	468.14	429.76	84.11	-6.83	0.310
134.00	-6.51	-8.73	0.00	-83.30	0.00	83.30	910.42	222.84	429.48	399.33	89.89	-6.98	0.217
135.00	-6.45	-8.68	0.00	-74.57	0.00	74.57	903.33	220.39	420.08	391.82	91.35	-7.01	0.199
136.00	-5.16	-7.49	0.00	-65.89	0.00	65.89	896.18	217.94	410.77	384.35	92.82	-7.04	0.178
140.00	-4.93	-7.27	0.00	-35.95	0.00	35.95	866.91	208.12	374.61	354.90	98.74	-7.12	0.108
143.00	-1.43	-2.23	0.00	-14.13	0.00	14.13	844.27	200.76	348.58	333.29	103.22	-7.16	0.044
145.00	-1.36	-2.08	0.00	-9.66	0.00	9.66	828.85	195.85	331.75	319.13	106.22	-7.17	0.032
149.00	0.00	-1.89	0.00	-1.36	0.00	1.36	787.55	186.03	299.33	287.88	112.22	-7.19	0.005

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 25 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		62.6	0.0					0.0	0.0	62.6	0.0	0.0	0.0
5.00		124.0	1,490.3					0.0	209.9	124.0	1,700.1	0.0	0.0
10.00		121.6	1,484.8					0.0	375.9	121.6	1,860.7	0.0	0.0
15.00		119.0	1,464.2					0.0	377.9	119.0	1,842.0	0.0	0.0
20.00		116.3	1,438.5					0.0	379.3	116.3	1,817.8	0.0	0.0
25.00		113.6	1,410.2					0.0	380.4	113.6	1,790.6	0.0	0.0
30.00		112.3	1,380.3					0.0	381.3	112.3	1,761.6	0.0	0.0
35.00		113.1	1,349.3					0.0	382.0	113.1	1,731.3	0.0	0.0
40.00		114.6	1,317.4					0.0	382.7	114.6	1,700.1	0.0	0.0
45.00		92.3	1,284.9					0.0	383.3	92.3	1,668.2	0.0	0.0
48.00	Bot - Section 2	58.2	756.0					0.0	230.2	58.2	986.2	0.0	0.0
50.00		61.8	829.8					0.0	153.6	61.8	983.4	0.0	0.0
53.25	Top - Section 1	58.8	1,328.3					0.0	249.7	58.8	1,578.1	0.0	0.0
55.00		79.3	374.6					0.0	134.6	79.3	509.2	0.0	0.0
60.00		117.2	1,048.1					0.0	384.8	117.2	1,432.9	0.0	0.0
65.00		116.5	1,018.7					0.0	385.2	116.5	1,403.9	0.0	0.0
70.00		115.5	989.1					0.0	385.6	115.5	1,374.6	0.0	0.0
75.00		114.2	959.2					0.0	385.9	114.2	1,345.1	0.0	0.0
80.00		112.7	929.0					0.0	386.3	112.7	1,315.3	0.0	0.0
85.00		111.0	898.7					0.0	386.6	111.0	1,285.3	0.0	0.0
90.00		109.0	868.2					0.0	386.9	109.0	1,255.1	0.0	0.0
95.00		83.3	837.6					0.0	387.2	83.3	1,224.8	0.0	0.0
97.75	Bot - Section 3	53.2	448.6					0.0	213.1	53.2	661.6	0.0	0.0
100.00		39.8	523.2					0.0	174.4	39.8	697.6	0.0	0.0
101.50	Top - Section 2	52.3	343.9					0.0	116.3	52.3	460.2	0.0	0.0
105.00		46.8	387.7					0.0	271.5	46.8	659.1	0.0	0.0
106.00	Appurtenance(s)	51.1	109.2	110.8	0.0	0.0	450.8	0.0	77.6	161.9	637.6	0.0	0.0
110.00		90.5	426.4					0.0	310.3	90.5	736.6	0.0	0.0
115.00	Appurtenance(s)	98.0	512.6	93.5	0.0	0.0	235.6	0.0	388.1	191.5	1,136.3	0.0	0.0
120.00		95.1	490.9					0.0	358.8	95.1	849.7	0.0	0.0
125.00	Appurtenance(s)	56.0	469.0	662.5	0.0	0.0	3,985.9	0.0	359.0	718.5	4,814.0	0.0	0.0
126.00	Appurtenance(s)	45.3	91.8	303.8	0.0	0.0	3,064.3	0.0	59.8	349.1	3,216.0	0.0	0.0
130.00		71.2	356.5					0.0	239.5	71.2	596.0	0.0	0.0
134.00	Appurtenance(s)	43.7	342.4	426.1	0.0	264.2	2,245.5	0.0	239.6	469.8	2,827.5	0.0	0.0
135.00		17.1	83.9					0.0	46.2	17.1	130.1	0.0	0.0
136.00	Appurtenance(s)	42.0	83.0	247.0	0.0	0.0	2,135.4	0.0	46.2	289.0	2,264.6	0.0	0.0
140.00		57.8	321.2					0.0	184.8	57.8	506.0	0.0	0.0
143.00	Appurtenance(s)	40.3	232.1	993.3	0.0	0.0	11,535.7	0.0	138.7	1,033.6	11,906.5	0.0	0.0
145.00		46.8	150.6					0.0	31.8	46.8	182.4	0.0	0.0
149.00	Appurtenance(s)	30.9	289.1	402.5	0.0	301.3	2,973.8	0.0	38.8	433.4	3,301.8	0.0	0.0
								Totals:		6,444.45	66,150.1	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 25 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-66.15	-6.41	0.00	-739.17	0.00	739.17	4,132.29	1,078.55	5,030.04	4,392.82	0.00	0.00	0.184
5.00	-64.44	-6.34	0.00	-707.12	0.00	707.12	4,073.39	1,054.01	4,803.78	4,230.97	0.03	-0.05	0.183
10.00	-62.58	-6.27	0.00	-675.41	0.00	675.41	4,012.85	1,029.47	4,582.72	4,070.33	0.11	-0.10	0.182
15.00	-60.73	-6.21	0.00	-644.04	0.00	644.04	3,950.68	1,004.93	4,366.87	3,911.02	0.24	-0.15	0.180
20.00	-58.90	-6.14	0.00	-613.00	0.00	613.00	3,886.87	980.39	4,156.23	3,753.17	0.43	-0.21	0.179
25.00	-57.11	-6.08	0.00	-582.30	0.00	582.30	3,821.43	955.85	3,950.79	3,596.88	0.67	-0.26	0.177
30.00	-55.34	-6.01	0.00	-551.92	0.00	551.92	3,754.35	931.31	3,750.56	3,442.28	0.98	-0.32	0.175
35.00	-53.61	-5.94	0.00	-521.88	0.00	521.88	3,685.64	906.77	3,555.53	3,289.50	1.34	-0.37	0.173
40.00	-51.90	-5.87	0.00	-492.19	0.00	492.19	3,615.29	882.23	3,365.72	3,138.64	1.76	-0.43	0.171
45.00	-50.23	-5.80	0.00	-462.85	0.00	462.85	3,543.30	857.69	3,181.11	2,989.83	2.25	-0.49	0.169
48.00	-49.24	-5.76	0.00	-445.44	0.00	445.44	3,499.33	842.97	3,072.84	2,901.57	2.57	-0.53	0.168
50.00	-48.25	-5.72	0.00	-433.92	0.00	433.92	3,469.68	833.15	3,001.70	2,843.18	2.80	-0.56	0.167
53.25	-46.67	-5.67	0.00	-415.33	0.00	415.33	2,730.90	692.97	2,491.76	2,236.97	3.19	-0.60	0.203
55.00	-46.16	-5.63	0.00	-405.40	0.00	405.40	2,712.29	685.81	2,440.56	2,198.60	3.41	-0.62	0.201
60.00	-44.72	-5.55	0.00	-377.28	0.00	377.28	2,658.02	665.36	2,297.20	2,089.85	4.10	-0.69	0.197
65.00	-43.31	-5.47	0.00	-349.53	0.00	349.53	2,602.11	644.91	2,158.18	1,982.50	4.86	-0.77	0.193
70.00	-41.93	-5.39	0.00	-322.18	0.00	322.18	2,544.56	624.46	2,023.50	1,876.67	5.70	-0.84	0.188
75.00	-40.58	-5.31	0.00	-295.23	0.00	295.23	2,485.39	604.01	1,893.15	1,772.48	6.63	-0.92	0.183
80.00	-39.26	-5.23	0.00	-268.67	0.00	268.67	2,424.57	583.56	1,767.15	1,670.04	7.63	-0.99	0.177
85.00	-37.97	-5.15	0.00	-242.53	0.00	242.53	2,362.12	563.11	1,645.48	1,569.49	8.71	-1.07	0.171
90.00	-36.71	-5.06	0.00	-216.80	0.00	216.80	2,297.27	542.66	1,528.16	1,470.44	9.87	-1.15	0.164
95.00	-35.48	-4.99	0.00	-191.50	0.00	191.50	2,210.70	522.21	1,415.17	1,361.17	11.11	-1.22	0.157
97.75	-34.82	-4.95	0.00	-177.78	0.00	177.78	2,163.09	510.97	1,354.87	1,302.87	11.83	-1.27	0.153
100.00	-34.12	-4.91	0.00	-166.65	0.00	166.65	2,124.13	501.76	1,306.52	1,256.12	12.44	-1.30	0.149
101.50	-33.66	-4.87	0.00	-159.29	0.00	159.29	1,105.19	302.60	791.85	659.76	12.85	-1.32	0.272
105.00	-33.00	-4.83	0.00	-142.26	0.00	142.26	1,087.53	294.01	747.54	630.68	13.84	-1.38	0.256
106.00	-32.36	-4.68	0.00	-137.43	0.00	137.43	1,082.34	291.56	735.12	622.39	14.13	-1.40	0.251
110.00	-31.62	-4.63	0.00	-118.70	0.00	118.70	1,060.92	281.74	686.46	589.40	15.34	-1.49	0.231
115.00	-30.48	-4.46	0.00	-95.58	0.00	95.58	1,032.68	269.47	627.97	548.55	16.96	-1.59	0.204
120.00	-29.63	-4.38	0.00	-73.30	0.00	73.30	1,002.79	257.20	572.09	508.24	18.68	-1.69	0.174
125.00	-24.83	-3.54	0.00	-51.39	0.00	51.39	971.28	244.93	518.82	468.61	20.49	-1.76	0.135
126.00	-21.63	-3.10	0.00	-47.86	0.00	47.86	964.78	242.48	508.47	460.77	20.86	-1.78	0.126
130.00	-21.03	-3.03	0.00	-35.45	0.00	35.45	938.12	232.66	468.14	429.76	22.37	-1.83	0.105
134.00	-18.22	-2.47	0.00	-23.07	0.00	23.07	910.42	222.84	429.48	399.33	23.92	-1.87	0.078
135.00	-18.09	-2.46	0.00	-20.60	0.00	20.60	903.33	220.39	420.08	391.82	24.31	-1.88	0.073
136.00	-15.84	-2.10	0.00	-18.14	0.00	18.14	896.18	217.94	410.77	384.35	24.71	-1.89	0.065
140.00	-15.33	-2.03	0.00	-9.75	0.00	9.75	866.91	208.12	374.61	354.90	26.30	-1.91	0.045
143.00	-3.47	-0.60	0.00	-3.67	0.00	3.67	844.27	200.76	348.58	333.29	27.50	-1.92	0.015
145.00	-3.29	-0.54	0.00	-2.48	0.00	2.48	828.85	195.85	331.75	319.13	28.30	-1.92	0.012
149.00	0.00	-0.43	0.00	-0.30	0.00	0.30	787.55	186.03	299.33	287.88	29.92	-1.92	0.001

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		47.7	0.0					0.0	0.0	47.7	0.0	0.0	0.0
5.00		94.2	1,033.7					0.0	142.9	94.2	1,176.6	0.0	0.0
10.00		92.1	1,009.9					0.0	278.0	92.1	1,287.9	0.0	0.0
15.00		89.9	986.1					0.0	278.0	89.9	1,264.1	0.0	0.0
20.00		87.7	962.3					0.0	278.0	87.7	1,240.3	0.0	0.0
25.00		85.5	938.5					0.0	278.0	85.5	1,216.5	0.0	0.0
30.00		84.3	914.8					0.0	278.0	84.3	1,192.8	0.0	0.0
35.00		84.8	891.0					0.0	278.0	84.8	1,169.0	0.0	0.0
40.00		85.8	867.2					0.0	278.0	85.8	1,145.2	0.0	0.0
45.00		69.0	843.4					0.0	278.0	69.0	1,121.4	0.0	0.0
48.00	Bot - Section 2	43.5	494.6					0.0	166.8	43.5	661.4	0.0	0.0
50.00		46.1	600.4					0.0	111.2	46.1	711.6	0.0	0.0
53.25	Top - Section 1	43.9	960.8					0.0	180.7	43.9	1,141.5	0.0	0.0
55.00		59.0	233.9					0.0	97.3	59.0	331.2	0.0	0.0
60.00		87.1	654.9					0.0	278.0	87.1	932.9	0.0	0.0
65.00		86.4	635.1					0.0	278.0	86.4	913.1	0.0	0.0
70.00		85.5	615.3					0.0	278.0	85.5	893.3	0.0	0.0
75.00		84.4	595.5					0.0	278.0	84.4	873.5	0.0	0.0
80.00		83.1	575.6					0.0	278.0	83.1	853.6	0.0	0.0
85.00		81.6	555.8					0.0	278.0	81.6	833.8	0.0	0.0
90.00		79.9	536.0					0.0	278.0	79.9	814.0	0.0	0.0
95.00		60.9	516.2					0.0	278.0	60.9	794.2	0.0	0.0
97.75	Bot - Section 3	38.8	275.4					0.0	152.9	38.8	428.3	0.0	0.0
100.00		29.0	355.7					0.0	125.1	29.0	480.8	0.0	0.0
101.50	Top - Section 2	38.1	233.6					0.0	83.4	38.1	317.0	0.0	0.0
105.00		34.1	202.4					0.0	194.6	34.1	397.0	0.0	0.0
106.00	Appurtenance(s)	37.1	56.8	118.2	0.0	0.0	256.0	0.0	55.6	155.3	368.4	0.0	0.0
110.00		65.5	222.3					0.0	222.3	65.5	444.6	0.0	0.0
115.00	Appurtenance(s)	70.8	267.2	92.8	0.0	0.0	79.2	0.0	277.9	163.6	624.2	0.0	0.0
120.00		68.4	255.3					0.0	253.3	68.4	508.5	0.0	0.0
125.00	Appurtenance(s)	40.2	243.4	725.8	0.0	0.0	1,757.2	0.0	253.3	766.0	2,253.8	0.0	0.0
126.00	Appurtenance(s)	32.3	47.3	246.2	0.0	0.0	2,000.0	0.0	40.7	278.5	2,087.9	0.0	0.0
130.00		50.7	184.2					0.0	162.6	50.7	346.9	0.0	0.0
134.00	Appurtenance(s)	31.0	176.6	462.8	0.0	298.7	839.6	0.0	162.6	493.8	1,178.9	0.0	0.0
135.00		12.1	43.0					0.0	29.2	12.1	72.2	0.0	0.0
136.00	Appurtenance(s)	29.9	42.5	200.8	0.0	0.0	1,500.0	0.0	29.2	230.7	1,571.7	0.0	0.0
140.00		41.7	165.2					0.0	116.8	41.7	282.1	0.0	0.0
143.00	Appurtenance(s)	28.9	118.9	992.9	0.0	0.0	4,345.3	0.0	87.6	1,021.8	4,551.8	0.0	0.0
145.00		32.7	76.9					0.0	22.5	32.7	99.4	0.0	0.0
149.00	Appurtenance(s)	21.6	148.1	401.2	0.0	303.9	1,607.0	0.0	32.3	422.7	1,787.4	0.0	0.0
								Totals:		5,605.99	38,369.2	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-38.37	-5.57	0.00	-633.60	0.00	633.60	4,132.29	1,078.55	5,030.04	4,392.82	0.00	0.00	0.154
5.00	-37.19	-5.50	0.00	-605.74	0.00	605.74	4,073.39	1,054.01	4,803.78	4,230.97	0.02	-0.04	0.152
10.00	-35.89	-5.44	0.00	-578.22	0.00	578.22	4,012.85	1,029.47	4,582.72	4,070.33	0.09	-0.09	0.151
15.00	-34.63	-5.37	0.00	-551.02	0.00	551.02	3,950.68	1,004.93	4,366.87	3,911.02	0.20	-0.13	0.150
20.00	-33.38	-5.31	0.00	-524.15	0.00	524.15	3,886.87	980.39	4,156.23	3,753.17	0.37	-0.18	0.148
25.00	-32.16	-5.25	0.00	-497.60	0.00	497.60	3,821.43	955.85	3,950.79	3,596.88	0.58	-0.22	0.147
30.00	-30.96	-5.18	0.00	-471.37	0.00	471.37	3,754.35	931.31	3,750.56	3,442.28	0.84	-0.27	0.145
35.00	-29.79	-5.12	0.00	-445.45	0.00	445.45	3,685.64	906.77	3,555.53	3,289.50	1.15	-0.32	0.144
40.00	-28.64	-5.05	0.00	-419.86	0.00	419.86	3,615.29	882.23	3,365.72	3,138.64	1.51	-0.37	0.142
45.00	-27.52	-4.99	0.00	-394.61	0.00	394.61	3,543.30	857.69	3,181.11	2,989.83	1.92	-0.42	0.140
48.00	-26.85	-4.96	0.00	-379.63	0.00	379.63	3,499.33	842.97	3,072.84	2,901.57	2.20	-0.45	0.139
50.00	-26.14	-4.92	0.00	-369.71	0.00	369.71	3,469.68	833.15	3,001.70	2,843.18	2.39	-0.47	0.138
53.25	-25.00	-4.88	0.00	-353.72	0.00	353.72	2,730.90	692.97	2,491.76	2,236.97	2.73	-0.51	0.167
55.00	-24.66	-4.83	0.00	-345.19	0.00	345.19	2,712.29	685.81	2,440.56	2,198.60	2.92	-0.53	0.166
60.00	-23.73	-4.76	0.00	-321.03	0.00	321.03	2,658.02	665.36	2,297.20	2,089.85	3.50	-0.59	0.163
65.00	-22.81	-4.69	0.00	-297.21	0.00	297.21	2,602.11	644.91	2,158.18	1,982.50	4.16	-0.65	0.159
70.00	-21.91	-4.62	0.00	-273.76	0.00	273.76	2,544.56	624.46	2,023.50	1,876.67	4.88	-0.72	0.155
75.00	-21.03	-4.55	0.00	-250.66	0.00	250.66	2,485.39	604.01	1,893.15	1,772.48	5.66	-0.78	0.150
80.00	-20.18	-4.48	0.00	-227.92	0.00	227.92	2,424.57	583.56	1,767.15	1,670.04	6.51	-0.85	0.145
85.00	-19.34	-4.40	0.00	-205.54	0.00	205.54	2,362.12	563.11	1,645.48	1,569.49	7.44	-0.91	0.139
90.00	-18.52	-4.33	0.00	-183.53	0.00	183.53	2,297.27	542.66	1,528.16	1,470.44	8.43	-0.98	0.133
95.00	-17.73	-4.27	0.00	-161.87	0.00	161.87	2,210.70	522.21	1,415.17	1,361.17	9.49	-1.04	0.127
97.75	-17.30	-4.23	0.00	-150.13	0.00	150.13	2,163.09	510.97	1,354.87	1,302.87	10.10	-1.08	0.123
100.00	-16.81	-4.20	0.00	-140.60	0.00	140.60	2,124.13	501.76	1,306.52	1,256.12	10.61	-1.11	0.120
101.50	-16.49	-4.17	0.00	-134.29	0.00	134.29	1,105.19	302.60	791.85	659.76	10.96	-1.13	0.219
105.00	-16.10	-4.14	0.00	-119.70	0.00	119.70	1,087.53	294.01	747.54	630.68	11.81	-1.17	0.205
106.00	-15.73	-3.99	0.00	-115.57	0.00	115.57	1,082.34	291.56	735.12	622.39	12.05	-1.19	0.200
110.00	-15.28	-3.93	0.00	-99.63	0.00	99.63	1,060.92	281.74	686.46	589.40	13.08	-1.27	0.184
115.00	-14.65	-3.78	0.00	-79.96	0.00	79.96	1,032.68	269.47	627.97	548.55	14.46	-1.35	0.160
120.00	-14.14	-3.71	0.00	-61.08	0.00	61.08	1,002.79	257.20	572.09	508.24	15.91	-1.43	0.134
125.00	-11.91	-2.90	0.00	-42.52	0.00	42.52	971.28	244.93	518.82	468.61	17.45	-1.50	0.103
126.00	-9.83	-2.57	0.00	-39.62	0.00	39.62	964.78	242.48	508.47	460.77	17.76	-1.51	0.096
130.00	-9.48	-2.52	0.00	-29.35	0.00	29.35	938.12	232.66	468.14	429.76	19.05	-1.55	0.079
134.00	-8.31	-1.99	0.00	-18.99	0.00	18.99	910.42	222.84	429.48	399.33	20.36	-1.58	0.057
135.00	-8.24	-1.98	0.00	-16.99	0.00	16.99	903.33	220.39	420.08	391.82	20.69	-1.59	0.053
136.00	-6.68	-1.71	0.00	-15.02	0.00	15.02	896.18	217.94	410.77	384.35	21.02	-1.60	0.047
140.00	-6.39	-1.66	0.00	-8.19	0.00	8.19	866.91	208.12	374.61	354.90	22.37	-1.62	0.031
143.00	-1.87	-0.51	0.00	-3.21	0.00	3.21	844.27	200.76	348.58	333.29	23.39	-1.62	0.012
145.00	-1.77	-0.47	0.00	-2.20	0.00	2.20	828.85	195.85	331.75	319.13	24.07	-1.63	0.009
149.00	0.00	-0.42	0.00	-0.30	0.00	0.30	787.55	186.03	299.33	287.88	25.43	-1.63	0.001

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.20	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.21	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.08	
Seismic Response Coefficient (C_s):	0.03	
Upper Limit C_s	0.03	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	2.87	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	2.00	
Total Unfactored Dead Load:	38.37	k
Seismic Base Shear (E):	1.15	k

Load Case 1.2D + 1.0Ev + 1.0Eh Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	147.00	180	3,898	0.011	13	224
38	144.00	99	2,062	0.006	7	124
37	141.50	207	4,136	0.012	13	257
36	138.00	282	5,371	0.015	17	351
35	135.50	72	1,316	0.004	4	89
34	134.50	72	1,306	0.004	4	90
33	132.00	339	5,912	0.016	19	422
32	128.00	347	5,683	0.016	18	431
31	125.50	88	1,385	0.004	4	109
30	122.50	497	7,453	0.021	24	617
29	117.50	509	7,021	0.020	23	632
28	112.50	545	6,898	0.019	22	677
27	108.00	445	5,186	0.014	17	552
26	105.50	112	1,251	0.003	4	140
25	103.25	397	4,233	0.012	14	493
24	100.75	317	3,218	0.009	10	394
23	98.88	481	4,701	0.013	15	598
22	96.38	428	3,979	0.011	13	532
21	92.50	794	6,795	0.019	22	987
20	87.50	814	6,232	0.017	20	1,012
19	82.50	834	5,675	0.016	18	1,036
18	77.50	854	5,127	0.014	16	1,061
17	72.50	873	4,591	0.013	15	1,085
16	67.50	893	4,070	0.011	13	1,110
15	62.50	913	3,567	0.010	11	1,135

14	57.50	933	3,085	0.009	10	1,159
13	54.13	331	970	0.003	3	412
12	51.63	1,142	3,042	0.008	10	1,419
11	49.00	712	1,709	0.005	5	884
10	46.50	661	1,430	0.004	5	822
9	42.50	1,121	2,026	0.006	6	1,394
8	37.50	1,145	1,610	0.004	5	1,423
7	32.50	1,169	1,235	0.003	4	1,453
6	27.50	1,193	902	0.003	3	1,482
5	22.50	1,217	616	0.002	2	1,512
4	17.50	1,240	380	0.001	1	1,541
3	12.50	1,264	198	0.001	1	1,571
2	7.50	1,288	72	0.000	0	1,600
1	2.50	1,177	7	0.000	0	1,462
DragonWave Horizon C	149.00	32	706	0.002	2	40
DragonWave A-ANT-23G	149.00	15	333	0.001	1	19
Alcatel-Lucent RRH2x	149.00	317	7,047	0.020	23	394
Alcatel-Lucent 1900	149.00	180	3,996	0.011	13	224
Nokia 2.5G MAA - AAH	149.00	311	6,900	0.019	22	386
DragonWave A-ANT-11G	149.00	54	1,199	0.003	4	67
RFS APXVFRR12X-C-I20	149.00	138	3,064	0.009	10	171
Collar Mount	149.00	560	12,433	0.035	40	696
Ericsson Radio 4449	143.00	225	4,601	0.013	15	280
Ericsson RRUS 4415 B	143.00	138	2,822	0.008	9	171
Ericsson Air6449 B41	143.00	312	6,380	0.018	20	388
Ericsson AIR32 B66Aa	143.00	397	8,110	0.023	26	493
Ericsson Air 3246 B6	143.00	540	11,042	0.031	35	671
RFS APXVAARR24_43-U-	143.00	384	7,846	0.022	25	477
Platform with SitePr	143.00	2,350	48,055	0.134	154	2,920
Round Low Profile Pl	136.00	1,500	27,744	0.077	89	1,864
Samsung B2/B66A RRH-	134.00	253	4,546	0.013	15	315
Samsung B5/B13 RRH-B	134.00	211	3,787	0.011	12	262
RFS DB-T1-6Z-8AB-0Z	134.00	44	790	0.002	3	55
Andrew DB854DG65ESX	134.00	56	997	0.003	3	69
JMA Wireless MX06FRO	134.00	276	4,956	0.014	16	343
Round Platform w/ Ha	126.00	2,000	31,752	0.088	102	2,485
Commscope WCS-IMFQ-A	125.00	30	461	0.001	1	37
Raycap DC6-48-60-0-8	125.00	33	513	0.001	2	41
Raycap DC6-48-60-0-8	125.00	66	1,025	0.003	3	82
Ericsson RRUS 8843 B	125.00	216	3,375	0.009	11	268
Ericsson Radio 4415	125.00	129	2,016	0.006	6	160
Ericsson RRUS 4478 B	125.00	180	2,808	0.008	9	223
Ericsson RRUS 4449 B	125.00	213	3,328	0.009	11	265
CCI CCI-HPA-65R-BUU-	125.00	204	3,188	0.009	10	254
Kathrein Scala 80010	125.00	688	10,744	0.030	34	854
RFS APXV18-206517S-C	115.00	79	1,047	0.003	3	98
Proxim 5054-R-LR	106.00	6	67	0.000	0	7
Generic 3' Dish w/ R	106.00	100	1,124	0.003	4	124
Flat Side Arm	106.00	150	1,685	0.005	5	186
		38,369	358,832	1.000	1,151	47,680

Load Case 0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	147.00	180	3,898	0.011	13	155
38	144.00	99	2,062	0.006	7	85
37	141.50	207	4,136	0.012	13	177
36	138.00	282	5,371	0.015	17	242
35	135.50	72	1,316	0.004	4	61
34	134.50	72	1,306	0.004	4	62

33	132.00	339	5,912	0.016	19	291
32	128.00	347	5,683	0.016	18	297
31	125.50	88	1,385	0.004	4	75
30	122.50	497	7,453	0.021	24	426
29	117.50	509	7,021	0.020	23	436
28	112.50	545	6,898	0.019	22	467
27	108.00	445	5,186	0.014	17	381
26	105.50	112	1,251	0.003	4	96
25	103.25	397	4,233	0.012	14	340
24	100.75	317	3,218	0.009	10	272
23	98.88	481	4,701	0.013	15	412
22	96.38	428	3,979	0.011	13	367
21	92.50	794	6,795	0.019	22	681
20	87.50	814	6,232	0.017	20	698
19	82.50	834	5,675	0.016	18	715
18	77.50	854	5,127	0.014	16	732
17	72.50	873	4,591	0.013	15	749
16	67.50	893	4,070	0.011	13	766
15	62.50	913	3,567	0.010	11	783
14	57.50	933	3,085	0.009	10	800
13	54.13	331	970	0.003	3	284
12	51.63	1,142	3,042	0.008	10	979
11	49.00	712	1,709	0.005	5	610
10	46.50	661	1,430	0.004	5	567
9	42.50	1,121	2,026	0.006	6	961
8	37.50	1,145	1,610	0.004	5	982
7	32.50	1,169	1,235	0.003	4	1,002
6	27.50	1,193	902	0.003	3	1,023
5	22.50	1,217	616	0.002	2	1,043
4	17.50	1,240	380	0.001	1	1,063
3	12.50	1,264	198	0.001	1	1,084
2	7.50	1,288	72	0.000	0	1,104
1	2.50	1,177	7	0.000	0	1,009
DragonWave Horizon C	149.00	32	706	0.002	2	27
DragonWave A-ANT-23G	149.00	15	333	0.001	1	13
Alcatel-Lucent RRH2x	149.00	317	7,047	0.020	23	272
Alcatel-Lucent 1900	149.00	180	3,996	0.011	13	154
Nokia 2.5G MAA - AAH	149.00	311	6,900	0.019	22	266
DragonWave A-ANT-11G	149.00	54	1,199	0.003	4	46
RFS APXVFRR12X-C-I20	149.00	138	3,064	0.009	10	118
Collar Mount	149.00	560	12,433	0.035	40	480
Ericsson Radio 4449	143.00	225	4,601	0.013	15	193
Ericsson RRUS 4415 B	143.00	138	2,822	0.008	9	118
Ericsson Air6449 B41	143.00	312	6,380	0.018	20	267
Ericsson AIR32 B66Aa	143.00	397	8,110	0.023	26	340
Ericsson Air 3246 B6	143.00	540	11,042	0.031	35	463
RFS APXVAARR24_43-U-	143.00	384	7,846	0.022	25	329
Platform with SitePr	143.00	2,350	48,055	0.134	154	2,015
Round Low Profile Pl	136.00	1,500	27,744	0.077	89	1,286
Samsung B2/B66A RRH-	134.00	253	4,546	0.013	15	217
Samsung B5/B13 RRH-B	134.00	211	3,787	0.011	12	181
RFS DB-T1-6Z-8AB-0Z	134.00	44	790	0.002	3	38
Andrew DB854DG65ESX	134.00	56	997	0.003	3	48
JMA Wireless MX06FRO	134.00	276	4,956	0.014	16	237
Round Platform w/ Ha	126.00	2,000	31,752	0.088	102	1,715
Commscope WCS-IMFQ-A	125.00	30	461	0.001	1	25
Raycap DC6-48-60-0-8	125.00	33	513	0.001	2	28
Raycap DC6-48-60-0-8	125.00	66	1,025	0.003	3	56
Ericsson RRUS 8843 B	125.00	216	3,375	0.009	11	185
Ericsson Radio 4415	125.00	129	2,016	0.006	6	111
Ericsson RRUS 4478 B	125.00	180	2,808	0.008	9	154
Ericsson RRUS 4449 B	125.00	213	3,328	0.009	11	183
CCI CCI-HPA-65R-BUU-	125.00	204	3,188	0.009	10	175
Kathrein Scala 80010	125.00	688	10,744	0.030	34	590

RFS APXV18-206517S-C	115.00	79	1,047	0.003	3	68
Proxim 5054-R-LR	106.00	6	67	0.000	0	5
Generic 3' Dish w/ R	106.00	100	1,124	0.003	4	86
Flat Side Arm	106.00	150	1,685	0.005	5	129
		38,369	358,832	1.000	1,151	32,895

Load Case 1.2D + 1.0Ev + 1.0Eh Seismic

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.22	-1.15	0.00	-151.43	0.00	151.43	4,132.29	1,078.55	5,030.04	4,392.82	0.00	0.00	0.046
5.00	-44.62	-1.16	0.00	-145.66	0.00	145.66	4,073.39	1,054.01	4,803.78	4,230.97	0.01	-0.01	0.045
10.00	-43.05	-1.17	0.00	-139.85	0.00	139.85	4,012.85	1,029.47	4,582.72	4,070.33	0.02	-0.02	0.045
15.00	-41.50	-1.17	0.00	-134.01	0.00	134.01	3,950.68	1,004.93	4,366.87	3,911.02	0.05	-0.03	0.045
20.00	-39.99	-1.18	0.00	-128.13	0.00	128.13	3,886.87	980.39	4,156.23	3,753.17	0.09	-0.04	0.044
25.00	-38.51	-1.18	0.00	-122.23	0.00	122.23	3,821.43	955.85	3,950.79	3,596.88	0.14	-0.05	0.044
30.00	-37.06	-1.19	0.00	-116.31	0.00	116.31	3,754.35	931.31	3,750.56	3,442.28	0.20	-0.07	0.044
35.00	-35.63	-1.19	0.00	-110.38	0.00	110.38	3,685.64	906.77	3,555.53	3,289.50	0.28	-0.08	0.043
40.00	-34.24	-1.19	0.00	-104.45	0.00	104.45	3,615.29	882.23	3,365.72	3,138.64	0.37	-0.09	0.043
45.00	-33.42	-1.19	0.00	-98.53	0.00	98.53	3,543.30	857.69	3,181.11	2,989.83	0.47	-0.10	0.042
48.00	-32.53	-1.18	0.00	-94.97	0.00	94.97	3,499.33	842.97	3,072.84	2,901.57	0.53	-0.11	0.042
50.00	-31.11	-1.17	0.00	-92.60	0.00	92.60	3,469.68	833.15	3,001.70	2,843.18	0.58	-0.12	0.042
53.25	-30.70	-1.17	0.00	-88.79	0.00	88.79	2,730.90	692.97	2,491.76	2,236.97	0.66	-0.13	0.051
55.00	-29.54	-1.17	0.00	-86.74	0.00	86.74	2,712.29	685.81	2,440.56	2,198.60	0.71	-0.13	0.050
60.00	-28.41	-1.16	0.00	-80.91	0.00	80.91	2,658.02	665.36	2,297.20	2,089.85	0.86	-0.15	0.049
65.00	-27.30	-1.15	0.00	-75.11	0.00	75.11	2,602.11	644.91	2,158.18	1,982.50	1.02	-0.16	0.048
70.00	-26.21	-1.14	0.00	-69.36	0.00	69.36	2,544.56	624.46	2,023.50	1,876.67	1.20	-0.18	0.047
75.00	-25.15	-1.13	0.00	-63.65	0.00	63.65	2,485.39	604.01	1,893.15	1,772.48	1.39	-0.19	0.046
80.00	-24.12	-1.11	0.00	-58.01	0.00	58.01	2,424.57	583.56	1,767.15	1,670.04	1.60	-0.21	0.045
85.00	-23.10	-1.10	0.00	-52.45	0.00	52.45	2,362.12	563.11	1,645.48	1,569.49	1.83	-0.23	0.043
90.00	-22.12	-1.08	0.00	-46.97	0.00	46.97	2,297.27	542.66	1,528.16	1,470.44	2.08	-0.24	0.042
95.00	-21.58	-1.07	0.00	-41.58	0.00	41.58	2,210.70	522.21	1,415.17	1,361.17	2.34	-0.26	0.040
97.75	-20.99	-1.05	0.00	-38.65	0.00	38.65	2,163.09	510.97	1,354.87	1,302.87	2.50	-0.27	0.039
100.00	-20.59	-1.04	0.00	-36.29	0.00	36.29	2,124.13	501.76	1,306.52	1,256.12	2.62	-0.28	0.039
101.50	-20.10	-1.03	0.00	-34.72	0.00	34.72	1,105.19	302.60	791.85	659.76	2.71	-0.28	0.071
105.00	-19.96	-1.03	0.00	-31.12	0.00	31.12	1,087.53	294.01	747.54	630.68	2.92	-0.29	0.068
106.00	-19.09	-1.00	0.00	-30.10	0.00	30.10	1,082.34	291.56	735.12	622.39	2.99	-0.30	0.066
110.00	-18.41	-0.98	0.00	-26.09	0.00	26.09	1,060.92	281.74	686.46	589.40	3.25	-0.32	0.062
115.00	-17.68	-0.96	0.00	-21.18	0.00	21.18	1,032.68	269.47	627.97	548.55	3.59	-0.34	0.056
120.00	-17.06	-0.94	0.00	-16.39	0.00	16.39	1,002.79	257.20	572.09	508.24	3.96	-0.36	0.049
125.00	-14.77	-0.83	0.00	-11.71	0.00	11.71	971.28	244.93	518.82	468.61	4.35	-0.38	0.040
126.00	-11.85	-0.69	0.00	-10.88	0.00	10.88	964.78	242.48	508.47	460.77	4.43	-0.38	0.036
130.00	-11.43	-0.67	0.00	-8.10	0.00	8.10	938.12	232.66	468.14	429.76	4.75	-0.39	0.031
134.00	-10.30	-0.61	0.00	-5.41	0.00	5.41	910.42	222.84	429.48	399.33	5.09	-0.40	0.025
135.00	-10.21	-0.61	0.00	-4.79	0.00	4.79	903.33	220.39	420.08	391.82	5.17	-0.41	0.024
136.00	-8.00	-0.49	0.00	-4.18	0.00	4.18	896.18	217.94	410.77	384.35	5.26	-0.41	0.020
140.00	-7.74	-0.47	0.00	-2.22	0.00	2.22	866.91	208.12	374.61	354.90	5.60	-0.41	0.015
143.00	-2.22	-0.14	0.00	-0.80	0.00	0.80	844.27	200.76	348.58	333.29	5.86	-0.42	0.005
145.00	-2.00	-0.13	0.00	-0.52	0.00	0.52	828.85	195.85	331.75	319.13	6.04	-0.42	0.004
149.00	0.00	-0.11	0.00	0.00	0.00	0.00	787.55	186.03	299.33	287.88	6.39	-0.42	0.000

Load Case 0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-31.89	-1.15	0.00	-148.12	0.00	148.12	4,132.29	1,078.55	5,030.04	4,392.82	0.00	0.00	0.041
5.00	-30.78	-1.16	0.00	-142.36	0.00	142.36	4,073.39	1,054.01	4,803.78	4,230.97	0.01	-0.01	0.041
10.00	-29.70	-1.16	0.00	-136.57	0.00	136.57	4,012.85	1,029.47	4,582.72	4,070.33	0.02	-0.02	0.041
15.00	-28.63	-1.17	0.00	-130.75	0.00	130.75	3,950.68	1,004.93	4,366.87	3,911.02	0.05	-0.03	0.041
20.00	-27.59	-1.17	0.00	-124.92	0.00	124.92	3,886.87	980.39	4,156.23	3,753.17	0.09	-0.04	0.040
25.00	-26.57	-1.17	0.00	-119.08	0.00	119.08	3,821.43	955.85	3,950.79	3,596.88	0.14	-0.05	0.040
30.00	-25.57	-1.17	0.00	-113.22	0.00	113.22	3,754.35	931.31	3,750.56	3,442.28	0.20	-0.06	0.040
35.00	-24.58	-1.17	0.00	-107.37	0.00	107.37	3,685.64	906.77	3,555.53	3,289.50	0.27	-0.08	0.039
40.00	-23.62	-1.17	0.00	-101.52	0.00	101.52	3,615.29	882.23	3,365.72	3,138.64	0.36	-0.09	0.039
45.00	-23.06	-1.17	0.00	-95.69	0.00	95.69	3,543.30	857.69	3,181.11	2,989.83	0.46	-0.10	0.039
48.00	-22.44	-1.16	0.00	-92.20	0.00	92.20	3,499.33	842.97	3,072.84	2,901.57	0.52	-0.11	0.038
50.00	-21.47	-1.15	0.00	-89.87	0.00	89.87	3,469.68	833.15	3,001.70	2,843.18	0.57	-0.11	0.038
53.25	-21.18	-1.15	0.00	-86.13	0.00	86.13	2,730.90	692.97	2,491.76	2,236.97	0.65	-0.12	0.046
55.00	-20.38	-1.14	0.00	-84.12	0.00	84.12	2,712.29	685.81	2,440.56	2,198.60	0.69	-0.13	0.046
60.00	-19.60	-1.13	0.00	-78.40	0.00	78.40	2,658.02	665.36	2,297.20	2,089.85	0.83	-0.14	0.045
65.00	-18.83	-1.12	0.00	-72.73	0.00	72.73	2,602.11	644.91	2,158.18	1,982.50	0.99	-0.16	0.044
70.00	-18.08	-1.11	0.00	-67.11	0.00	67.11	2,544.56	624.46	2,023.50	1,876.67	1.16	-0.17	0.043
75.00	-17.35	-1.10	0.00	-61.54	0.00	61.54	2,485.39	604.01	1,893.15	1,772.48	1.35	-0.19	0.042
80.00	-16.64	-1.08	0.00	-56.05	0.00	56.05	2,424.57	583.56	1,767.15	1,670.04	1.56	-0.20	0.040
85.00	-15.94	-1.06	0.00	-50.63	0.00	50.63	2,362.12	563.11	1,645.48	1,569.49	1.78	-0.22	0.039
90.00	-15.26	-1.04	0.00	-45.31	0.00	45.31	2,297.27	542.66	1,528.16	1,470.44	2.02	-0.24	0.037
95.00	-14.89	-1.03	0.00	-40.09	0.00	40.09	2,210.70	522.21	1,415.17	1,361.17	2.28	-0.25	0.036
97.75	-14.48	-1.02	0.00	-37.25	0.00	37.25	2,163.09	510.97	1,354.87	1,302.87	2.43	-0.26	0.035
100.00	-14.21	-1.01	0.00	-34.95	0.00	34.95	2,124.13	501.76	1,306.52	1,256.12	2.55	-0.27	0.035
101.50	-13.87	-1.00	0.00	-33.44	0.00	33.44	1,105.19	302.60	791.85	659.76	2.64	-0.27	0.063
105.00	-13.77	-0.99	0.00	-29.96	0.00	29.96	1,087.53	294.01	747.54	630.68	2.84	-0.28	0.060
106.00	-13.17	-0.97	0.00	-28.97	0.00	28.97	1,082.34	291.56	735.12	622.39	2.90	-0.29	0.059
110.00	-12.70	-0.95	0.00	-25.10	0.00	25.10	1,060.92	281.74	686.46	589.40	3.15	-0.31	0.055
115.00	-12.20	-0.92	0.00	-20.37	0.00	20.37	1,032.68	269.47	627.97	548.55	3.49	-0.33	0.049
120.00	-11.77	-0.90	0.00	-15.75	0.00	15.75	1,002.79	257.20	572.09	508.24	3.85	-0.35	0.043
125.00	-10.19	-0.80	0.00	-11.25	0.00	11.25	971.28	244.93	518.82	468.61	4.22	-0.37	0.035
126.00	-8.18	-0.67	0.00	-10.46	0.00	10.46	964.78	242.48	508.47	460.77	4.30	-0.37	0.031
130.00	-7.89	-0.65	0.00	-7.79	0.00	7.79	938.12	232.66	468.14	429.76	4.62	-0.38	0.027
134.00	-7.11	-0.59	0.00	-5.20	0.00	5.20	910.42	222.84	429.48	399.33	4.94	-0.39	0.021
135.00	-7.04	-0.59	0.00	-4.60	0.00	4.60	903.33	220.39	420.08	391.82	5.02	-0.39	0.020
136.00	-5.52	-0.47	0.00	-4.02	0.00	4.02	896.18	217.94	410.77	384.35	5.10	-0.39	0.017
140.00	-5.34	-0.46	0.00	-2.14	0.00	2.14	866.91	208.12	374.61	354.90	5.44	-0.40	0.012
143.00	-1.53	-0.14	0.00	-0.77	0.00	0.77	844.27	200.76	348.58	333.29	5.69	-0.40	0.004
145.00	-1.38	-0.12	0.00	-0.50	0.00	0.50	828.85	195.85	331.75	319.13	5.86	-0.40	0.003
149.00	0.00	-0.11	0.00	0.00	0.00	0.00	787.55	186.03	299.33	287.88	6.19	-0.40	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	24.93	0.00	46.00	0.00	0.00	2860.10	101.50	0.94
0.9D + 1.0W	24.91	0.00	34.49	0.00	0.00	2811.47	101.50	0.91
1.2D + 1.0Di + 1.0Wi	6.41	0.00	66.15	0.00	0.00	739.17	101.50	0.27
1.2D + 1.0Ev + 1.0Eh	1.15	0.00	46.22	0.00	0.00	151.43	101.50	0.07
0.9D - 1.0Ev + 1.0Eh	1.15	0.00	31.89	0.00	0.00	148.12	101.50	0.06
1.0D + 1.0W	5.57	0.00	38.37	0.00	0.00	633.60	101.50	0.22

AMERICAN TOWER® CORPORATION

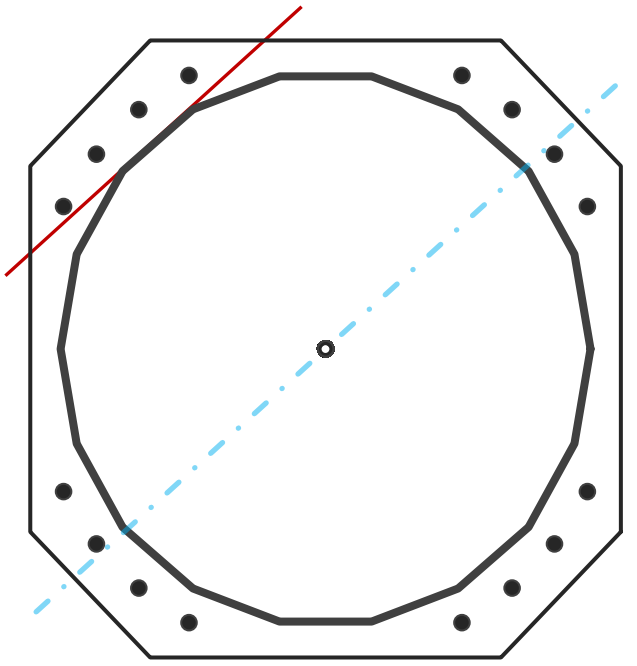
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	52.01	in
Thickness	3/8	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	2860.1	k-ft
Axial, Pu	46.0	k
Shear, Vu	24.9	k
Neutral Axis	41	°

Report Capacities		
Component	Capacity	Result
Base Plate	47%	Pass
Anchor Rods	61%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	59	in
Thickness	2 3/4	in
Grade	A633 Gr. E	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	80	ksi
Clip	12	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	1513.4	k
Bending Stress, ϕMn	3195.9	k



Original Anchor Rods		
Arrangement	Cluster	-
Quantity	16	-
Diameter, ø	2 1/4	in
Bolt Circle	59	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	148.1	k
Anchor Rods, ϕPn	243.6	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	24.9	2860.1	1.00
Anchor Rod Forces	24.9	2860.1	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	60.5227	3.3624	0.1582		20173.34
Bolt	3.9761	3.2477	0.8393	4.5	22623.84
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	59	in
Thickness, t	2.75	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	80	ksi
Base Plate Chord	27.856	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	16	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	59	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	148.1	k
Applied Shear, Vu	0.1	k
Compressive Capacity, ϕPn	243.6	k
Tensile Capacity, ϕRnt	0.608	OK
Interaction Capacity	0.609	OK

External Base Plate		
Chord Length AA	31.304	in
Additional AA	0.000	in
Section Modulus, Z	59.183	in^3
Applied Moment, Mu	1513.4	k-ft
Bending Capacity, ϕMn	3195.9	k-ft
Capacity, Mu/ϕMn	0.474	OK
Chord Length AB	30.499	in
Additional AB	0.000	in
Section Modulus, Z	57.663	in^3
Applied Moment, Mu	1281.6	k-ft
Bending Capacity, ϕMn	3113.8	k-ft
Capacity, Mu/ϕMn	0.412	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in^3
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

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2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
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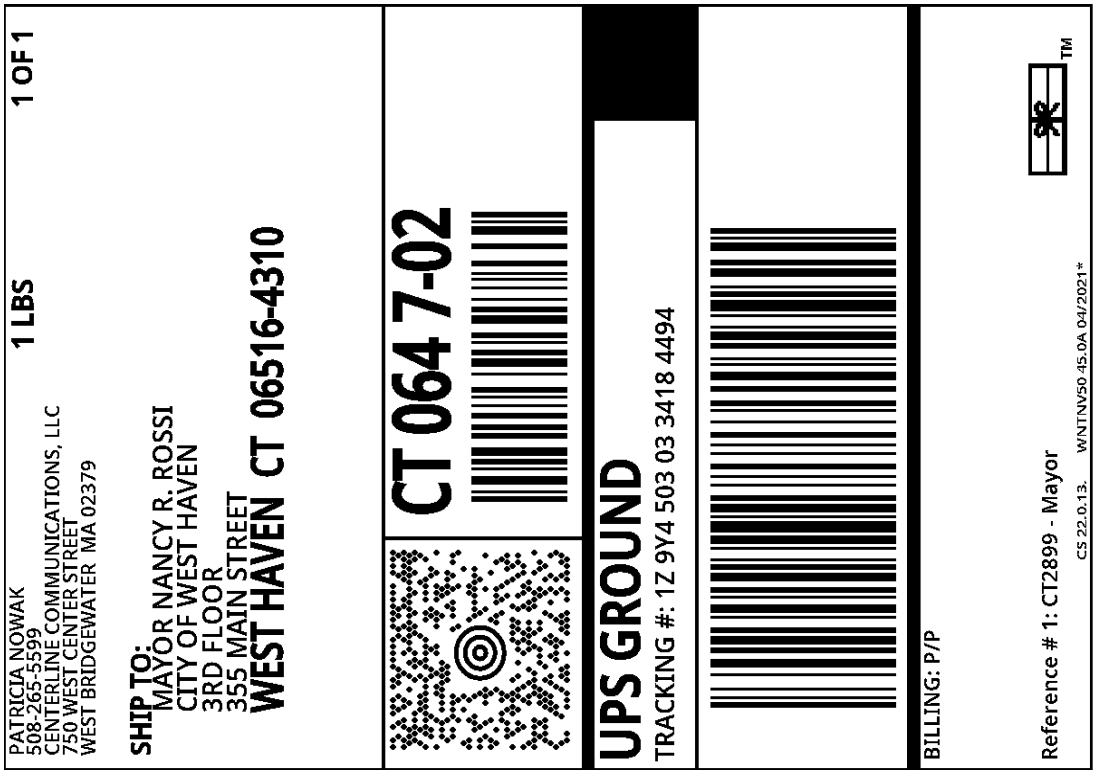

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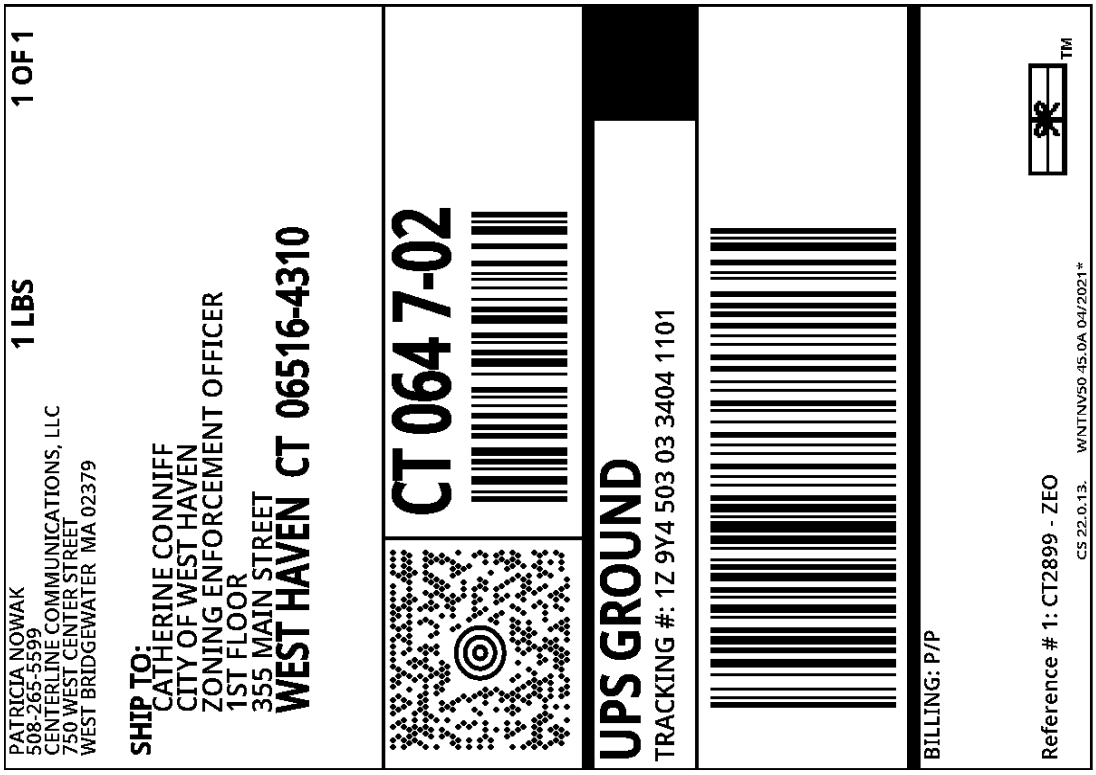

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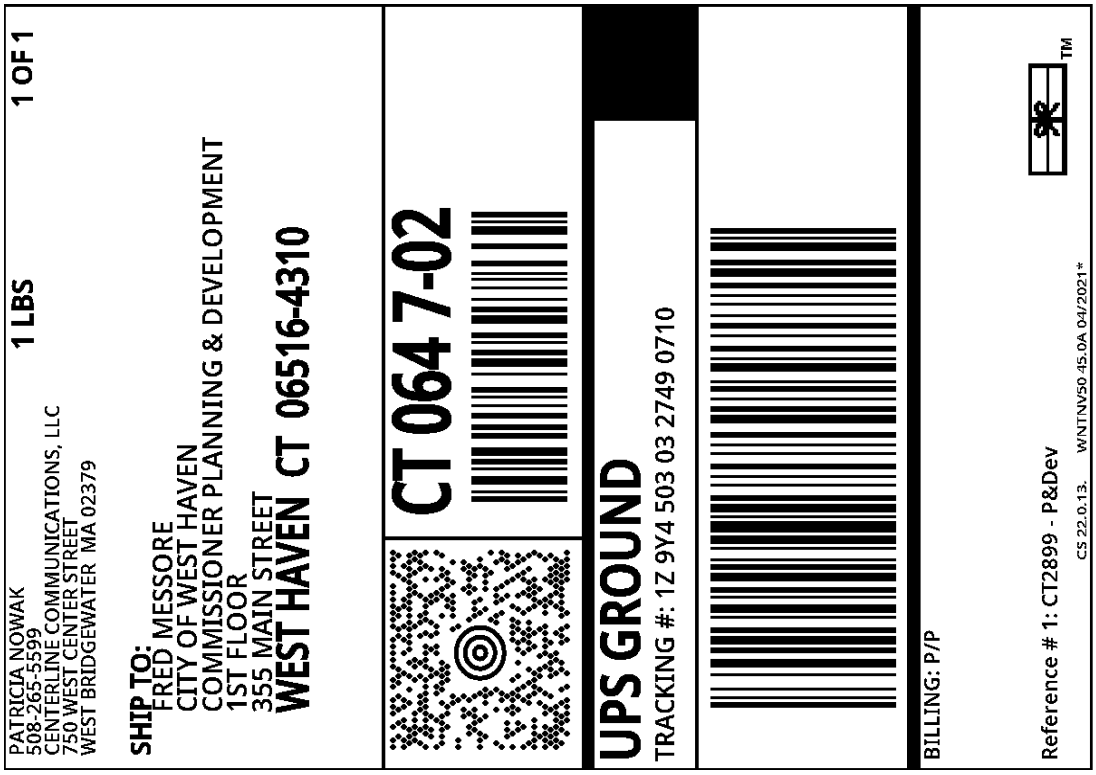

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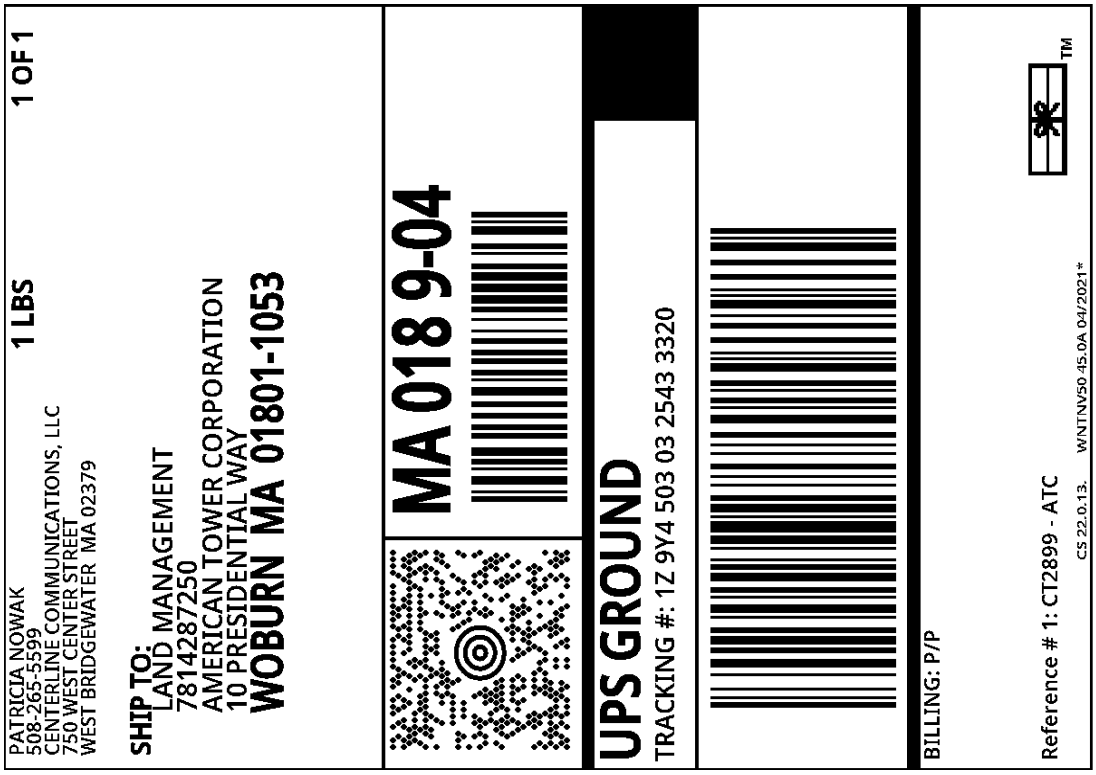

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