Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

September 22, 2020

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

RE: **Notice of Exempt Modification for T-Mobile:**
826768 - T-Mobile Site ID: CT11417C
171 Town Hill Road, Plymouth, CT 06786
Latitude: 41° 40′ 6.20″ / Longitude: -73° 1′ 11.84″

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 164-foot mount on the existing 169-foot Monopole Tower, located at 171 Town Hill Road, Plymouth, CT. The tower is owned by Crown Castle and the property is owned by the Terryville Country Fair Inc. T-Mobile now intends to add three (3) new 2500/2500 MHz antennas. The new antennas will be installed at the 164-ft level of the tower. T-Mobile is also proposing tower mount modifications, as shown on the enclosed Mount Analysis.

Planned Modifications:
Tower:

Remove:
(10) Coax
(3) TMA

Install New:
(1) 1 5/8" Hybrid Fiber Line
(3) AIR6449 B41 Antenna 2500/2500 MHz
(3) Radio 4415 B25

Existing to Remain:
(2) 1 5/8" Coax
(3) AIR32_B66A_B2A Antenna 1900/2100 MHz
(3) RFS-APXVAARR24_43-U-NA20 Antenna 600/700 MHz

Ground:

Upgrade to existing ground cabinet. (Internally)
Remove 6101 Cabinet. Replace with B160 Battery Cabinet.
Add 6160 SSC Cabinet.

The facility was approved by the Town of Plymouth Planning and Zoning Commission on June 22, 2000 by way of a Special Permit issuance. The approval was given with conditions which this exempt modification follows.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to David V. Merchant, Mayor for the Town of Plymouth, Margus T. Laan, Director of Planning, Crown Castle as the tower owner, and Terryville Country Fair Inc., the property owner.

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

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

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

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Anne Marie Zsamba.

Sincerely,

Anne Marie Zsamba
Site Acquisition Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments

cc:
David V. Merchant, Mayor
Town of Plymouth

Town Hall – Mayor's Office
80 Main Street
Terryville, CT 06786
860-585-4001

Margus T. Laan, Planning Director
Town of Plymouth
Town Hall – Land Use Office
80 Main Street
Terryville, CT 06786
860-585-4001

Terryville Country Fair Inc.
171 Town Hill Road
PO Box 72
Terryville, CT 06786

Crown Castle, Tower Owner

ORIGIN ID:SCHA (518) 350-3639
ANNE MARIE ZSAMBA
CROWN CASTLE
21 HEATHER DRIVE

GANSEVOORT, NY 12831
UNITED STATES US

SHIP DATE: 22SEP20
ACTWGT: 1.00 LB
CAD: 104924194/INET4280

BILL SENDER

TO **TERRYVILLE COUNTRY FAIR INC.**

171 TOWN HILL ROAD
PO BOX 72
TERRYVILLE CT 06786
(201) 236-9224

REF: 1734.7680
INV:
PO:
DEPT:

J202020071401uv

FedEx Express

56BJ6/1545/B766

WED - 23 SEP 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7715 9446 6530**

EB HFDA

06786
BDL
CT-US

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Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID:SCHA (518) 350-3639
ANNE MARIE ZSAMBA
CROWN CASTLE
21 HEATHER DRIVE

GANSEVOORT, NY 12831
UNITED STATES US

SHIP DATE: 22SEP20
ACTWGT: 1.00 LB
CAD: 104924194/INET4280

BILL SENDER

TO **DAVID V. MERCHANT, MAYOR**
TOWN OF PLYMOUTH
MAYOR'S OFFICE
80 MAIN STREET
TERRYVILLE CT 06786
(860) 585-4001

INV:
PO:
REF: 1734.7680
DEPT:

56BJ6/1545/B766

J202020071401uv

FedEx Express

WED - 23 SEP 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7715 9441 7360**

EB HFDA

06786
BDL
CT-US

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ORIGIN ID:SCHA (518) 350-3639
ANNE MARIE ZSAMBA
CROWN CASTLE
21 HEATHER DRIVE

GANSEVOORT, NY 12831
UNITED STATES US

SHIP DATE: 22SEP20
ACTWGT: 1.00 LB
CAD: 104924194/INET4280

BILL SENDER

TO **MARGUS T. LAAN, PLANNING DIRECTOR**
TOWN OF PLYMOUTH
LAND USE OFFICE
80 MAIN STREET
TERRYVILLE CT 06786
(860) 585-4001

INV:
PO:
REF: 1734.7680
DEPT:

56BJ6/1545/B766

J202020071401uv

FedEx Express

WED - 23 SEP 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7715 9444 4400**

EB HFDA

06786
BDL
CT-US

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Exhibit A

Original Facility Approval

TOWN OF PLYMOUTH, CONNECTICUT

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

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

PLANNING AND ZONING COMMISSION, TOWN OF PLYMOUTH
CONNECTICUT

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

Ronald J Mormile
Agent of the Planning and Zoning Commission

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

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

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

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

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

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

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

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

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

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

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

Exhibit B

Property Card

Town of Plymouth
Property Listing Report

Parcel ID 048-073B-012

Account 00041600

Property Information

Owner	TERRYVILLE COUNTRY FAIR INC
Address	171 TOWN HILL RD
Mailing Address	PO BOX 72 TERRYVILLE , CT 06786
Land Use	-
Land Class	E

Census Tract	4254
Neighborhood	103
Zoning	RA1
Acreage	20.46
Utilities	
Lot Setting/ Desc	/ 1

Photo

PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings	83250	
Outbuildings		
Improvements		
Extras		
Land	0	
Total	1042260	729580
Previous		

Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

EXTERIOR WALLS:	
Primary	
Secondary	
INTERIOR WALLS:	
Primary	
Secondary	
FLOORS:	
Primary	
Secondary	
HEATING/AC:	
Heating Type	
Heating Fuel	
AC Type	

BUILDING AREA:	
Effective Building Area	
Gross Building Area	
Total Living Area	

SALES HISTORY:	
Sale Date	0
Sale Price	0
Book/ Page	152/643

Report Created On 9/22/2020

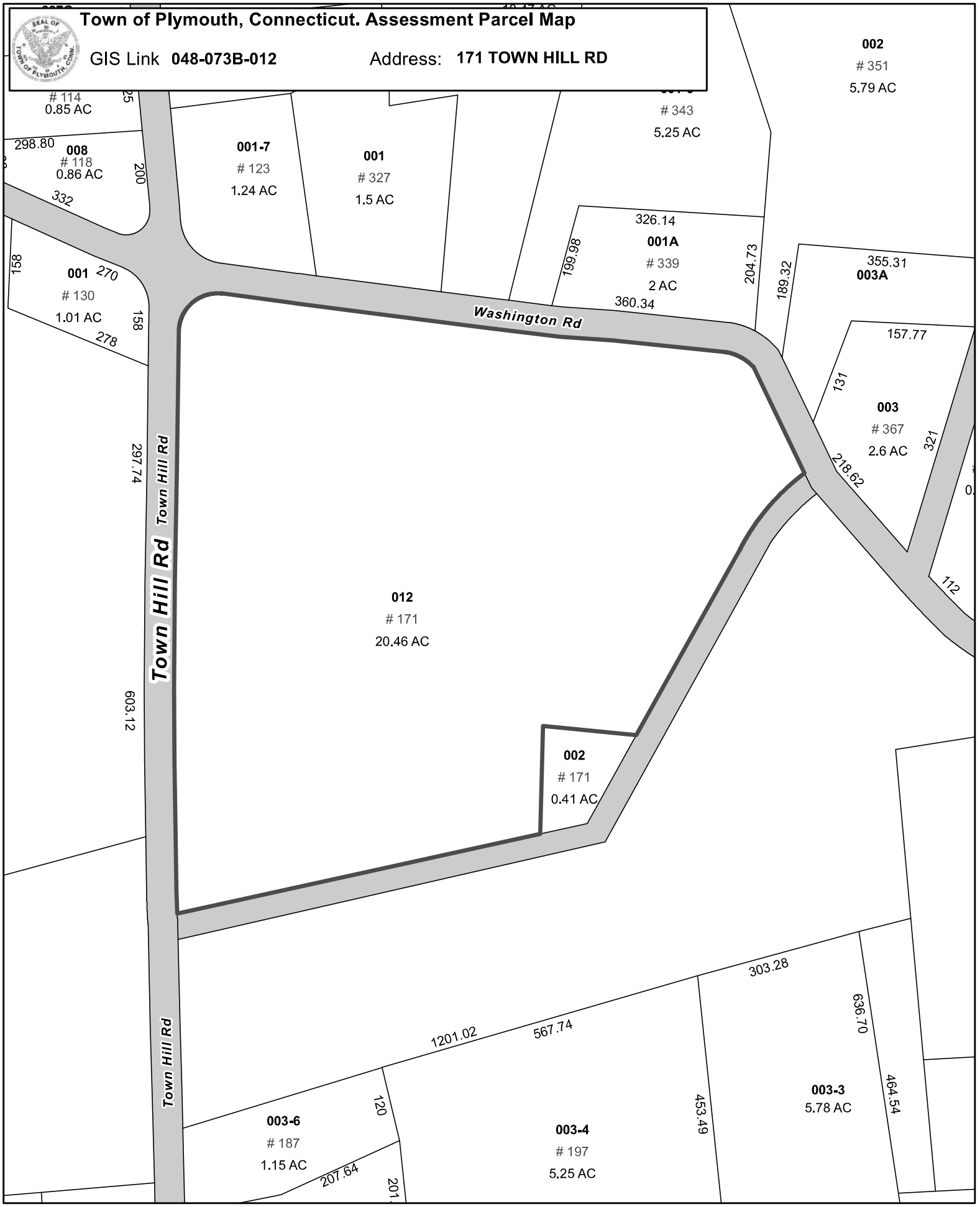

Town of Plymouth, Connecticut. Assessment Parcel Map
GIS Link 048-073B-012
Address: 171 TOWN HILL RD
002
351
5.79 AC
114
0.85 AC
343
5.25 AC
298.80
008
118
0.86 AC
200
332
001-7
123
1.24 AC
001
327
1.5 AC
326.14
001A
339
2 AC
199.98
204.73
360.34
355.31
003A
189.32
158
001
130
1.01 AC
270
158
278
Washington Rd
157.77
131
003
367
2.6 AC
321
218.62
297.74
Town Hill Rd
012
171
20.46 AC
112
603.12
002
171
0.41 AC
303.28
636.70
1201.02
567.74
464.54
453.49
003-3
5.78 AC
120
003-6
187
1.15 AC
003-4
197
5.25 AC
207.64
1 inch = 200 feet
0 100 200 300 400
Feet
Disclaimer: This map is for informational purposes only All information is subject to verification by any user. The Town of Plymouth and its mapping contractors assume no legal responsibility for the information contained herein.
Map Produced: November 2018

Exhibit C

Construction Drawings

T-Mobile

T-MOBILE SITE NUMBER: CT11417C
T-MOBILE SITE NAME: PLYMOUTH/RT 6
SITE TYPE: MONOPOLE
TOWER HEIGHT: 169'-0"

BUSINESS UNIT #: 826768
SITE ADDRESS: 171 TOWN HILL ROAD PLYMOUTH, CT 06786
COUNTY: LITCHFIELD
JURISDICTION: CITY OF PLYMOUTH

T-MOBILE ANCHOR SITE CONFIGURATION: 67D5A997DB

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	PLYMOUTH/RT 6
SITE ADDRESS:	171 TOWN HILL ROAD PLYMOUTH, CT 06786
COUNTY:	LITCHFIELD
MAP/PARCEL #:	048-073B-012
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 40' 06.20
LONGITUDE:	73° 01' 11.84
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	892'±
CURRENT ZONING:	RA1
JURISDICTION:	CITY OF PLYMOUTH
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	TERRYVILLE COUNTRY FAIR, INC TERRYVILLE LIONS CLUB P.O. BOX 72 TERRYVILLE, CT 06786
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	CL&P ----
TELCO PROVIDER:	SBC ----

PROJECT TEAM

A&E FIRM:	TRYLON 1825 W. WALNUT HILL LANE. SUITE 120 IRVING, TEXAS 75038
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065
	PATRICIA PELON - PROJECT MANAGER PATRICIA.PELON@CROWNCASTLE.COM
	JASON D'AMICO - CONSTRUCTION MANAGER JASON.D'AMICO@CROWNCASTLE.COM

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	OVERALL SITE PLAN
C-1.2	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUBING DIAGRAM
C-5	EQUIPMENT SPECS
C-6	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
ATTACHED	MOUNT MOD SPECS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (10) COAX
- REMOVE (3) TMAs
- RELOCATE (6) ANTENNAs
- RELOCATE (3) RRUs
- INSTALL (3) ANTENNAs
- INSTALL (3) RRUs
- INSTALL (1) ERICSSON HYBRID CABLE (1-5/8")
- INSTALL (1) SITE PRO 1 STABILIZER KIT (PRK-SFS-L)

GROUND SCOPE OF WORK:
- REMOVE (1) RBS 6101 CABINET
- REMOVE (1) XMU
- REMOVE (1) BB 5216 FROM RBS 6102 CABINET
- INSTALL (1) T-MOBILE 6160 SSC CABINET
- INSTALL (1) T-MOBILE B160 BATTERY CABINET
- INSTALL (3) BB 6630 (L2500)
- INSTALL (1) BB 6648 (N2500)
- INSTALL (1) BB 6630 IN 6160 CABINET
- INSTALL (1) iXRe IN 6160 CABINET

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER

LOCATION MAP

NO SCALE

APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2015 IBC
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	BY OTHERS
DATED:	
MOUNT ANALYSIS:	INFINIGY ENGINEERING. PLLC
DATED:	07/09/2020
RFDS REVISION:	3
DATED:	5/11/2020
ORDER ID:	524461
REVISION:	1

CALL CONNECTICUT ONE CALL (800) 922 4455 CBYD.COM CALL 2 WORKING DAYS BEFORE YOU DIG

APPROVALS

APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.		
LAND USE PLANNER		
T-MOBILE		
OPERATIONS		
RF		
NETWORK		
BACKHAUL		
CONSTRUCTION MANAGER		

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

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/27/20	RC	FINAL	PL
1	08/31/20	RC	FINAL	AMC
2	09/07/20	RC	FINAL	AMC

Cliff Abernathy
Digitally signed by Cliff Abernathy
Date: 2020.09.10 11:15:49 -04'00'

STATE OF CONNECTICUT No. 31022 LICENSED PROFESSIONAL ENGINEER
9-10-20

SHEET NUMBER: T-1
REVISION: 2

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: T–MOBILE
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER — 40 ksi
   #5 BARS AND LARGER — 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH — 3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   - #6 BARS AND LARGER — 2"
   - #5 BARS AND SMALLER — 1–1/2"

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
   - SLAB AND WALLS — 3/4"
   - BEAMS AND COLUMNS — 1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON–METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD–WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   - 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   - 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T–MOBILE".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE

SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

ISSUED FOR:

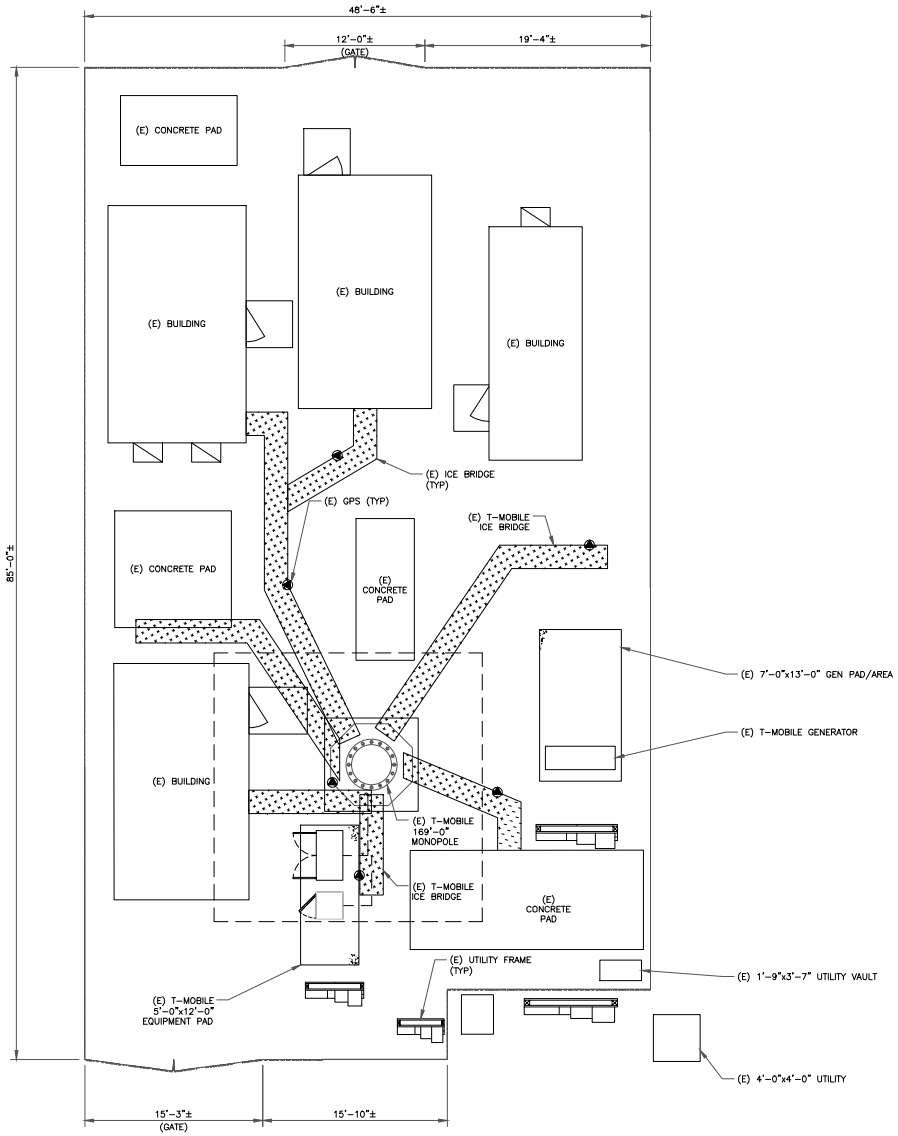
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/27/20	RC	FINAL	PL
1	09/07/20	RC	FINAL	PL

9-10-20

SHEET NUMBER: T-2
REVISION: 2

SITE PLAN DISCLAIMER:

PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS OR FROM ASSESSORS MAPS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET



1 OVERALL SITE PLAN

SCALE: 4' 2' 0 4' 3/16"=1'-0" (FULL SIZE) 3/32"=1'-0" (11x17)

N

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

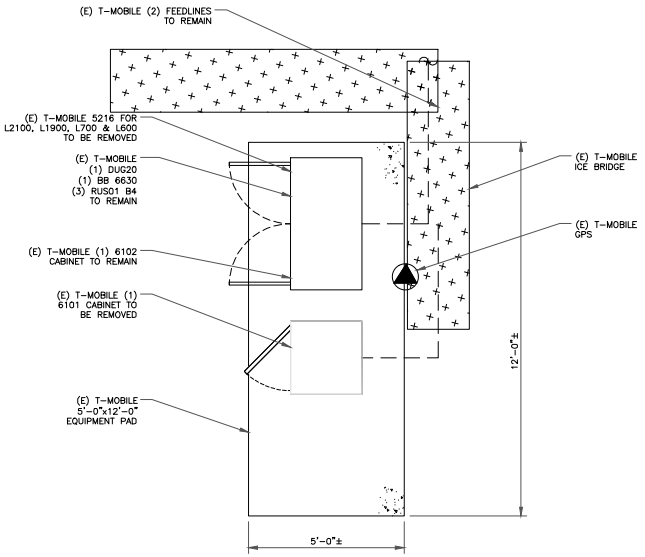
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/27/20	RC	FINAL	PL
1	08/31/20	RC	FINAL	AMC
2	09/07/20	RC	FINAL	AMC

STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9.10.20

SHEET NUMBER: C-1.1

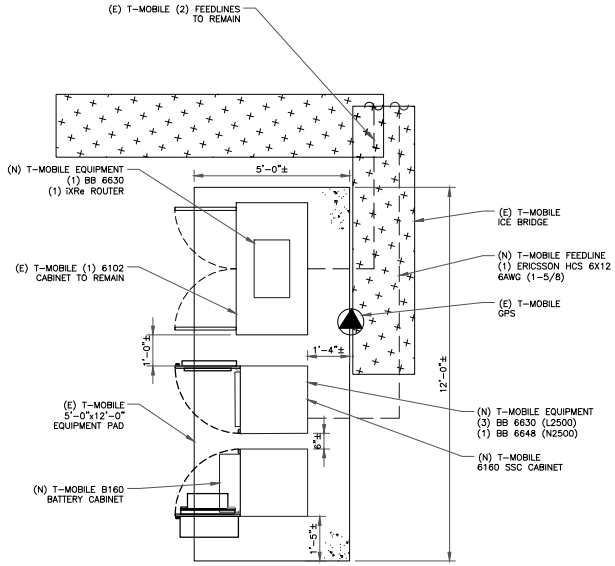
REVISION: 2



1 EXISTING EQUIPMENT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

N



2 FINAL EQUIPMENT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

N

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
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T-MOBILE SITE NUMBER:
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BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

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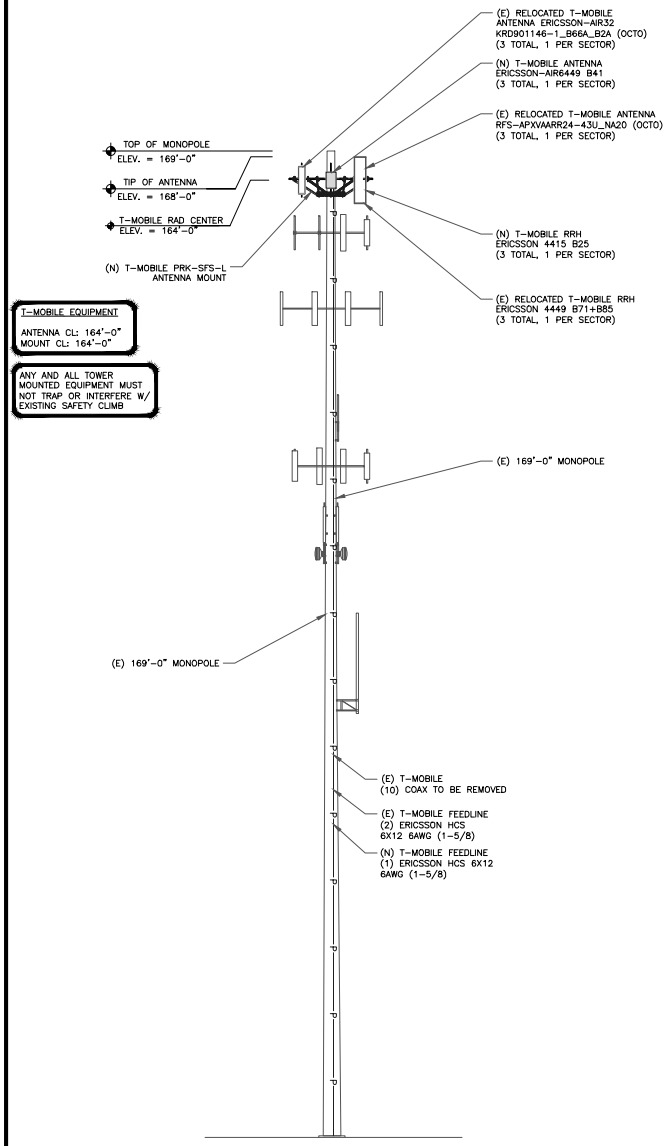
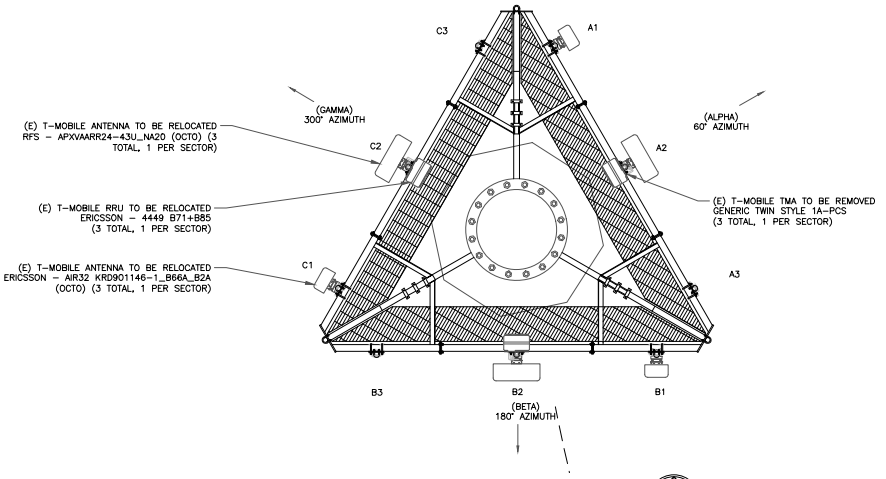
STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9-10-20

SHEET NUMBER: C-1.2

REVISION: 2

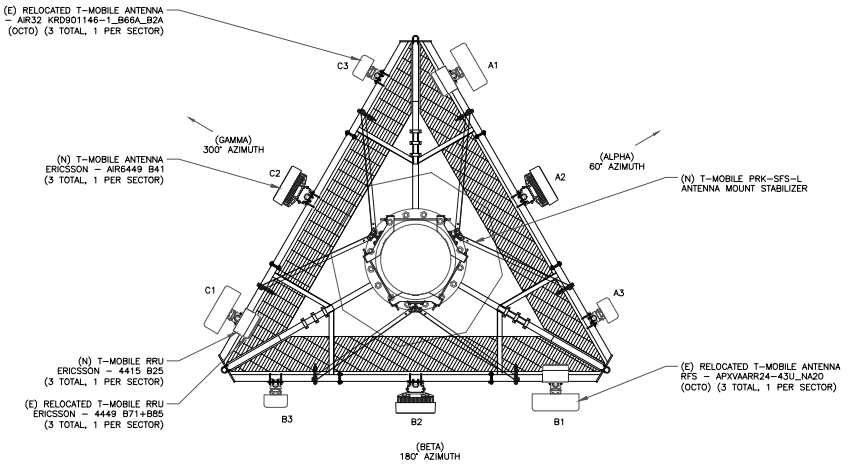


1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
SCALE: NOT TO SCALE

N



3 FINAL ANTENNA PLAN
SCALE: NOT TO SCALE

N

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

ISSUED FOR:

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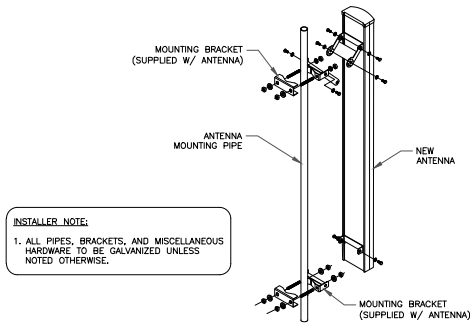
STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9-10-20

SHEET NUMBER: C-2

REVISION: 2

ANTENNA SCHEDULE										
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L700/600/N600/L1900	164'-0"	60°	RFS/CELWAVE	APXVAARR24_43-U-NA20	0°	–	(E) 4449 B71+B85 (N) 4415 B25	(2) 1-5/8" HYBRID
ALPHA	A2	LTE 2500/N2500	164'-0"	60°	ERICSSON	AIR6449 B41	0°	–	–	(1) 1-5/8" HYBRID
ALPHA	A3	L2100/L1900/G1900	164'-0"	60°	ERICSSON	AIR32 KRD901146-1_B66A_B2A	0°	–	–	–
BETA	B1	L700/600/N600/L1900	164'-0"	180°	RFS/CELWAVE	APXVAARR24_43-U-NA20	0°	–	(E) 4449 B71+B85 (N) 4415 B25	HYBRID (SHARED)
BETA	B2	L2500/N2500	164'-0"	180°	ERICSSON	AIR6449 B41	0°	–	–	HYBRID (SHARED)
BETA	B3	L2100/L1900/G1900	164'-0"	180°	ERICSSON	AIR32 KRD901146-1_B66A_B2A	0°	–	–	–
GAMMA	G1	L700/600/N600/L1900	164'-0"	300°	RFS/CELWAVE	APXVAARR24_43-U-NA20	0°	–	(E) 4449 B71+B85 (N) 4415 B25	HYBRID (SHARED)
GAMMA	G2	L2500/N2500	164'-0"	300°	ERICSSON	AIR6449 B41	0°	–	–	HYBRID (SHARED)
GAMMA	G3	L2100/L1900/G1900	164'-0"	300°	ERICSSON	AIR32 KRD901146-1_B66A_B2A	0°	–	–	–

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE



2 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

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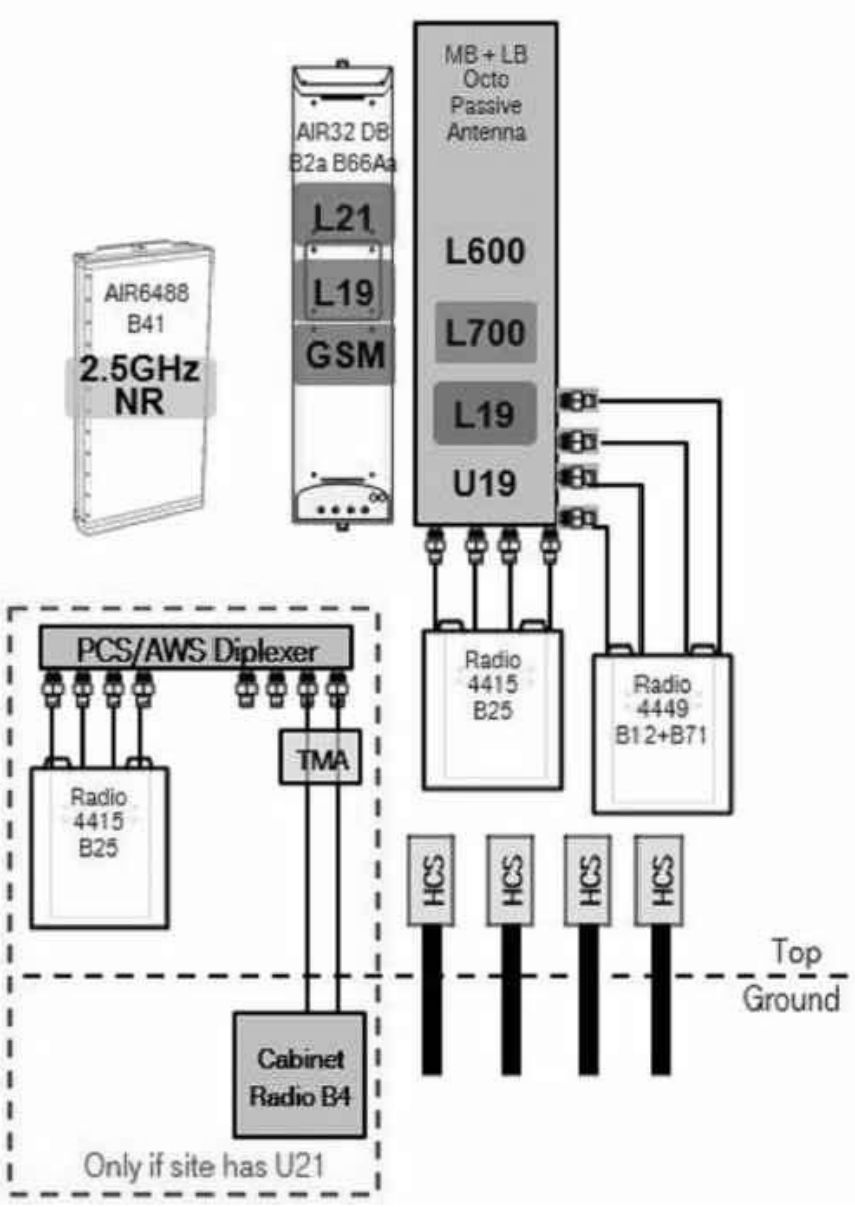
STATE OF CONNECTICUT
No. 31022
LICENSED
PROFESSIONAL ENGINEER
9-10-20

SHEET NUMBER: C-3
REVISION: 2



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
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BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

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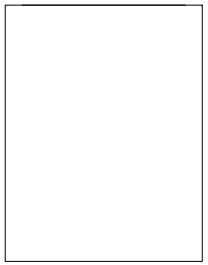
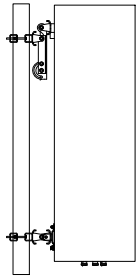
STATE OF CONNECTICUT
No. 31022
LICENSED
PROFESSIONAL ENGINEER
9-10-20

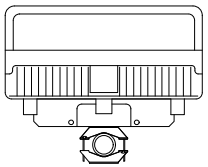
SHEET NUMBER: C-4
REVISION: 2



FRONT VIEW



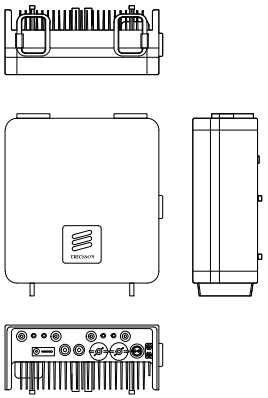
SIDE VIEW



BOTTOM VIEW

ERICSSON – AIR 6449 B41
RADOME COLOR: LIGHT GRAY
WEIGHT (WITHOUT MOUNTING HARDWARE): 104.0 LBS
SIZE (HxWxD): 33.1x20.5x8.6 IN.
CONNECTORS: (2) OPTICAL eCPRI, (1) 48V DC

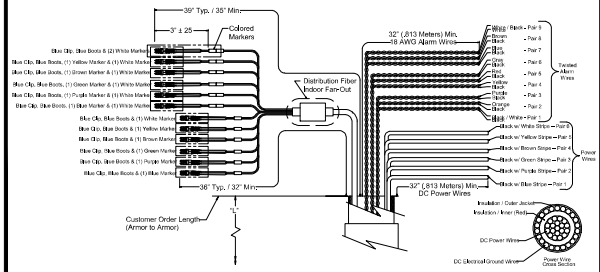
1 ERICSSON – AIR6449 B41
SCALE: NOT TO SCALE



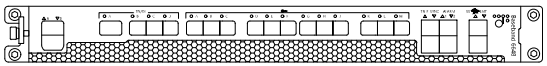
ERICSSON – RRUS 4415 B25
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

2 ERICSSON – RRUS 4415 B25
SCALE: NOT TO SCALE

Structure			
Outer Conductor Armor: Corrugated Aluminum		[mm (in)]	36.0 (1.42)
Jacket:	Flame Retardant	[mm (in)]	39.0 (1.54)
UV-Protection:	Individual and External Jacket		Yes
Mechanical Properties			
Weight, Approximate		[kg/m (lb/ft)]	2.52 (1.70)
Minimum Bending Radius, Single Bending		[mm (in)]	152 (6)
Minimum Bending Radius, Repeated Bending		[mm (in)]	254 (10)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
Electrical Properties			
DC-Resistance Outer Conductor Armor		[W/km (W/1000ft)]	0.9 (0.27)
DC-Resistance Power Cable, 13.3mm2 (6AWG)		[W/km (W/1000ft)]	1.4 (0.42)
Inductance @100-1000Hz		[mH/m (mH/ft)]	< 0.19 (0.06)
DC Power Cable Properties			
Size (Power)		[mm2(AWG)]	13.3 (6)
Quantity, Wire Count (Power)			12 (6 concentric wires)
Size (Alarm)		[mm2(AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			18 (9 stranded pairs)
Type			PVC/Nylon
Primary Jacket Diameter, Nominal		[mm (in)]	9.3 (0.365)



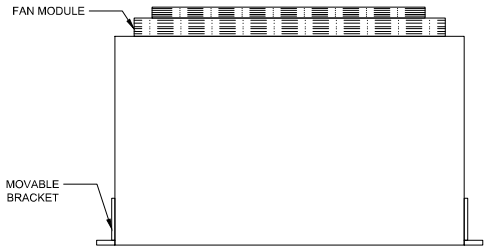
3 ERICSSON 6x12 HCS 6AWG DETAIL
SCALE: NOT TO SCALE



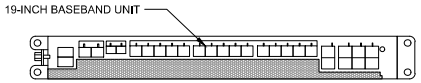
ERICSSON BASEBAND UNIT 6648

DC POWER SUPPLY NOMINAL VOLTAGE:	-48VDC
TEMPERATURE:	0 TO + 55 DEG C
DIMENSION:	19" W X 13.86"D
WEIGHT:	16.53 lbs

4 ERICSSON BASEBAND UNIT 6648
SCALE: NOT TO SCALE



TOP VIEW



FRONT VIEW

ERICSSON BASEBAND 6630

DIMENSION, WxDxH:	19"x13.8"x1.75"
TOTAL WEIGHT:	< 14.3 lbs
CPRI SUPPORT:	2.5 Gbps, 4.9 Gbps, and 10.1 Gbps

5 ERICSSON BASEBAND UNIT 6630
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

T-Mobile
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Trylon
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1825 W. WALNUT HILL LANE, SUITE 120
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T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

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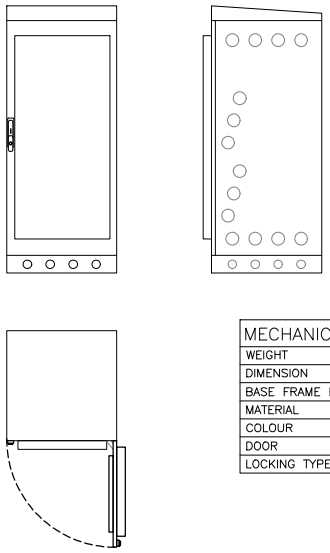
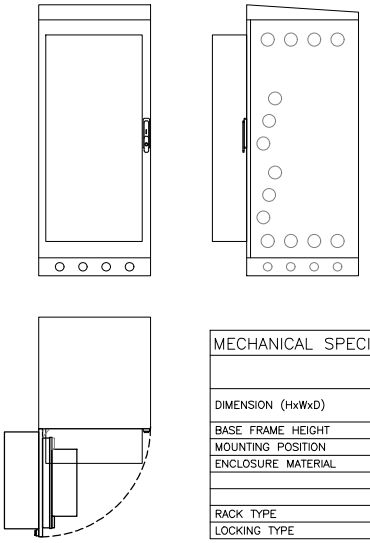
STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9.10.20

SHEET NUMBER: C-5
REVISION: 2



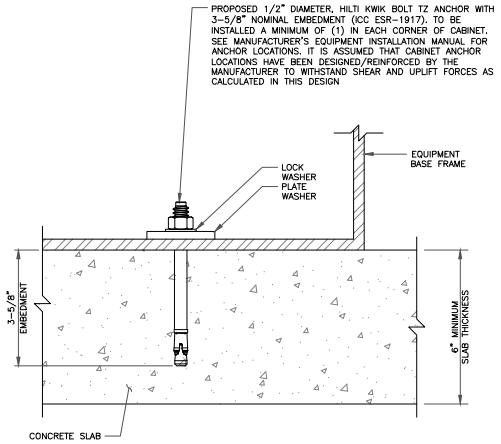
MECHANICAL SPECIFICATION	
WEIGHT	295 LBS (EMPTY) 1885 LBS (MAX)
DIMENSION	63x26x26 IN. (INCL. BASE FRAME)
BASE FRAME HEIGHT	6 IN.
MATERIAL	GALVANIZED STEEL (180G/M^2)
COLOUR	POWDER PAINT NCS 2002-B
DOOR	FRONT ACCESS
LOCKING TYPE	PAD LOCK/CYLINDER

1 ERICSSON B160 CABINET
SCALE: NOT TO SCALE



MECHANICAL SPECIFICATION	
	320 LBS (EMPTY)
	1500 LBS (MAXIMUM LOADING)
DIMENSION (HxWxD)	1600x650x650 MM (INCL. BASE FRAME)
	63x26x26 IN. (INCL. BASE FRAME)
BASE FRAME HEIGHT	150 MM (6 IN.)
MOUNTING POSITION	GROUND
ENCLOSURE MATERIAL	ALUMINUM
	POWDER PAINT NCS 2002-B
	FRONT ACCESS
RACK TYPE	19" (IEC 60297-3-100)
LOCKING TYPE	PAD LOCK OR CYLINDER

2 ERICSSON 6160 CABINET
SCALE: NOT TO SCALE



3 CABINET ANCHOR DETAIL
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
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T-MOBILE SITE NUMBER:
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BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

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STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9-10-20

SHEET NUMBER: C-6
REVISION: 2

CT11417C / PLYMOUTH & ROUTE 6											
AC POWER PANEL #1 (EXISTING)											
120/240 VOLTS, 1-PHASE, 3-WIRE, 100A											
MAIN BREAKER RATING (A):					200		SYSTEM VOLTAGE (V):			240	
DESCRIPTION	VA	c/nc	BKR	POS/N	L1	L2	POS/N	BKR	c/nc	VA	DESCRIPTION
6131 CABINET	7000	c	125	1	8920		2	20	nc	1920	NOT LABELED
	7000	c		3		8920	4		nc	1920	COMMERCIAL
BLANK					1920		6	20	nc	1920	
BLANK				7		0	8				BLANK
BLANK				9	0		10				BLANK
BLANK				11		0	12				BLANK
BLANK				13	0		14				BLANK
BLANK				15		0	16				BLANK
BLANK				17	0		18				BLANK
BLANK				19		0	20				BLANK
BLANK				21	0		22				BLANK
BLANK				23		0	24				BLANK
PHASE TOTALS (VA):					10840	8920					
CURRENT PER PHASE (A):					105	89	Amperes/phase cannot exceed main breaker rating				
PANEL TOTAL (VA):					19760		Legend: c = continuous, nc = non-continuous				
PANEL CAPACITY (kVA):	48.0				CONNECTED LOAD (kVA):	19.8					
PANEL LOADING (100% non-cont. load) (kVA):	5.8										
PANEL LOADING (125% continuous load) (kVA):	17.5										
PANEL LOADING (TOTAL) (kVA):	23.3										
SPARE CAPACITY (kVA):	24.7										

1 EXISTING AC PANEL SCHEDULE, EXISTING BREAKER SCHEDULE
SCALE: NOT TO SCALE

CT11417C / PLYMOUTH & ROUTE 6											
AC POWER PANEL #1 (PROPOSED)											
120/240 VOLTS, 1-PHASE, 3-WIRE, 200A											
MAIN BREAKER RATING (A):					200		SYSTEM VOLTAGE (V):			240	
DESCRIPTION	VA	c/nc	BKR	POS/N	L1	L2	POS/N	BKR	c/nc	VA	DESCRIPTION
6131 CABINET	7000	c	125	1	8920		2	20	nc	1920	NOT LABELED
	7000	c		3		8920	4		nc	1920	COMMERCIAL
6160 CABINET*	6000	c	**100***		7920		6	20	nc	1920	
	6000	c		7		6000	8				BLANK
BLANK				9	0		10				BLANK
BLANK				11		0	12				BLANK
BLANK				13	0		14				BLANK
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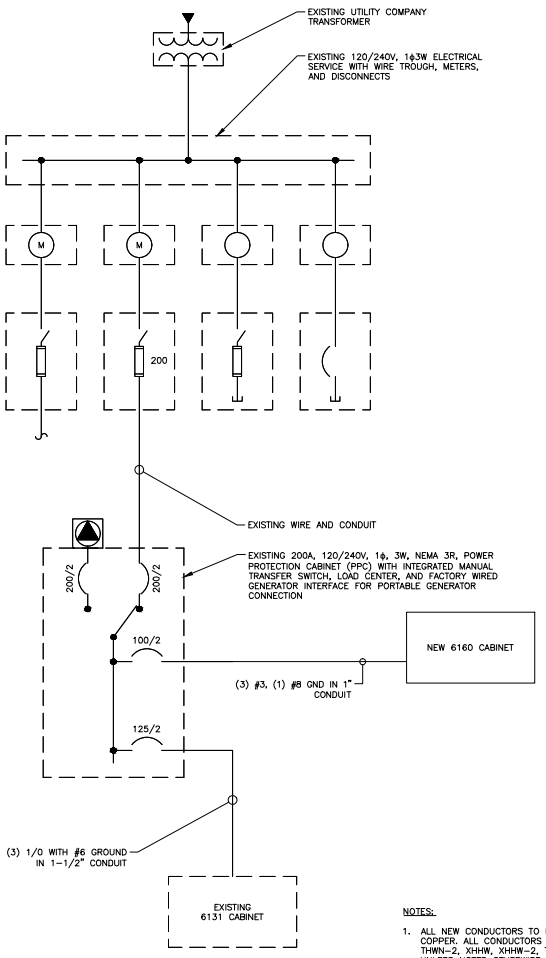
BLANK				23		0	24				BLANK
PHASE TOTALS (VA):					**16840**	**14920**					
CURRENT PER PHASE (A):					**167**	**151**	Amperes/phase cannot exceed main breaker rating				
PANEL TOTAL (VA):					**31760**		Legend: c = continuous, nc = non-continuous				
PANEL CAPACITY (kVA):	48.0				CONNECTED LOAD (kVA):	31.8					
PANEL LOADING (100% non-cont. load) (kVA):	5.8										
PANEL LOADING (125% continuous load) (kVA):	32.5										
PANEL LOADING (TOTAL) (kVA):	38.3										
SPARE CAPACITY (kVA):	9.7										

NOTES:
1. CHANGES AND NEW CIRCUITS ARE INDICATED IN BOLD FONT WITH AN ASTERISK (*).
2. NEW CIRCUIT BREAKERS SHALL MATCH THE SHORT-CIRCUIT INTERRUPT RATING OF EXISTING BREAKERS.
3. INSTALL ONE NEW 100A/2P BREAKER FOR NEW 6160 CABINET.
4. UPDATE PANEL DIRECTORY.

NEW CIRCUIT BREAKERS SHALL MATCH THE SHORT-CIRCUIT INTERRUPT RATING OF EXISTING BREAKERS.

2 EXISTING AC PANEL SCHEDULE, EXISTING BREAKER SCHEDULE
SCALE: NOT TO SCALE



NOTES:

1. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
4. REMOVE WIRING TO EXISTING BREAKERS FROM EQUIPMENT TO BE REMOVED. RELABEL EMPTY BREAKERS AS SPARES.
5. ALL GROUNDING AND BONDING PER THE NEC.

3 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

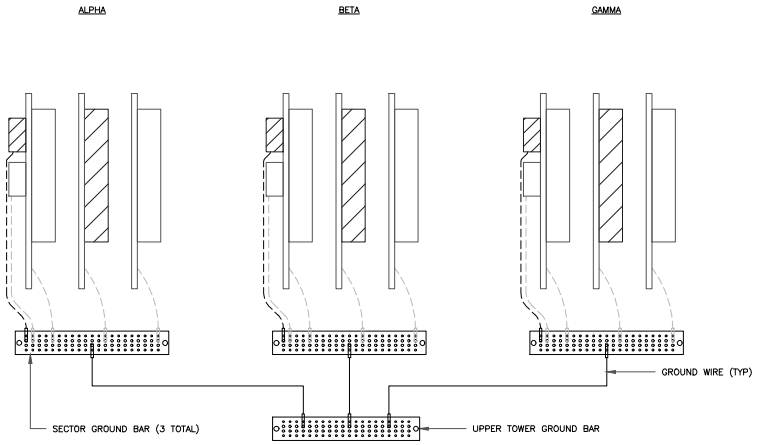
EXISTING 169'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/27/20	RC	FINAL	PL
1	09/07/20	RC	FINAL	PL

STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9.10.20

SHEET NUMBER: E-1
REVISION: 2



NOTE:

ALL NEW GROUNDS TO BE #6 STRANDED COPPER WITH GREEN INSULATION UNLESS NOTED OTHERWISE.

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility

1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

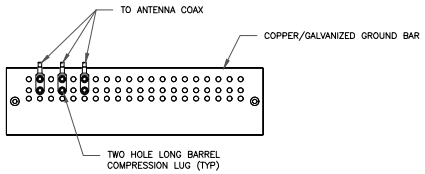
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/27/20	RC	FINAL	PL
1	08/31/20	RC	FINAL	AMC
2	09/07/20	RC	FINAL	AMC

STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9-10-20

SHEET NUMBER: G-1

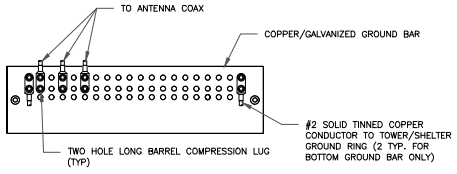
REVISION: 2



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

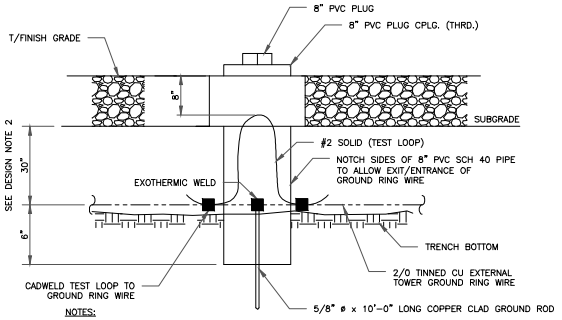
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

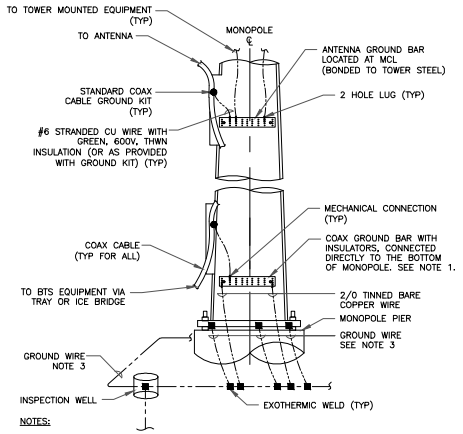
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

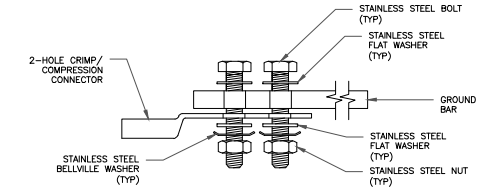
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



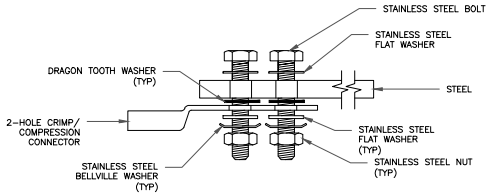
NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

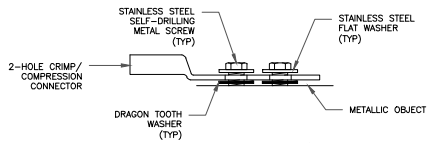
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

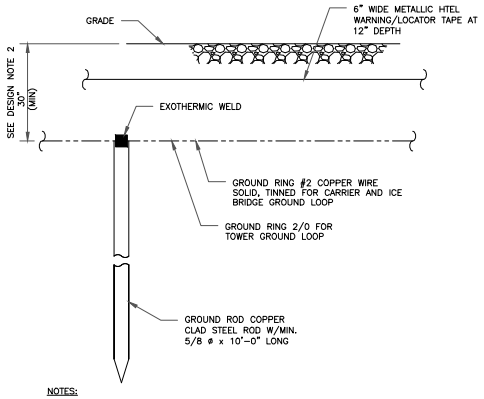


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

171 TOWN HILL ROAD
PLYMOUTH, CT 06786

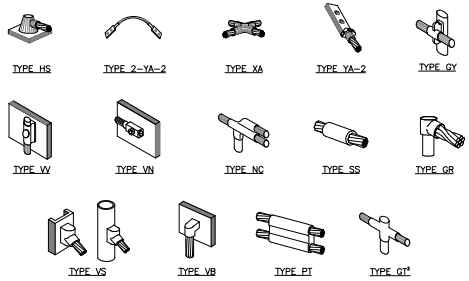
EXISTING 169'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/27/20	RC	FINAL	PL
1	08/31/20	RC	FINAL	AMC
2	09/07/20	RC	FINAL	AMC

STATE OF CONNECTICUT
No. 31022
LICENSED PROFESSIONAL ENGINEER
9-10-20

SHEET NUMBER: G-2
REVISION: 2

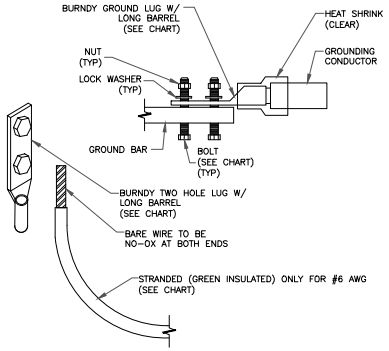


NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

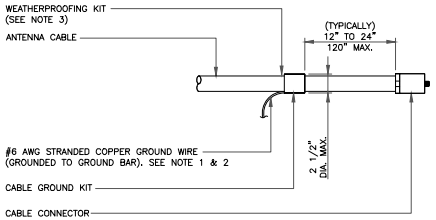
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER,GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

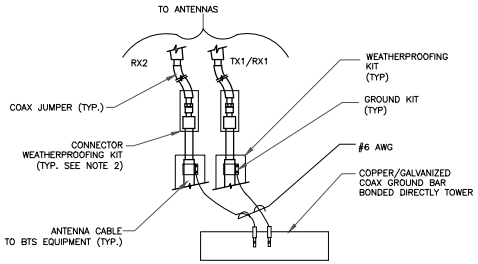
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

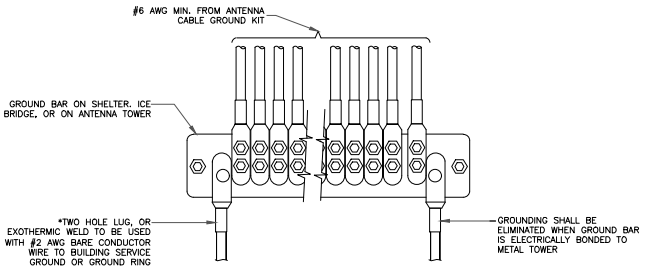
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



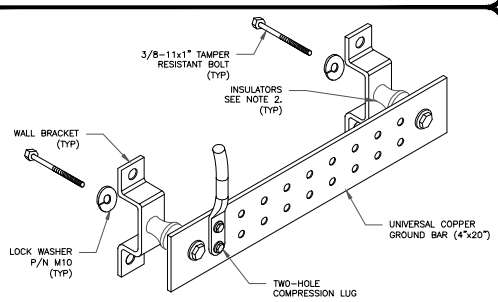
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



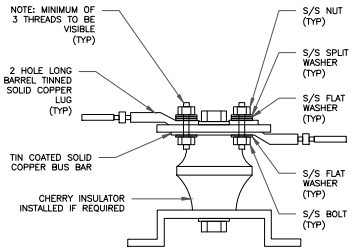
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



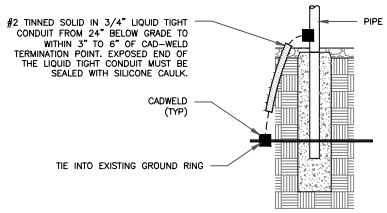
NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

Trylon
Speed, Quality, Credibility
1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038

T-MOBILE SITE NUMBER:
CT11417C

BU #: **826768**
PLYMOUTH/RT 6

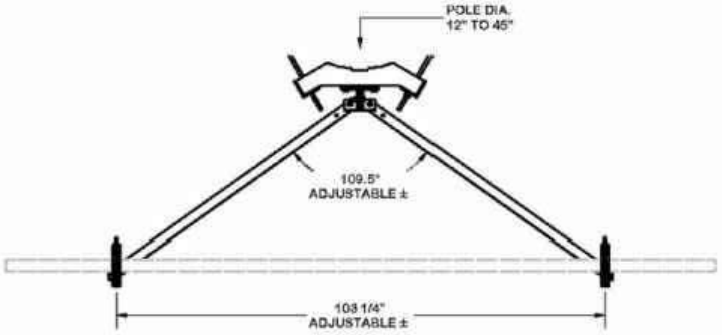
171 TOWN HILL ROAD
PLYMOUTH, CT 06786

EXISTING 169'-0" MONOPOLE

ISSUED FOR:

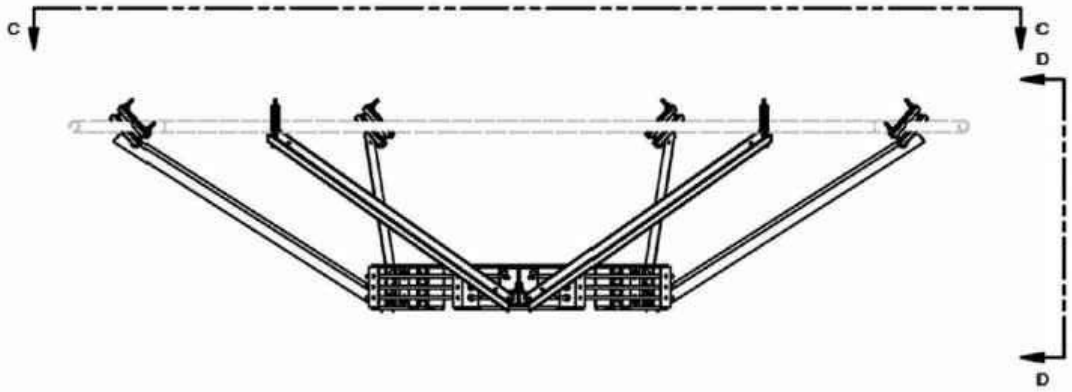
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	07/27/20	RC	FINAL	PL
1	08/31/20	RC	FINAL	AMC
2	09/07/20	RC	FINAL	AMC

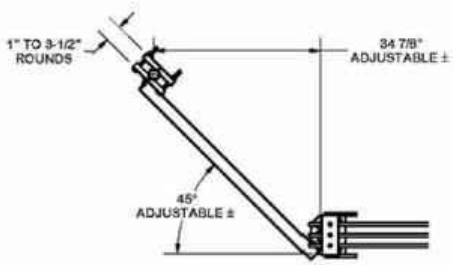
SHEET NUMBER: G-3
REVISION: 2



PARTIAL VIEW C-C

VERTICAL POSITION





PARTIAL VIEW D-D

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1	BC	10/25/2017

REVISION HISTORY

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")

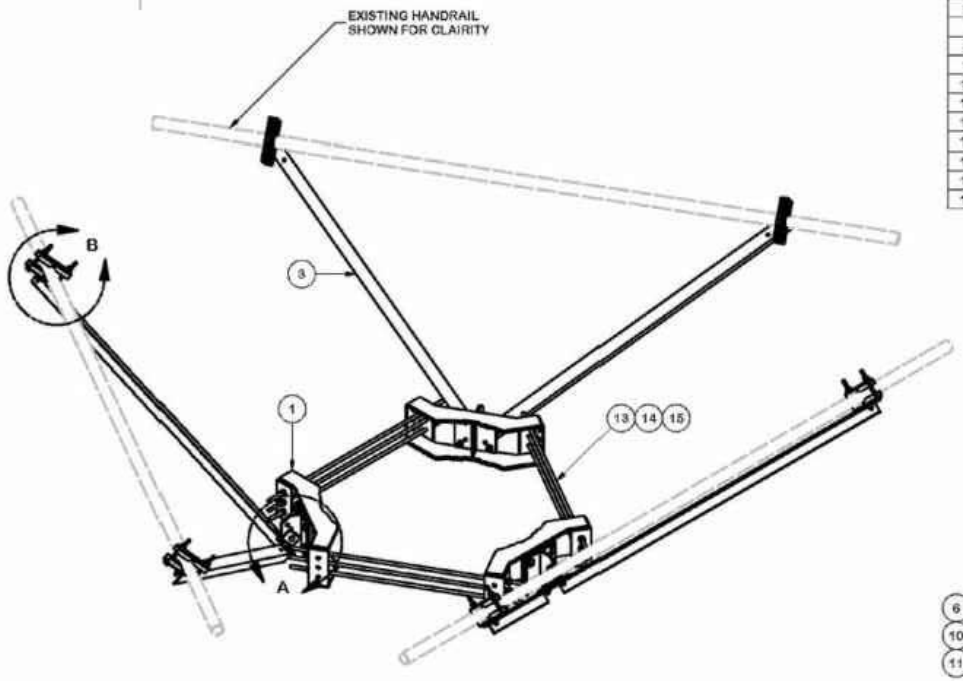
DESCRIPTION: HANDRAIL REINFORCEMENT KIT (LONG)

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL3 2/23/2017	3RD PARTY	PRK-SFS-L

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	SHOP	BMC 9/8/2017	PRK-SFS-L

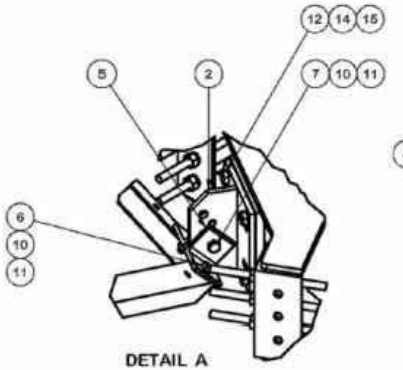
SITE PRO 1 — A valmont company
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

1 ANTENNA MOUNT STABILIZER DETAILS
SCALE: NOT TO SCALE

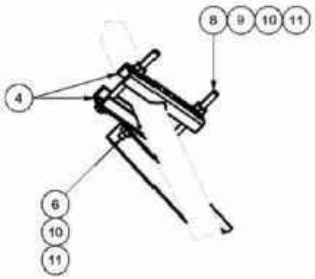


PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		66.81	200.42
2	3	X-TBW	T-BRACKET WELDMENT		13.60	40.80
3	6	X-254924	DIAGONAL ANGLE - SITE PRO 1	72 in	19.71	118.24
4	12	X-STU	STIFF ARM CHANNEL BRACKET	8 1/2 in	1.37	16.46
5	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
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. #	642.04



DETAIL A



DETAIL B

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1	BC	10/25/2017

REVISION HISTORY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
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BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION: HANDRAIL REINFORCEMENT KIT (LONG)

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-L

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	SHOP	BMC 9/8/2017	PRK-SFS-L

1 ANTENNA MOUNT STABILIZER DETAILS
SCALE: NOT TO SCALE

Exhibit D

Structural Analysis Report

Date: **July 14, 2020**

Amanda D Brown
Crown Castle
6325 Ardrey Kell Rd dSuite 600
Charlotte, NC 28277

Black & Veatch Corp.
6800 W. 115th St., Suite 2292
Overland Park, KS 66211
(913) 458-6909

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11417C
	Carrier Site Name:	Plymouth/RT 6
Crown Castle Designation:	**Crown Castle BU Number:**	826768
	Crown Castle Site Name:	Plymouth/RT 6
	Crown Castle JDE Job Number:	614503
	Crown Castle Work Order Number:	1860696
	Crown Castle Order Number:	524461 Rev. 1
Engineering Firm Designation:	**Black & Veatch Corp. Project Number:**	400087
Site Data:	**171 Town Hill Road, Plymouth, Litchfield County, CT** **Latitude *41° 40' 6.197"*, Longitude *-73° 1' 11.842"*** **169 Foot - Monopole Tower**	

Dear Amanda D Brown,

Black & Veatch Corp. is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

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

LC5: Proposed Equipment Configuration **Sufficient Capacity – 59.5%**

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Gunjan Donode / Sanyukta Arvikar

Respectfully submitted by:

Joshua J. Riley, P.E.

Professional Engineer

07/14/2020

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 169 ft Monopole tower designed by PiROD, Inc.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	120 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
164.0	165.0	3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe	3	1 5/8
		3	ericsson	AIR6449 B41 w/ Mount Pipe		
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	ericsson	RRUS 4415 B25		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
	164.0	1	cci tower mounts (v2.1)	Platform Mount [13.4 LP 403-1]		
		3	site pro 1	PRK-SFS-L Stabilizer Kit		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
164.0	186.0	1	rfi antennas	COL45-70	7	7/8
	168.0	2	rfi antennas	COL45-70		
155.0	155.0	3	alcatel lucent	1900MHz RRH	4	1 1/4
		3	alcatel lucent	800MHZ RRH		
		3	alcatel lucent	TD-RRH8x20-25		
		1	cci tower mounts (v2.1)	Platform Mount [11' LP 405-1]		
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
142.0	142.0	3	alcatel lucent	B4 RRH2X60-4R	14	1 5/8
		3	alcatel lucent	RRH2X60-AWS		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	alcatel lucent	RRH2x60-700		
		6	antel	LPA-80080/6CF w/ Mount Pipe		
		1	cci tower mounts (v2.1)	Platform Mount [14' LP 403-1]		
		6	commscope	SBNHH-1D65B w/ Mount Pipe		
		1	rfs celwave	DB-T1-6Z-8AB-0Z		
121.0	125.0	1	rfs celwave	201-4	2	1/2
	121.0	1	cci tower mounts (v2.1)	Side Arm Mount [SO 701-1]		
115.0	115.0	1	cci tower mounts (v2.1)	Platform Mount [13' LP 303-1_HR-1]	12 6 3 2	1 5/8 5/8 3/8 2 Conduit
		3	cci antennas	DTMABP7819VG12A		
		6	cci antennas	TPX-070821		
		3	ericsson	RRUS 11		
		3	ericsson	RRUS 12 B2		
		3	ericsson	RRUS 4426 B66		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS 4478 B5		
		3	ericsson	WCS RRUS-32-B30		
		6	kaelus	DBCT108F1V92-1		
		3	kathrein	80010965 w/ Mount Pipe		
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		3	quintel technology	QS66512-2 w/ Mount Pipe		
		1	raycap	DC6-48-60-18-8C		
		2	raycap	DC6-48-60-18-8F		
105.0	105.0	3	rfs celwave	APXV18-206517S-C w/ Mount Pipe	6	1 5/8
74.0	83.0	1	decibel	DB810T3E-XT	1	7/8
	74.0	1	cci tower mounts (v2.1)	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Clarence Welti, P.E., P.C.	3491991	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	PiROD, Inc.	3678682	CCISITES

Document	Remarks	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	PiROD, Inc.	3491992	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.7.4), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 Standard.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 standards.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Black & Veatch Corp. should be notified to determine the effect on the structural integrity of the tower

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole Tower)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	169 - 164.25	Pole	TP26x18x0.25	1	-0.64	1060.11	0.6	Pass
L2	164.25 - 129.75	Pole	TP34.0625x21.5x0.3125	2	-14.41	1976.75	18.8	Pass
L3	129.75 - 96.08	Pole	TP41.75x32.1327x0.375	3	-27.18	2937.41	29.9	Pass
L4	96.08 - 63.25	Pole	TP49.0625x39.8023x0.375	4	-36.89	3460.30	42.0	Pass
L5	63.25 - 31.25	Pole	TP56.125x46.9543x0.375	5	-47.84	3964.20	51.1	Pass
L6	31.25 - 0	Pole	TP62.9375x53.8466x0.375	6	-62.45	4574.01	59.5	Pass
							Summary	
						Pole (L6)	59.5	Pass
						Rating =	**59.5**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity (Monopole Tower) – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	0	49.2	Pass
	Base Plate		59.5	Pass
1	Base Foundation	0	52.4	Pass
	Base Foundation Soil Interaction		48.0	Pass

Structure Rating (max from all components) =	59.5%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed. Rating per TIA-222-H Section 15.5.
2) Base plates are assumed to have the same capacity as their respective shaft.

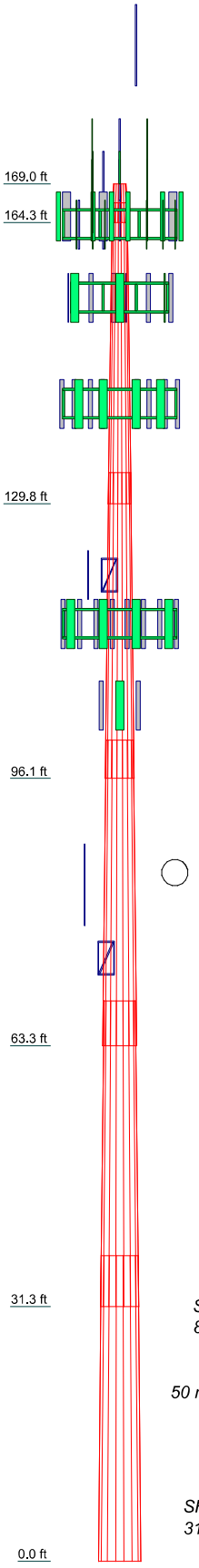
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	4.75	18	0.2500	2.38	18.0000	26.0000		0.3
2	36.88	18	0.3125	3.83	21.5000	34.0625		3.4
3	37.50	18	0.3750	4.67	32.1327	41.7500		5.6
4	37.50	18	0.3750	5.50	39.8023	49.0625	A572-65	6.7
5	37.50	18	0.3750	6.25	46.9543	56.1250		7.8
6	37.50	18	0.3750		53.8466	62.9375		8.8
								32.5



ALL REACTIONS ARE FACTORED

AXIAL 106 K

SHEAR 8 K — *MOMENT 1014 kip-ft*

TORQUE 1 kip-ft
50 mph WIND - 1.5000 in ICE

AXIAL 62 K

SHEAR 31 K — *MOMENT 3566 kip-ft*

TORQUE 2 kip-ft
REACTIONS - 120 mph WIND

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 59.5%

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FAX: (913) 458-8145

Job: ***Plymouth/RT 6 (BU# 826768)***			
Project: ***400087 (826768.1860696)***			
Client: Crown Castle	Drawn by: Gunjan Donode		App'd:
Code: TIA-222-H	Date: 07/14/20		Scale: NTS
Path: C:\Users\don94951\Desktop\826768\ver\826768.1860696 Structural Analysis.dn			Dwg No. E-1

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

1) Tower is located in Litchfield County, Connecticut.
2) Tower base elevation above sea level: 890.00 ft.
3) Basic wind speed of 120 mph.
4) Risk Category II.
5) Exposure Category B.
6) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
7) Topographic Category: 1.
8) Crest Height: 0.00 ft.
9) Nominal ice thickness of 1.5000 in.
10) Ice thickness is considered to increase with height.
11) Ice density of 56 pcf.
12) A wind speed of 50 mph is used in combination with ice.
13) Temperature drop of 50 °F.
14) Deflections calculated using a wind speed of 60 mph.
15) A non-linear (P-delta) analysis was used.
16) Pressures are calculated at each section.
17) Stress ratio used in pole design is 1.05.
18) Tower analysis based on target reliabilities in accordance with Annex S.
19) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
20) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules	
Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces	
Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA	
Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression	
Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable	
Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation	
Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque	
Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check	
Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption	
Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption	
Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles	
Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction	
Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow	
SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets	
SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments	
				Pole With Shroud Or No Appurtenances	
				Outside and Inside Corner Radii Are Known	

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	169.00-164.25	4.75	2.38	18	18.0000	26.0000	0.2500	1.0000	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L2	164.25-129.75	36.88	3.83	18	21.5000	34.0625	0.3125	1.2500	A572-65 (65 ksi)
L3	129.75-96.08	37.50	4.67	18	32.1327	41.7500	0.3750	1.5000	A572-65 (65 ksi)
L4	96.08-63.25	37.50	5.50	18	39.8023	49.0625	0.3750	1.5000	A572-65 (65 ksi)
L5	63.25-31.25	37.50	6.25	18	46.9543	56.1250	0.3750	1.5000	A572-65 (65 ksi)
L6	31.25-0.00	37.50		18	53.8466	62.9375	0.3750	1.5000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	18.2391	14.0846	560.6340	6.3012	9.1440	61.3117	1122.0058	7.0437	2.7280	10.912
	26.3625	20.4326	1711.6544	9.1412	13.2080	129.5922	3425.5610	10.2183	4.1360	16.544
L2	22.6051	21.0154	1191.8828	7.5216	10.9220	109.1268	2385.3338	10.5097	3.2340	10.349
	34.5398	33.4758	4817.4335	11.9812	17.3038	278.4040	9641.2058	16.7411	5.4450	17.424
L3	33.5680	37.7996	4816.4040	11.2740	16.3234	295.0611	9639.1455	18.9034	4.9954	13.321
	42.3362	49.2466	10650.9822	14.6881	21.2090	502.1916	21315.9793	24.6280	6.6880	17.835
L4	41.5295	46.9284	9216.5336	13.9967	20.2196	455.8222	18445.1946	23.4686	6.3452	16.921
	49.7615	57.9503	17355.1378	17.2841	24.9238	696.3293	34733.1119	28.9807	7.9750	21.267
L5	48.9866	55.4411	15196.9230	16.5357	23.8528	637.1126	30413.8426	27.7258	7.6040	20.277
	56.9330	66.3564	26056.1506	19.7913	28.5115	913.8821	52146.5865	33.1845	9.2180	24.581
L6	56.1579	63.6445	22990.2730	18.9824	27.3541	840.4705	46010.7971	31.8283	8.8170	23.512
	63.8506	74.4650	36822.8946	22.2097	31.9722	1151.7142	73694.2417	37.2396	10.4170	27.779

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 169.00-164.25				1	1	1			
L2 164.25-129.75				1	1	1			
L3 129.75-96.08				1	1	1			
L4 96.08-63.25				1	1	1			
L5 63.25-31.25				1	1	1			
L6 31.25-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	A	No	Surface Ar (CaAa)	169.00 - 8.00	1	1	-0.140 -0.130	0.3750		0.22

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
*****121*****										
LDF4-50A(1/2)	A	No	Surface Ar (CaAa)	121.00 - 8.00	1	1	-0.250 -0.237	0.6250		0.15
LDF4-50A(1/2)	A	No	Surface Ar (CaAa)	121.00 - 8.00	1	1	0.000 0.013	0.6250		0.15
*****115*****										
LDF7-50A(1-5/8)	A	No	Surface Ar (CaAa)	115.00 - 8.00	12	6	0.200 0.444	1.9800		0.82
(2) WR-VG82ST-BRDA(5/8) + (1) FB-L98B-034-XXX(3/8)	A	No	Surface Ar (CaAa)	115.00 - 8.00	3	1	0.270 0.283	0.6450		0.31
2" innerduct conduit	A	No	Surface Ar (CaAa)	115.00 - 0.00	2	1	0.400 0.441	2.0000		0.20
WR-VG82ST-BRDA(5/8)	A	No	Surface Ar (CaAa)	115.00 - 0.00	4	2	0.400 0.441	0.0000		0.31
FB-L98B-034-XXX(3/8)	A	No	Surface Ar (CaAa)	115.00 - 0.00	2	1	0.400 0.441	0.0000		0.06
*****105*****										
LDF7-50A(1-5/8)	B	No	Surface Ar (CaAa)	105.00 - 8.00	6	6	-0.250 -0.013	1.9800		0.82
*****74*****										
LDF5-50A(7/8)	A	No	Surface Ar (CaAa)	74.00 - 0.00	1	1	-0.237 -0.218	1.0300		0.33
*****										
*****										
*****										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
*****164*****									
810921-701(7/8)	C	No	No	Inside Pole	164.00 - 0.00	7	No Ice	0.00	0.34
							1/2" Ice	0.00	0.34
							1" Ice	0.00	0.34
							2" Ice	0.00	0.34
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	164.00 - 0.00	3	No Ice	0.00	2.40
							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40
							2" Ice	0.00	2.40
*****155*****									
HB114-1-08U4-M6F(1-1/4)	C	No	No	Inside Pole	155.00 - 0.00	3	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
							2" Ice	0.00	1.30
HB114-21U3M12-XXXF(1-1/4)	C	No	No	Inside Pole	155.00 - 0.00	1	No Ice	0.00	1.22
							1/2" Ice	0.00	1.22
							1" Ice	0.00	1.22
							2" Ice	0.00	1.22
*****142*****									
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Inside Pole	142.00 - 0.00	2	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
							2" Ice	0.00	1.30
LDF7-50A(1-5/8)	C	No	No	Inside Pole	142.00 - 0.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
*****									
*****									
*****									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	A_R	A_F	C_AA_A In Face	C_AA_A Out Face	Weight
	ft		ft^2	ft^2	ft^2	ft^2	K
L1	169.00-164.25	A	0.000	0.000	0.178	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	164.25-129.75	A	0.000	0.000	1.294	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.61
L3	129.75-96.08	A	0.000	0.000	31.859	0.000	0.25
		B	0.000	0.000	10.597	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.91
L4	96.08-63.25	A	0.000	0.000	54.128	0.000	0.43
		B	0.000	0.000	39.002	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.89
L5	63.25-31.25	A	0.000	0.000	54.976	0.000	0.43
		B	0.000	0.000	38.016	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.87
L6	31.25-0.00	A	0.000	0.000	42.368	0.000	0.33
		B	0.000	0.000	27.621	0.000	0.11
		C	0.000	0.000	0.000	0.000	0.85

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A_R	A_F	C_AA_A In Face	C_AA_A Out Face	Weight
	ft		in	ft^2	ft^2	ft^2	ft^2	K
L1	169.00-164.25	A	1.499	0.000	0.000	1.602	0.000	0.02
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L2	164.25-129.75	A	1.479	0.000	0.000	11.637	0.000	0.13
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.61
L3	129.75-96.08	A	1.441	0.000	0.000	92.975	0.000	1.61
		B		0.000	0.000	16.545	0.000	0.22
		C		0.000	0.000	0.000	0.000	0.91
L4	96.08-63.25	A	1.392	0.000	0.000	147.417	0.000	2.59
		B		0.000	0.000	60.582	0.000	0.78
		C		0.000	0.000	0.000	0.000	0.89
L5	63.25-31.25	A	1.322	0.000	0.000	149.115	0.000	2.51
		B		0.000	0.000	58.656	0.000	0.74
		C		0.000	0.000	0.000	0.000	0.87
L6	31.25-0.00	A	1.181	0.000	0.000	116.640	0.000	1.90
		B		0.000	0.000	42.208	0.000	0.51
		C		0.000	0.000	0.000	0.000	0.85

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	169.00-164.25	-0.2922	-0.0718	-1.2781	-0.3139
L2	164.25-129.75	-0.2929	-0.0719	-1.3402	-0.3292
L3	129.75-96.08	-1.0391	-6.1541	-2.5840	-6.1667
L4	96.08-63.25	0.5457	-9.6664	-1.5332	-8.8470
L5	63.25-31.25	0.2930	-10.1949	-2.0758	-9.4462
L6	31.25-0.00	0.0676	-9.0321	-2.1061	-8.9849

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	164.25 - 169.00	1.0000	1.0000
L2	1	Safety Line 3/8	129.75 - 164.25	1.0000	1.0000
L3	1	Safety Line 3/8	96.08 - 129.75	1.0000	1.0000
L3	15	LDF4-50A(1/2)	96.08 - 121.00	1.0000	1.0000
L3	16	LDF4-50A(1/2)	96.08 - 121.00	1.0000	1.0000
L3	18	LDF7-50A(1-5/8)	96.08 - 115.00	1.0000	1.0000
L3	19	(2) WR-VG82ST-BRDA(5/8) + (1) FB-L98B-034-XXX(3/8)	96.08 - 115.00	1.0000	1.0000
L3	20	2" innerduct conduit	96.08 - 115.00	1.0000	1.0000
L3	21	WR-VG82ST-BRDA(5/8)	96.08 - 115.00	1.0000	1.0000
L3	22	FB-L98B-034-XXX(3/8)	96.08 - 115.00	1.0000	1.0000
L3	24	LDF7-50A(1-5/8)	96.08 - 105.00	1.0000	1.0000
L4	1	Safety Line 3/8	63.25 - 96.08	1.0000	1.0000
L4	15	LDF4-50A(1/2)	63.25 - 96.08	1.0000	1.0000
L4	16	LDF4-50A(1/2)	63.25 - 96.08	1.0000	1.0000
L4	18	LDF7-50A(1-5/8)	63.25 - 96.08	1.0000	1.0000
L4	19	(2) WR-VG82ST-BRDA(5/8) + (1) FB-L98B-034-XXX(3/8)	63.25 - 96.08	1.0000	1.0000
L4	20	2" innerduct conduit	63.25 - 96.08	1.0000	1.0000
L4	21	WR-VG82ST-BRDA(5/8)	63.25 - 96.08	1.0000	1.0000
L4	22	FB-L98B-034-XXX(3/8)	63.25 - 96.08	1.0000	1.0000
L4	24	LDF7-50A(1-5/8)	63.25 - 96.08	1.0000	1.0000
L4	26	LDF5-50A(7/8)	63.25 - 74.00	1.0000	1.0000
L5	1	Safety Line 3/8	31.25 - 63.25	1.0000	1.0000
L5	15	LDF4-50A(1/2)	31.25 - 63.25	1.0000	1.0000
L5	16	LDF4-50A(1/2)	31.25 - 63.25	1.0000	1.0000
L5	18	LDF7-50A(1-5/8)	31.25 - 63.25	1.0000	1.0000
L5	19	(2) WR-VG82ST-BRDA(5/8) + (1) FB-L98B-034-XXX(3/8)	31.25 - 63.25	1.0000	1.0000
L5	20	2" innerduct conduit	31.25 - 63.25	1.0000	1.0000
L5	21	WR-VG82ST-BRDA(5/8)	31.25 - 63.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L5	22	FB-L98B-034-XXX(3/8)	31.25 - 63.25	1.0000	1.0000
L5	24	LDF7-50A(1-5/8)	31.25 - 63.25	1.0000	1.0000
L5	26	LDF5-50A(7/8)	31.25 - 63.25	1.0000	1.0000
L6	1	Safety Line 3/8	8.00 - 31.25	1.0000	1.0000
L6	15	LDF4-50A(1/2)	8.00 - 31.25	1.0000	1.0000
L6	16	LDF4-50A(1/2)	8.00 - 31.25	1.0000	1.0000
L6	18	LDF7-50A(1-5/8)	8.00 - 31.25	1.0000	1.0000
L6	19	(2) WR-VG82ST-BRDA(5/8) + (1) FB-L98B-034-XXX(3/8)	8.00 - 31.25	1.0000	1.0000
L6	20	2" innerduct conduit	0.00 - 31.25	1.0000	1.0000
L6	21	WR-VG82ST-BRDA(5/8)	0.00 - 31.25	1.0000	1.0000
L6	22	FB-L98B-034-XXX(3/8)	0.00 - 31.25	1.0000	1.0000
L6	24	LDF7-50A(1-5/8)	8.00 - 31.25	1.0000	1.0000
L6	26	LDF5-50A(7/8)	0.00 - 31.25	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 5/8"x4'	C	From Face	0.50 0.00 2.00	0.0000	169.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.25 0.66 0.97 1.49	0.25 0.66 0.97 1.49	0.00 0.01 0.01 0.03
Side Arm Mount [SO 701-3]	C	None		0.0000	167.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.02 4.18 5.33 7.63	3.02 4.18 5.33 7.63	0.20 0.24 0.28 0.36
8'x3" Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	167.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.80 3.41 3.89 4.90	2.80 3.41 3.89 4.90	0.06 0.08 0.11 0.17
8'x2" Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	167.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
8'x2" Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	167.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
8'x2" Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	167.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
15' Omni	A	From Leg	3.00 0.00 5.00	0.0000	167.00	No Ice 1/2" Ice 1" Ice	4.13 5.66 7.20 10.35	4.13 5.66 7.20 10.35	0.04 0.07 0.10 0.21

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
15' Omni	B	From Leg	3.00 0.00 5.00	0.0000	167.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.13 5.66 7.20 10.35	4.13 5.66 7.20 10.35	0.04 0.07 0.10 0.21
15' Omni	C	From Leg	3.00 0.00 5.00	0.0000	167.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.13 5.66 7.20 10.35	4.13 5.66 7.20 10.35	0.04 0.07 0.10 0.21
*****164***** *TMO* Platform Mount [13.4 LP 403-1]	C	None		0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	16.92 20.82 24.78 32.85	16.92 20.82 24.78 32.85	1.34 1.70 2.12 3.15
Side Arm Mount [SO 102-3]	C	None		0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.60 4.18 4.75 5.90	3.60 4.18 4.75 5.90	0.07 0.11 0.14 0.20
Site Pro 1 PRK-SFS-L Stabilizer Kit	A	From Leg	0.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.24 4.78 5.44 6.64	3.96 4.46 5.06 6.18	0.08 0.10 0.14 0.17
Site Pro 1 PRK-SFS-L Stabilizer Kit	B	From Leg	0.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.24 4.78 5.44 6.64	3.96 4.46 5.06 6.18	0.08 0.10 0.14 0.17
Site Pro 1 PRK-SFS-L Stabilizer Kit	C	From Leg	0.00 0.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.24 4.78 5.44 6.64	3.96 4.46 5.06 6.18	0.08 0.10 0.14 0.17
4'x2" Mount Pipe	A	From Leg	4.00 -2.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	B	From Leg	4.00 -2.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	C	From Leg	4.00 -2.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	B	From Leg	4.00 2.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	C	From Leg	4.00 2.00 0.00	0.0000	164.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	A	From Leg	4.00 -5.00	0.0000	164.00	No Ice 1/2"	0.87 1.11	0.87 1.11	0.01 0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	1.36	1.36	0.03
						1" Ice	1.90	1.90	0.06
						2" Ice			
4'x2" Mount Pipe	B	From Leg	4.00	0.0000	164.00	No Ice	0.87	0.87	0.01
			-5.00			1/2"	1.11	1.11	0.02
			0.00			Ice	1.36	1.36	0.03
						1" Ice	1.90	1.90	0.06
						2" Ice			
4'x2" Mount Pipe	C	From Leg	4.00	0.0000	164.00	No Ice	0.87	0.87	0.01
			-5.00			1/2"	1.11	1.11	0.02
			0.00			Ice	1.36	1.36	0.03
						1" Ice	1.90	1.90	0.06
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00	0.0000	164.00	No Ice	14.69	6.87	0.19
			-6.50			1/2"	15.46	7.55	0.31
			1.00			Ice	16.23	8.25	0.46
						1" Ice	17.82	9.67	0.79
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00	0.0000	164.00	No Ice	14.69	6.87	0.19
			-6.50			1/2"	15.46	7.55	0.31
			1.00			Ice	16.23	8.25	0.46
						1" Ice	17.82	9.67	0.79
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00	0.0000	164.00	No Ice	14.69	6.87	0.19
			-6.50			1/2"	15.46	7.55	0.31
			1.00			Ice	16.23	8.25	0.46
						1" Ice	17.82	9.67	0.79
						2" Ice			
AIR6449 B41 w/ Mount Pipe	A	From Leg	4.00	0.0000	164.00	No Ice	5.89	3.28	0.12
			-2.00			1/2"	6.26	3.74	0.17
			1.00			Ice	6.63	4.22	0.22
						1" Ice	7.41	5.21	0.35
						2" Ice			
AIR6449 B41 w/ Mount Pipe	B	From Leg	4.00	0.0000	164.00	No Ice	5.89	3.28	0.12
			-2.00			1/2"	6.26	3.74	0.17
			1.00			Ice	6.63	4.22	0.22
						1" Ice	7.41	5.21	0.35
						2" Ice			
AIR6449 B41 w/ Mount Pipe	C	From Leg	4.00	0.0000	164.00	No Ice	5.89	3.28	0.12
			-2.00			1/2"	6.26	3.74	0.17
			1.00			Ice	6.63	4.22	0.22
						1" Ice	7.41	5.21	0.35
						2" Ice			
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00	0.0000	164.00	No Ice	6.75	6.07	0.15
			6.50			1/2"	7.20	6.87	0.21
			1.00			Ice	7.65	7.58	0.28
						1" Ice	8.57	9.06	0.44
						2" Ice			
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.00	0.0000	164.00	No Ice	6.75	6.07	0.15
			6.50			1/2"	7.20	6.87	0.21
			1.00			Ice	7.65	7.58	0.28
						1" Ice	8.57	9.06	0.44
						2" Ice			
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00	0.0000	164.00	No Ice	6.75	6.07	0.15
			6.50			1/2"	7.20	6.87	0.21
			1.00			Ice	7.65	7.58	0.28
						1" Ice	8.57	9.06	0.44
						2" Ice			
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.00	0.0000	164.00	No Ice	1.97	1.59	0.07
			0.00			1/2"	2.15	1.75	0.09
			1.00			Ice	2.33	1.92	0.12
						1" Ice	2.72	2.28	0.17
						2" Ice			
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.00	0.0000	164.00	No Ice	1.97	1.59	0.07
			0.00			1/2"	2.15	1.75	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			1.00			Ice	2.33	1.92	0.12
						1" Ice	2.72	2.28	0.17
						2" Ice			
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.00	0.0000	164.00	No Ice	1.97	1.59	0.07
			0.00			1/2"	2.15	1.75	0.09
			1.00			Ice	2.33	1.92	0.12
						1" Ice	2.72	2.28	0.17
						2" Ice			
RRUS 4415 B25	A	From Leg	4.00	0.0000	164.00	No Ice	1.64	0.68	0.04
			0.00			1/2"	1.80	0.79	0.06
			1.00			Ice	1.97	0.91	0.07
						1" Ice	2.33	1.18	0.11
						2" Ice			
RRUS 4415 B25	B	From Leg	4.00	0.0000	164.00	No Ice	1.64	0.68	0.04
			0.00			1/2"	1.80	0.79	0.06
			1.00			Ice	1.97	0.91	0.07
						1" Ice	2.33	1.18	0.11
						2" Ice			
RRUS 4415 B25	C	From Leg	4.00	0.0000	164.00	No Ice	1.64	0.68	0.04
			0.00			1/2"	1.80	0.79	0.06
			1.00			Ice	1.97	0.91	0.07
						1" Ice	2.33	1.18	0.11
						2" Ice			
Plymouth COL45-70	A	From Leg	4.00	0.0000	164.00	No Ice	1.38	1.38	0.01
			-2.00			1/2"	2.32	2.32	0.02
			4.00			Ice	3.27	3.27	0.03
						1" Ice	4.82	4.82	0.09
						2" Ice			
COL45-70	C	From Leg	4.00	0.0000	164.00	No Ice	1.38	1.38	0.01
			-2.00			1/2"	2.32	2.32	0.02
			4.00			Ice	3.27	3.27	0.03
						1" Ice	4.82	4.82	0.09
						2" Ice			
COL45-70	A	From Leg	4.00	0.0000	164.00	No Ice	1.38	1.38	0.01
			2.00			1/2"	2.32	2.32	0.02
			22.00			Ice	3.27	3.27	0.03
						1" Ice	4.82	4.82	0.09
						2" Ice			
*****155*****									
Platform Mount [11' LP 405-1]	C	None		0.0000	155.00	No Ice	13.92	13.92	1.20
						1/2"	19.26	19.26	1.52
						Ice	24.69	24.69	1.91
						1" Ice	35.82	35.82	2.93
						2" Ice			
6'x2" Mount Pipe	A	From Face	3.00	0.0000	155.00	No Ice	1.43	1.43	0.02
			-5.50			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
6'x2" Mount Pipe	B	From Face	3.00	0.0000	155.00	No Ice	1.43	1.43	0.02
			-5.50			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
6'x2" Mount Pipe	C	From Face	3.00	0.0000	155.00	No Ice	1.43	1.43	0.02
			-5.50			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
APXVTM14-C-120 w/ Mount Pipe	A	From Face	3.00	0.0000	155.00	No Ice	4.09	2.86	0.08
			5.50			1/2"	4.48	3.23	0.13
			0.00			Ice	4.88	3.61	0.19
						1" Ice	5.71	4.40	0.33
						2" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXVTM14-C-120 w/ Mount Pipe	B	From Face	3.00 5.50 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.48 4.88 5.71	2.86 3.23 3.61 4.40	0.08 0.13 0.19 0.33
APXVTM14-C-120 w/ Mount Pipe	C	From Face	3.00 5.50 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.48 4.88 5.71	2.86 3.23 3.61 4.40	0.08 0.13 0.19 0.33
APXVSPP18-C-A20 w/ Mount Pipe	A	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.60 5.05 5.50 6.44	4.01 4.45 4.89 5.82	0.10 0.16 0.23 0.42
APXVSPP18-C-A20 w/ Mount Pipe	B	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.60 5.05 5.50 6.44	4.01 4.45 4.89 5.82	0.10 0.16 0.23 0.42
APXVSPP18-C-A20 w/ Mount Pipe	C	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.60 5.05 5.50 6.44	4.01 4.45 4.89 5.82	0.10 0.16 0.23 0.42
TD-RRH8x20-25	A	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
TD-RRH8x20-25	B	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
TD-RRH8x20-25	C	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
800MHZ RRH	A	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
800MHZ RRH	B	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
800MHZ RRH	C	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
1900MHz RRH	A	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.49 2.70 2.91 3.35	3.26 3.48 3.72 4.21	0.04 0.08 0.11 0.19
1900MHz RRH	B	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.49 2.70 2.91 3.35	3.26 3.48 3.72 4.21	0.04 0.08 0.11 0.19

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
1900MHz RRH	C	From Face	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.49 2.70 2.91 3.35	3.26 3.48 3.72 4.21	0.04 0.08 0.11 0.19
*****142*****									
Platform Mount [14' LP 403-1]	C	None		0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	17.68 21.76 25.89 34.32	17.68 21.76 25.89 34.32	1.40 1.77 2.22 3.29
(2) LPA-80080/6CF w/ Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.56 5.11 5.61 6.65	10.26 11.43 12.31 14.13	0.05 0.11 0.19 0.36
(2) LPA-80080/6CF w/ Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.56 5.11 5.61 6.65	10.26 11.43 12.31 14.13	0.05 0.11 0.19 0.36
(2) LPA-80080/6CF w/ Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.56 5.11 5.61 6.65	10.26 11.43 12.31 14.13	0.05 0.11 0.19 0.36
SBNHH-1D65B w/ Mount Pipe	A	From Face	4.00 -2.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.49 4.89 5.72	3.30 3.68 4.07 4.87	0.07 0.13 0.20 0.39
SBNHH-1D65B w/ Mount Pipe	B	From Face	4.00 -2.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.49 4.89 5.72	3.30 3.68 4.07 4.87	0.07 0.13 0.20 0.39
SBNHH-1D65B w/ Mount Pipe	C	From Face	4.00 -2.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.49 4.89 5.72	3.30 3.68 4.07 4.87	0.07 0.13 0.20 0.39
SBNHH-1D65B w/ Mount Pipe	A	From Face	4.00 2.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.49 4.89 5.72	3.30 3.68 4.07 4.87	0.07 0.13 0.20 0.39
SBNHH-1D65B w/ Mount Pipe	B	From Face	4.00 2.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.49 4.89 5.72	3.30 3.68 4.07 4.87	0.07 0.13 0.20 0.39
SBNHH-1D65B w/ Mount Pipe	C	From Face	4.00 2.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.49 4.89 5.72	3.30 3.68 4.07 4.87	0.07 0.13 0.20 0.39
B4 RRH2X60-4R	A	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.36 3.61 3.88 4.42	2.00 2.24 2.48 2.97	0.06 0.08 0.10 0.17
B4 RRH2X60-4R	B	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice	3.36 3.61 3.88 4.42	2.00 2.24 2.48 2.97	0.06 0.08 0.10 0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
B4 RRH2X60-4R	C	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.36 3.61 3.88 4.42	2.00 2.24 2.48 2.97	0.06 0.08 0.10 0.17
RRH2x60-700	A	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.50 3.76 4.03 4.58	1.82 2.05 2.29 2.79	0.06 0.08 0.11 0.17
RRH2x60-700	B	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.50 3.76 4.03 4.58	1.82 2.05 2.29 2.79	0.06 0.08 0.11 0.17
RRH2x60-700	C	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.50 3.76 4.03 4.58	1.82 2.05 2.29 2.79	0.06 0.08 0.11 0.17
RRH2X60-AWS	A	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.50 3.76 4.03 4.58	2.10 2.34 2.58 3.09	0.06 0.08 0.11 0.18
RRH2X60-AWS	B	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.50 3.76 4.03 4.58	2.10 2.34 2.58 3.09	0.06 0.08 0.11 0.18
RRH2X60-AWS	C	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.50 3.76 4.03 4.58	2.10 2.34 2.58 3.09	0.06 0.08 0.11 0.18
DB-T1-6Z-8AB-0Z	C	From Face	4.00 0.00 0.00	0.0000	142.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.80 5.07 5.35 5.93	2.00 2.19 2.39 2.81	0.04 0.08 0.12 0.21
*****121*****									
Side Arm Mount [SO 701-1]	A	From Face	0.00 0.00 0.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.85 1.14 1.43 2.01	1.67 2.34 3.01 4.35	0.07 0.08 0.09 0.12
4'x2" Mount Pipe	A	From Face	3.00 0.00 0.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
201-4	A	From Face	3.00 0.00 4.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.13 2.00 2.90 4.31	1.13 2.00 2.90 4.31	0.00 0.01 0.03 0.08
*****115*****									
Platform Mount [13' LP 303-1_HR-1]	C	None		0.0000	115.00	No Ice 1/2" Ice 1" Ice 2" Ice	17.77 22.33 26.75 35.32	17.77 22.33 26.75 35.32	1.55 1.96 2.44 3.66
7770.00 w/ Mount Pipe	A	From Face	3.00 -6.00	0.0000	115.00	No Ice 1/2"	5.75 6.18	4.25 5.01	0.06 0.10

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
7770.00 w/ Mount Pipe	B	From Face	3.00	0.0000	115.00	No Ice	5.75	4.25	0.06
			-6.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
7770.00 w/ Mount Pipe	C	From Face	3.00	0.0000	115.00	No Ice	5.75	4.25	0.06
			-6.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Face	3.00	0.0000	115.00	No Ice	4.63	3.27	0.07
			-2.00			1/2"	5.06	3.69	0.13
			0.00			Ice	5.51	4.12	0.20
						1" Ice	6.43	5.00	0.38
						2" Ice			
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Face	3.00	0.0000	115.00	No Ice	4.63	3.27	0.07
			-2.00			1/2"	5.06	3.69	0.13
			0.00			Ice	5.51	4.12	0.20
						1" Ice	6.43	5.00	0.38
						2" Ice			
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Face	3.00	0.0000	115.00	No Ice	4.63	3.27	0.07
			-2.00			1/2"	5.06	3.69	0.13
			0.00			Ice	5.51	4.12	0.20
						1" Ice	6.43	5.00	0.38
						2" Ice			
80010965 w/ Mount Pipe	A	From Face	3.00	0.0000	115.00	No Ice	12.26	5.79	0.14
			2.00			1/2"	13.03	6.47	0.23
			0.00			Ice	13.80	7.17	0.33
						1" Ice	15.41	8.60	0.57
						2" Ice			
80010965 w/ Mount Pipe	B	From Face	3.00	0.0000	115.00	No Ice	12.26	5.79	0.14
			2.00			1/2"	13.03	6.47	0.23
			0.00			Ice	13.80	7.17	0.33
						1" Ice	15.41	8.60	0.57
						2" Ice			
80010965 w/ Mount Pipe	C	From Face	3.00	0.0000	115.00	No Ice	12.26	5.79	0.14
			2.00			1/2"	13.03	6.47	0.23
			0.00			Ice	13.80	7.17	0.33
						1" Ice	15.41	8.60	0.57
						2" Ice			
QS66512-2 w/ Mount Pipe	A	From Face	3.00	0.0000	115.00	No Ice	4.04	4.18	0.14
			6.00			1/2"	4.42	4.57	0.21
			0.00			Ice	4.82	4.97	0.29
						1" Ice	5.63	5.79	0.48
						2" Ice			
QS66512-2 w/ Mount Pipe	B	From Face	3.00	0.0000	115.00	No Ice	4.04	4.18	0.14
			6.00			1/2"	4.42	4.57	0.21
			0.00			Ice	4.82	4.97	0.29
						1" Ice	5.63	5.79	0.48
						2" Ice			
QS66512-2 w/ Mount Pipe	C	From Face	3.00	0.0000	115.00	No Ice	4.04	4.18	0.14
			6.00			1/2"	4.42	4.57	0.21
			0.00			Ice	4.82	4.97	0.29
						1" Ice	5.63	5.79	0.48
						2" Ice			
(2) DBCT108F1V92-1	A	From Face	3.00	0.0000	115.00	No Ice	0.64	0.32	0.01
			0.00			1/2"	0.74	0.40	0.02
			0.00			Ice	0.85	0.49	0.03
						1" Ice	1.09	0.69	0.05
						2" Ice			
(2) DBCT108F1V92-1	B	From Face	3.00	0.0000	115.00	No Ice	0.64	0.32	0.01
			0.00			1/2"	0.74	0.40	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	0.85	0.49	0.03
						1" Ice	1.09	0.69	0.05
						2" Ice			
(2) DBCT108F1V92-1	C	From Face	3.00	0.0000	115.00	No Ice	0.64	0.32	0.01
			0.00			1/2"	0.74	0.40	0.02
			0.00			Ice	0.85	0.49	0.03
						1" Ice	1.09	0.69	0.05
						2" Ice			
RRUS 12 B2	A	From Face	3.00	0.0000	115.00	No Ice	3.14	1.28	0.05
			0.00			1/2"	3.36	1.43	0.07
			0.00			Ice	3.59	1.60	0.10
						1" Ice	4.07	1.95	0.16
						2" Ice			
RRUS 12 B2	B	From Face	3.00	0.0000	115.00	No Ice	3.14	1.28	0.05
			0.00			1/2"	3.36	1.43	0.07
			0.00			Ice	3.59	1.60	0.10
						1" Ice	4.07	1.95	0.16
						2" Ice			
RRUS 12 B2	C	From Face	3.00	0.0000	115.00	No Ice	3.14	1.28	0.05
			0.00			1/2"	3.36	1.43	0.07
			0.00			Ice	3.59	1.60	0.10
						1" Ice	4.07	1.95	0.16
						2" Ice			
DTMABP7819VG12A	A	From Face	3.00	0.0000	115.00	No Ice	0.98	0.34	0.02
			0.00			1/2"	1.10	0.42	0.03
			0.00			Ice	1.23	0.51	0.04
						1" Ice	1.52	0.71	0.06
						2" Ice			
DTMABP7819VG12A	B	From Face	3.00	0.0000	115.00	No Ice	0.98	0.34	0.02
			0.00			1/2"	1.10	0.42	0.03
			0.00			Ice	1.23	0.51	0.04
						1" Ice	1.52	0.71	0.06
						2" Ice			
DTMABP7819VG12A	C	From Face	3.00	0.0000	115.00	No Ice	0.98	0.34	0.02
			0.00			1/2"	1.10	0.42	0.03
			0.00			Ice	1.23	0.51	0.04
						1" Ice	1.52	0.71	0.06
						2" Ice			
RRUS 4478 B5	A	From Face	3.00	0.0000	115.00	No Ice	1.84	1.06	0.06
			0.00			1/2"	2.01	1.20	0.08
			0.00			Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
RRUS 4478 B5	B	From Face	3.00	0.0000	115.00	No Ice	1.84	1.06	0.06
			0.00			1/2"	2.01	1.20	0.08
			0.00			Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
RRUS 4478 B5	C	From Face	3.00	0.0000	115.00	No Ice	1.84	1.06	0.06
			0.00			1/2"	2.01	1.20	0.08
			0.00			Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
RRUS 4478 B14	A	From Face	3.00	0.0000	115.00	No Ice	1.84	1.06	0.06
			0.00			1/2"	2.01	1.20	0.08
			0.00			Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
RRUS 4478 B14	B	From Face	3.00	0.0000	115.00	No Ice	1.84	1.06	0.06
			0.00			1/2"	2.01	1.20	0.08
			0.00			Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
RRUS 4478 B14	C	From Face	3.00	0.0000	115.00	No Ice	1.84	1.06	0.06
			0.00			1/2"	2.01	1.20	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	2.19	1.34	0.09
						1" Ice	2.57	1.66	0.14
						2" Ice			
WCS RRUS-32-B30	A	From Face	3.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice	4.33	3.32	0.21
						2" Ice			
WCS RRUS-32-B30	B	From Face	3.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice	4.33	3.32	0.21
						2" Ice			
WCS RRUS-32-B30	C	From Face	3.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice	4.33	3.32	0.21
						2" Ice			
(2) TPX-070821	A	From Face	3.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
						1" Ice	0.87	0.33	0.03
						2" Ice			
(2) TPX-070821	B	From Face	3.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
						1" Ice	0.87	0.33	0.03
						2" Ice			
(2) TPX-070821	C	From Face	3.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
						1" Ice	0.87	0.33	0.03
						2" Ice			
RRUS 11	A	From Face	3.00	0.0000	115.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			0.00			Ice	3.21	1.49	0.10
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS 11	B	From Face	3.00	0.0000	115.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			0.00			Ice	3.21	1.49	0.10
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS 11	C	From Face	3.00	0.0000	115.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			0.00			Ice	3.21	1.49	0.10
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS 4426 B66	A	From Face	3.00	0.0000	115.00	No Ice	1.64	0.73	0.10
			0.00			1/2"	1.80	0.84	0.11
			0.00			Ice	1.97	0.97	0.13
						1" Ice	2.33	1.24	0.17
						2" Ice			
RRUS 4426 B66	B	From Face	3.00	0.0000	115.00	No Ice	1.64	0.73	0.10
			0.00			1/2"	1.80	0.84	0.11
			0.00			Ice	1.97	0.97	0.13
						1" Ice	2.33	1.24	0.17
						2" Ice			
RRUS 4426 B66	C	From Face	3.00	0.0000	115.00	No Ice	1.64	0.73	0.10
			0.00			1/2"	1.80	0.84	0.11
			0.00			Ice	1.97	0.97	0.13
						1" Ice	2.33	1.24	0.17
						2" Ice			
DC6-48-60-18-8F	A	From Face	1.00	0.0000	115.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
DC6-48-60-18-8F	B	From Face	1.00	0.0000	115.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			0.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
DC6-48-60-18-8C	C	From Face	1.00	0.0000	115.00	No Ice	1.14	1.14	0.03
			0.00			1/2"	1.79	1.79	0.05
			0.00			Ice	2.00	2.00	0.07
						1" Ice	2.45	2.45	0.13
						2" Ice			
4'x2" Mount Pipe	A	From Leg	1.00	0.0000	115.00	No Ice	0.87	0.87	0.01
			0.00			1/2"	1.11	1.11	0.02
			0.00			Ice	1.36	1.36	0.03
						1" Ice	1.90	1.90	0.06
						2" Ice			
4'x2" Mount Pipe	B	From Leg	1.00	0.0000	115.00	No Ice	0.87	0.87	0.01
			0.00			1/2"	1.11	1.11	0.02
			0.00			Ice	1.36	1.36	0.03
						1" Ice	1.90	1.90	0.06
						2" Ice			
4'x2" Mount Pipe	C	From Leg	1.00	0.0000	115.00	No Ice	0.87	0.87	0.01
			0.00			1/2"	1.11	1.11	0.02
			0.00			Ice	1.36	1.36	0.03
						1" Ice	1.90	1.90	0.06
						2" Ice			
*****105*****									
APXV18-206517S-C w/ Mount Pipe	A	From Face	1.00	0.0000	105.00	No Ice	3.79	3.16	0.05
			0.00			1/2"	4.38	3.75	0.09
			0.00			Ice	4.99	4.35	0.15
						1" Ice	6.25	5.59	0.28
						2" Ice			
APXV18-206517S-C w/ Mount Pipe	B	From Face	1.00	0.0000	105.00	No Ice	3.79	3.16	0.05
			0.00			1/2"	4.38	3.75	0.09
			0.00			Ice	4.99	4.35	0.15
						1" Ice	6.25	5.59	0.28
						2" Ice			
APXV18-206517S-C w/ Mount Pipe	C	From Face	1.00	0.0000	105.00	No Ice	3.79	3.16	0.05
			0.00			1/2"	4.38	3.75	0.09
			0.00			Ice	4.99	4.35	0.15
						1" Ice	6.25	5.59	0.28
						2" Ice			
*****74*****									
Side Arm Mount [SO 701-1]	A	From Face	0.00	0.0000	74.00	No Ice	0.85	1.67	0.07
			0.00			1/2"	1.14	2.34	0.08
			0.00			Ice	1.43	3.01	0.09
						1" Ice	2.01	4.35	0.12
						2" Ice			
8'x2" Mount Pipe	A	From Face	3.00	0.0000	74.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			2.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
DB810T3E-XT	A	From Face	3.00	0.0000	74.00	No Ice	4.53	4.53	0.05
			0.00			1/2"	6.07	6.07	0.08
			9.00			Ice	7.63	7.63	0.12
						1" Ice	10.79	10.79	0.24
						2" Ice			
****									
*****									
*****									

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	169 - 164.25	Pole	Max Tension	20	0.00	-0.00	0.00
			Max. Compression	26	-1.59	0.52	-0.32
			Max. Mx	20	-0.64	3.34	-0.13
			Max. My	14	-0.64	0.22	-3.24

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-1.15	3.34	-0.13
			Max. Vx	2	-1.15	0.22	2.95
			Max. Torque	13			-0.44
L2	164.25 - 129.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.22	1.13	-0.96
			Max. Mx	20	-14.41	294.12	-0.40
			Max. My	14	-14.41	0.31	-294.85
			Max. Vy	20	-13.87	294.12	-0.40
			Max. Vx	2	-13.95	0.29	294.03
			Max. Torque	24			0.70
L3	129.75 - 96.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.45	3.88	0.93
			Max. Mx	20	-27.19	861.14	-0.34
			Max. My	14	-27.20	1.14	-862.74
			Max. Vy	20	-21.39	861.14	-0.34
			Max. Vx	2	-21.40	0.55	862.62
			Max. Torque	3			0.95
L4	96.08 - 63.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.59	8.60	5.07
			Max. Mx	20	-36.91	1601.89	0.11
			Max. My	2	-36.93	1.15	1596.58
			Max. Vy	20	-24.93	1601.89	0.11
			Max. Vx	2	-24.45	1.15	1596.58
			Max. Torque	15			-1.93
L5	63.25 - 31.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.00	12.37	8.96
			Max. Mx	20	-47.85	2428.78	0.12
			Max. My	2	-47.87	1.03	2401.93
			Max. Vy	20	-27.82	2428.78	0.12
			Max. Vx	2	-26.94	1.03	2401.93
			Max. Torque	15			-1.93
L6	31.25 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-106.47	16.27	12.89
			Max. Mx	20	-62.45	3525.87	0.03
			Max. My	2	-62.45	0.81	3462.74
			Max. Vy	20	-30.55	3525.87	0.03
			Max. Vx	2	-29.53	0.81	3462.74
			Max. Torque	15			-1.93

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	38	106.47	4.12	7.16
	Max. H_x	20	62.46	30.53	-0.02
	Max. H_z	3	46.85	-0.02	29.51
	Max. M_x	2	3462.74	-0.02	29.51
	Max. M_z	8	3519.19	-30.53	0.02
	Max. Torsion	3	1.93	-0.02	29.51
	Min. Vert	11	46.85	-25.44	-14.73
	Min. H_x	8	62.46	-30.53	0.02
	Min. H_z	15	46.85	0.02	-29.51
	Min. M_x	14	-3457.64	0.02	-29.51
	Min. M_z	20	-3525.87	30.53	-0.02
	Min. Torsion	15	-1.93	0.02	-29.51

Tower Mast Reaction Summary

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	52.05	0.00	0.00	-2.06	2.66	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	62.46	0.02	-29.51	-3462.74	0.81	-1.92
0.9 Dead+1.0 Wind 0 deg - No Ice	46.85	0.02	-29.51	-3423.79	-0.03	-1.93
1.2 Dead+1.0 Wind 30 deg - No Ice	62.46	14.72	-25.57	-3000.42	-1721.04	-1.86
0.9 Dead+1.0 Wind 30 deg - No Ice	46.85	14.72	-25.57	-2966.60	-1702.83	-1.86
1.2 Dead+1.0 Wind 60 deg - No Ice	62.46	26.88	-15.59	-1791.98	-3079.83	-1.29
0.9 Dead+1.0 Wind 60 deg - No Ice	46.85	26.88	-15.59	-1771.75	-3046.97	-1.29
1.2 Dead+1.0 Wind 90 deg - No Ice	62.46	30.53	-0.02	-5.07	-3519.19	-0.38
0.9 Dead+1.0 Wind 90 deg - No Ice	46.85	30.53	-0.02	-4.40	-3481.41	-0.38
1.2 Dead+1.0 Wind 120 deg - No Ice	62.46	25.44	14.73	1725.37	-2978.34	0.64
0.9 Dead+1.0 Wind 120 deg - No Ice	46.85	25.44	14.73	1706.90	-2946.22	0.63
1.2 Dead+1.0 Wind 150 deg - No Ice	62.46	14.68	25.54	2992.81	-1716.68	1.48
0.9 Dead+1.0 Wind 150 deg - No Ice	46.85	14.68	25.54	2960.31	-1698.51	1.48
1.2 Dead+1.0 Wind 180 deg - No Ice	62.46	-0.02	29.51	3457.64	5.86	1.92
0.9 Dead+1.0 Wind 180 deg - No Ice	46.85	-0.02	29.51	3420.00	4.97	1.93
1.2 Dead+1.0 Wind 210 deg - No Ice	62.46	-14.72	25.57	2995.33	1727.72	1.86
0.9 Dead+1.0 Wind 210 deg - No Ice	46.85	-14.72	25.57	2962.81	1707.78	1.86
1.2 Dead+1.0 Wind 240 deg - No Ice	62.46	-26.88	15.59	1786.88	3086.51	1.29
0.9 Dead+1.0 Wind 240 deg - No Ice	46.85	-26.88	15.59	1767.96	3051.92	1.29
1.2 Dead+1.0 Wind 270 deg - No Ice	62.46	-30.53	0.02	-0.03	3525.87	0.38
0.9 Dead+1.0 Wind 270 deg - No Ice	46.85	-30.53	0.02	0.60	3486.36	0.38
1.2 Dead+1.0 Wind 300 deg - No Ice	62.46	-25.44	-14.73	-1730.47	2985.02	-0.64
0.9 Dead+1.0 Wind 300 deg - No Ice	46.85	-25.44	-14.73	-1710.70	2951.17	-0.63
1.2 Dead+1.0 Wind 330 deg - No Ice	62.46	-14.68	-25.54	-2997.91	1723.35	-1.48
0.9 Dead+1.0 Wind 330 deg - No Ice	46.85	-14.68	-25.54	-2964.11	1703.45	-1.48
1.2 Dead+1.0 Ice+1.0 Temp	106.47	-0.00	-0.00	-12.89	16.27	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	106.47	0.01	-8.28	-1009.40	15.37	-0.69
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	106.47	4.13	-7.17	-876.44	-480.81	-0.72
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	106.47	7.15	-4.15	-512.12	-843.75	-0.56
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	106.47	8.25	-0.01	-14.06	-976.22	-0.24
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	106.47	7.14	4.13	484.27	-842.70	0.13
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	106.47	4.12	7.16	849.36	-478.98	0.47
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	106.47	-0.01	8.28	983.38	17.48	0.69
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	106.47	-4.13	7.17	850.41	513.66	0.72
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	106.47	-7.15	4.15	486.10	876.60	0.56

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	106.47	-8.25	0.01	-11.96	1009.07	0.24
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	106.47	-7.14	-4.13	-510.29	875.55	-0.13
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	106.47	-4.12	-7.16	-875.38	511.83	-0.47
Dead+Wind 0 deg - Service	52.05	0.01	-6.95	-811.28	2.18	-0.46
Dead+Wind 30 deg - Service	52.05	3.47	-6.02	-703.17	-400.48	-0.44
Dead+Wind 60 deg - Service	52.05	6.33	-3.67	-420.61	-718.30	-0.31
Dead+Wind 90 deg - Service	52.05	7.19	-0.01	-2.71	-821.03	-0.09
Dead+Wind 120 deg - Service	52.05	5.99	3.47	401.95	-694.49	0.15
Dead+Wind 150 deg - Service	52.05	3.46	6.01	698.34	-399.46	0.35
Dead+Wind 180 deg - Service	52.05	-0.01	6.95	807.05	3.36	0.46
Dead+Wind 210 deg - Service	52.05	-3.47	6.02	698.94	406.01	0.44
Dead+Wind 240 deg - Service	52.05	-6.33	3.67	416.38	723.83	0.31
Dead+Wind 270 deg - Service	52.05	-7.19	0.01	-1.53	826.56	0.09
Dead+Wind 300 deg - Service	52.05	-5.99	-3.47	-406.19	700.03	-0.15
Dead+Wind 330 deg - Service	52.05	-3.46	-6.01	-702.58	404.99	-0.35

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-52.05	0.00	0.00	52.05	0.00	0.000%
2	0.02	-62.46	-29.51	-0.02	62.46	29.51	0.000%
3	0.02	-46.85	-29.51	-0.02	46.85	29.51	0.000%
4	14.72	-62.46	-25.57	-14.72	62.46	25.57	0.000%
5	14.72	-46.85	-25.57	-14.72	46.85	25.57	0.000%
6	26.88	-62.46	-15.59	-26.88	62.46	15.59	0.000%
7	26.88	-46.85	-15.59	-26.88	46.85	15.59	0.000%
8	30.53	-62.46	-0.02	-30.53	62.46	0.02	0.000%
9	30.53	-46.85	-0.02	-30.53	46.85	0.02	0.000%
10	25.44	-62.46	14.73	-25.44	62.46	-14.73	0.000%
11	25.44	-46.85	14.73	-25.44	46.85	-14.73	0.000%
12	14.68	-62.46	25.54	-14.68	62.46	-25.54	0.000%
13	14.68	-46.85	25.54	-14.68	46.85	-25.54	0.000%
14	-0.02	-62.46	29.51	0.02	62.46	-29.51	0.000%
15	-0.02	-46.85	29.51	0.02	46.85	-29.51	0.000%
16	-14.72	-62.46	25.57	14.72	62.46	-25.57	0.000%
17	-14.72	-46.85	25.57	14.72	46.85	-25.57	0.000%
18	-26.88	-62.46	15.59	26.88	62.46	-15.59	0.000%
19	-26.88	-46.85	15.59	26.88	46.85	-15.59	0.000%
20	-30.53	-62.46	0.02	30.53	62.46	-0.02	0.000%
21	-30.53	-46.85	0.02	30.53	46.85	-0.02	0.000%
22	-25.44	-62.46	-14.73	25.44	62.46	14.73	0.000%
23	-25.44	-46.85	-14.73	25.44	46.85	14.73	0.000%
24	-14.68	-62.46	-25.54	14.68	62.46	25.54	0.000%
25	-14.68	-46.85	-25.54	14.68	46.85	25.54	0.000%
26	0.00	-106.47	0.00	0.00	106.47	0.00	0.000%
27	0.01	-106.47	-8.28	-0.01	106.47	8.28	0.000%
28	4.13	-106.47	-7.17	-4.13	106.47	7.17	0.000%
29	7.15	-106.47	-4.15	-7.15	106.47	4.15	0.000%
30	8.25	-106.47	-0.01	-8.25	106.47	0.01	0.000%
31	7.14	-106.47	4.13	-7.14	106.47	-4.13	0.000%
32	4.12	-106.47	7.16	-4.12	106.47	-7.16	0.000%
33	-0.01	-106.47	8.28	0.01	106.47	-8.28	0.000%
34	-4.13	-106.47	7.17	4.13	106.47	-7.17	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
35	-7.15	-106.47	4.15	7.15	106.47	-4.15	0.000%
36	-8.25	-106.47	0.01	8.25	106.47	-0.01	0.000%
37	-7.14	-106.47	-4.13	7.14	106.47	4.13	0.000%
38	-4.12	-106.47	-7.16	4.12	106.47	7.16	0.000%
39	0.01	-52.05	-6.95	-0.01	52.05	6.95	0.000%
40	3.47	-52.05	-6.02	-3.47	52.05	6.02	0.000%
41	6.33	-52.05	-3.67	-6.33	52.05	3.67	0.000%
42	7.19	-52.05	-0.01	-7.19	52.05	0.01	0.000%
43	5.99	-52.05	3.47	-5.99	52.05	-3.47	0.000%
44	3.46	-52.05	6.01	-3.46	52.05	-6.01	0.000%
45	-0.01	-52.05	6.95	0.01	52.05	-6.95	0.000%
46	-3.47	-52.05	6.02	3.47	52.05	-6.02	0.000%
47	-6.33	-52.05	3.67	6.33	52.05	-3.67	0.000%
48	-7.19	-52.05	0.01	7.19	52.05	-0.01	0.000%
49	-5.99	-52.05	-3.47	5.99	52.05	3.47	0.000%
50	-3.46	-52.05	-6.01	3.46	52.05	6.01	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00005369
3	Yes	4	0.00000001	0.00066676
4	Yes	5	0.00000001	0.00079100
5	Yes	5	0.00000001	0.00038565
6	Yes	5	0.00000001	0.00085995
7	Yes	5	0.00000001	0.00041815
8	Yes	4	0.00000001	0.00048985
9	Yes	4	0.00000001	0.00024815
10	Yes	5	0.00000001	0.00081748
11	Yes	5	0.00000001	0.00039994
12	Yes	5	0.00000001	0.00078859
13	Yes	5	0.00000001	0.00038480
14	Yes	5	0.00000001	0.00005585
15	Yes	4	0.00000001	0.00069521
16	Yes	5	0.00000001	0.00083688
17	Yes	5	0.00000001	0.00040912
18	Yes	5	0.00000001	0.00083433
19	Yes	5	0.00000001	0.00040463
20	Yes	4	0.00000001	0.00048262
21	Yes	4	0.00000001	0.00024131
22	Yes	5	0.00000001	0.00080166
23	Yes	5	0.00000001	0.00039090
24	Yes	5	0.00000001	0.00083407
25	Yes	5	0.00000001	0.00040758
26	Yes	4	0.00000001	0.00009816
27	Yes	5	0.00000001	0.00053834
28	Yes	5	0.00000001	0.00059566
29	Yes	5	0.00000001	0.00059561
30	Yes	5	0.00000001	0.00052135
31	Yes	5	0.00000001	0.00058322
32	Yes	5	0.00000001	0.00058332
33	Yes	5	0.00000001	0.00052756
34	Yes	5	0.00000001	0.00060428
35	Yes	5	0.00000001	0.00060210
36	Yes	5	0.00000001	0.00053934
37	Yes	5	0.00000001	0.00061195
38	Yes	5	0.00000001	0.00061418
39	Yes	4	0.00000001	0.00009972
40	Yes	4	0.00000001	0.00024341
41	Yes	4	0.00000001	0.00028128
42	Yes	4	0.00000001	0.00008600
43	Yes	4	0.00000001	0.00026348
44	Yes	4	0.00000001	0.00024204

45	Yes	4	0.00000001	0.00009967
46	Yes	4	0.00000001	0.00027968
47	Yes	4	0.00000001	0.00026119
48	Yes	4	0.00000001	0.00008661
49	Yes	4	0.00000001	0.00025236
50	Yes	4	0.00000001	0.00027867

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164.25	17.917	47	0.8729	0.0017
L2	166.625 - 129.75	17.483	47	0.8728	0.0017
L3	133.58 - 96.08	11.665	47	0.7839	0.0010
L4	100.75 - 63.25	6.766	47	0.6246	0.0007
L5	68.75 - 31.25	3.183	47	0.4295	0.0004
L6	37.5 - 0	0.969	47	0.2319	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
169.00	Lightning Rod 5/8"x4'	47	17.917	0.8729	0.0017	56602
167.00	Side Arm Mount [SO 701-3]	47	17.551	0.8728	0.0017	56602
164.00	Platform Mount [13.4 LP 403-1]	47	17.004	0.8715	0.0016	56602
155.00	Platform Mount [11' LP 405-1]	47	15.376	0.8576	0.0015	28982
142.00	Platform Mount [14' LP 403-1]	47	13.087	0.8176	0.0012	17135
121.00	Side Arm Mount [SO 701-1]	47	9.657	0.7281	0.0008	11961
115.00	Platform Mount [13' LP 303-1_HR-1]	47	8.754	0.6993	0.0007	11327
105.00	APXV18-206517S-C w/ Mount Pipe	47	7.335	0.6478	0.0007	10407
74.00	Side Arm Mount [SO 701-1]	47	3.685	0.4628	0.0005	9775

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164.25	76.564	18	3.7306	0.0071
L2	166.625 - 129.75	74.711	18	3.7302	0.0070
L3	133.58 - 96.08	49.861	18	3.3530	0.0041
L4	100.75 - 63.25	28.924	18	2.6717	0.0028
L5	68.75 - 31.25	13.603	18	1.8366	0.0019
L6	37.5 - 0	4.140	18	0.9912	0.0008

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
169.00	Lightning Rod 5/8"x4'	18	76.564	3.7306	0.0071	13787
167.00	Side Arm Mount [SO 701-3]	18	75.003	3.7304	0.0071	13787
164.00	Platform Mount [13.4 LP 403-1]	18	72.666	3.7249	0.0069	13787

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
155.00	Platform Mount [11' LP 405-1]	18	65.713	3.6663	0.0063	6922
142.00	Platform Mount [14' LP 403-1]	18	55.938	3.4965	0.0050	4050
121.00	Side Arm Mount [SO 701-1]	18	41.280	3.1147	0.0034	2813
115.00	Platform Mount [13' LP 303-1_HR-1]	18	37.421	2.9915	0.0032	2663
105.00	APXV18-206517S-C w/ Mount Pipe	18	31.355	2.7713	0.0029	2445
74.00	Side Arm Mount [SO 701-1]	18	15.751	1.9792	0.0020	2290

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	169 - 164.25 (1)	TP26x18x0.25	4.75	0.00	0.0	17.2586	-0.64	1009.63	0.001
L2	164.25 - 129.75 (2)	TP34.0625x21.5x0.3125	36.88	0.00	0.0	32.1816	-14.41	1882.62	0.008
L3	129.75 - 96.08 (3)	TP41.75x32.1327x0.375	37.50	0.00	0.0	47.8211	-27.18	2797.53	0.010
L4	96.08 - 63.25 (4)	TP49.0625x39.8023x0.375	37.50	0.00	0.0	56.3337	-36.89	3295.52	0.011
L5	63.25 - 31.25 (5)	TP56.125x46.9543x0.375	37.50	0.00	0.0	64.5372	-47.84	3775.43	0.013
L6	31.25 - 0 (6)	TP62.9375x53.8466x0.375	37.50	0.00	0.0	74.4650	-62.45	4356.20	0.014

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	169 - 164.25 (1)	TP26x18x0.25	3.38	571.42	0.006	0.00	571.42	0.000
L2	164.25 - 129.75 (2)	TP34.0625x21.5x0.3125	294.85	1557.39	0.189	0.00	1557.39	0.000
L3	129.75 - 96.08 (3)	TP41.75x32.1327x0.375	864.02	2842.24	0.304	0.00	2842.24	0.000
L4	96.08 - 63.25 (4)	TP49.0625x39.8023x0.375	1611.38	3754.93	0.429	0.00	3754.93	0.000
L5	63.25 - 31.25 (5)	TP56.125x46.9543x0.375	2450.36	4686.48	0.523	0.00	4686.48	0.000
L6	31.25 - 0 (6)	TP62.9375x53.8466x0.375	3566.44	5847.24	0.610	0.00	5847.24	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	169 - 164.25 (1)	TP26x18x0.25	1.15	302.89	0.004	0.01	576.93	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L2	164.25 - 129.75 (2)	TP34.0625x21.5x0.3125	13.95	564.79	0.025	0.58	1604.78	0.000
L3	129.75 - 96.08 (3)	TP41.75x32.1327x0.375	21.54	839.26	0.026	0.31	2952.96	0.000
L4	96.08 - 63.25 (4)	TP49.0625x39.8023x0.375	25.25	988.66	0.026	1.29	4097.85	0.000
L5	63.25 - 31.25 (5)	TP56.125x46.9543x0.375	28.29	1132.63	0.025	1.29	5378.23	0.000
L6	31.25 - 0 (6)	TP62.9375x53.8466x0.375	31.10	1306.86	0.024	1.29	7160.17	0.000

Pole Interaction Design Data

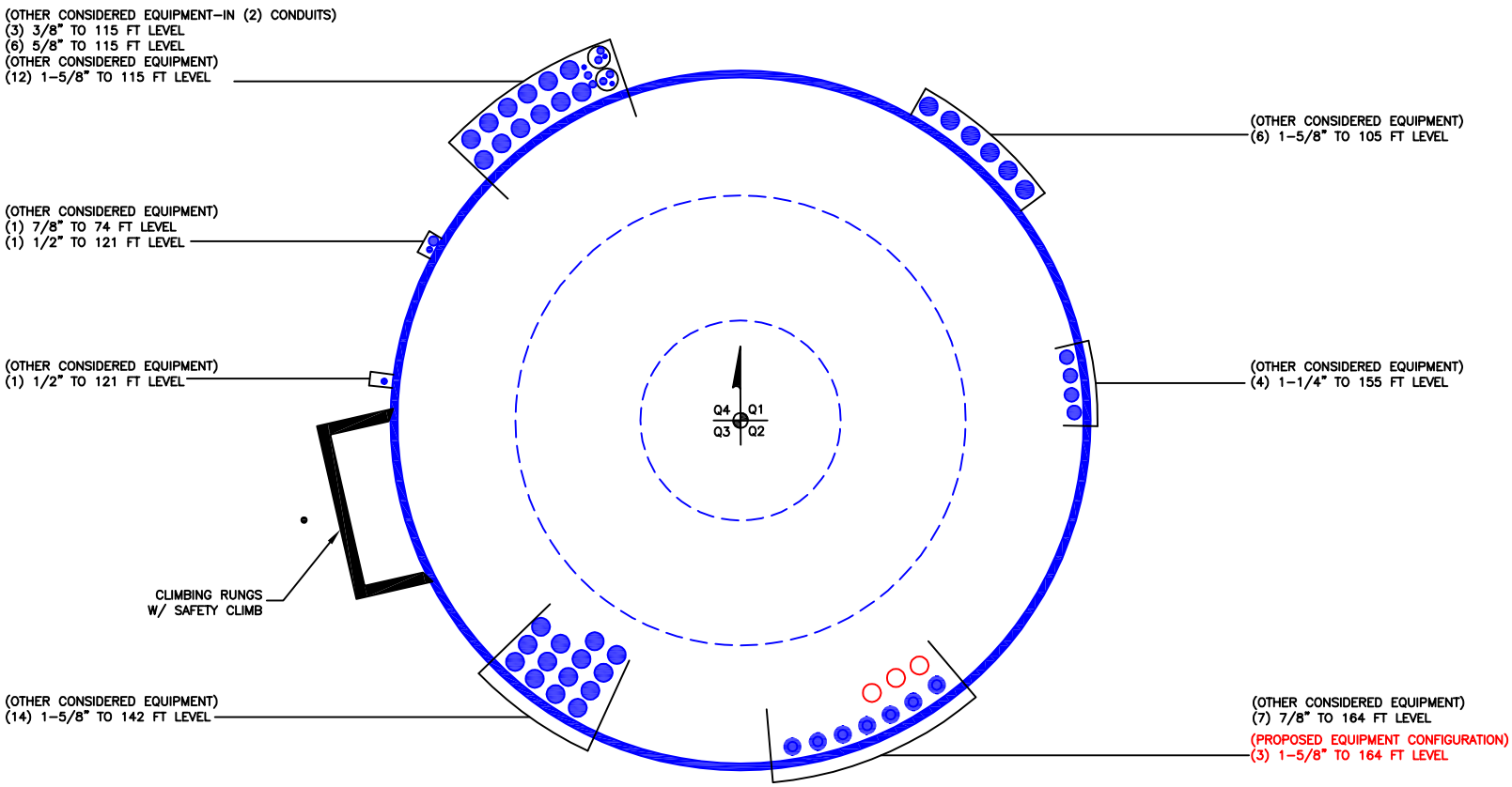
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	169 - 164.25 (1)	0.001	0.006	0.000	0.004	0.000	0.007	1.050	4.8.2
L2	164.25 - 129.75 (2)	0.008	0.189	0.000	0.025	0.000	0.198	1.050	4.8.2
L3	129.75 - 96.08 (3)	0.010	0.304	0.000	0.026	0.000	0.314	1.050	4.8.2
L4	96.08 - 63.25 (4)	0.011	0.429	0.000	0.026	0.000	0.441	1.050	4.8.2
L5	63.25 - 31.25 (5)	0.013	0.523	0.000	0.025	0.000	0.536	1.050	4.8.2
L6	31.25 - 0 (6)	0.014	0.610	0.000	0.024	0.000	0.625	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	169 - 164.25	Pole	TP26x18x0.25	1	-0.64	1060.11	0.6	Pass
L2	164.25 - 129.75	Pole	TP34.0625x21.5x0.3125	2	-14.41	1976.75	18.8	Pass
L3	129.75 - 96.08	Pole	TP41.75x32.1327x0.375	3	-27.18	2937.41	29.9	Pass
L4	96.08 - 63.25	Pole	TP49.0625x39.8023x0.375	4	-36.89	3460.30	42.0	Pass
L5	63.25 - 31.25	Pole	TP56.125x46.9543x0.375	5	-47.84	3964.20	51.1	Pass
L6	31.25 - 0	Pole	TP62.9375x53.8466x0.375	6	-62.45	4574.01	59.5	Pass
							Summary	
						Pole (L6)	59.5	Pass
						RATING =	**59.5**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 826768 TOWER ID:C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

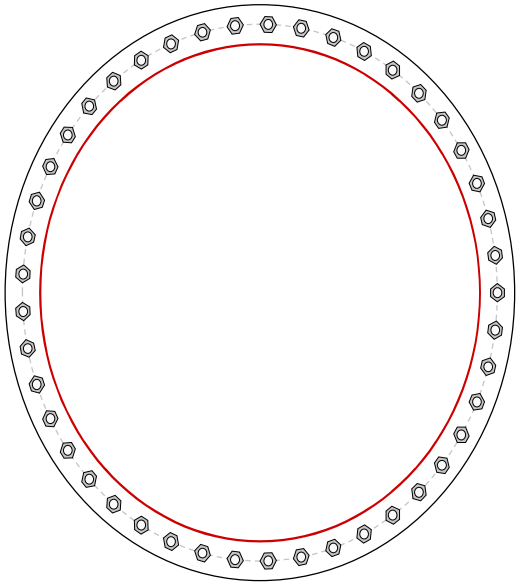
Monopole Base Plate Connection

Site Info	
BU #	826768
Site Name	Plymouth/RT 6
Order #	524461 Rev. 1

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.5

Applied Loads	
Moment (kip-ft)	3566.44
Axial Force (kips)	62.45
Shear Force (kips)	31.10

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(45) 1-1/4" ø bolts (A687 N; Fy=105 ksi, Fu=125 ksi) on 68" BC

Base Plate Data

73" OD x 2.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

N/A

Pole Data

62.9375" x 0.375" 16-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_c = 57.32	ϕPn_c = 115.97	**Stress Rating**
Vu = 0.69	ϕVn = 52.19	**49.2%**
Mu = 0.67	ϕMn = 30.76	Pass

Base Plate Summary

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**

Pier and Pad Foundation

BU # :	826768
Site Name:	Plymouth/RT 6
App. Number:	524461 Rev.1

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐

Superstructure Analysis Reactions		
Compression, P_{comp}:	62.45	kips
Base Shear, Vu_comp:	31.1	kips
Moment, M_u:	3566.44	ft-kips
Tower Height, **H**:	169	ft
BP Dist. Above Fdn, bp_{dist}:	5.25	in

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, **dpier**:	7.5	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	39	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	11	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	8.5	ft
Pad Width, **W**:	27	ft
Pad Thickness, **T**:	2.5	ft
Pad Rebar Size (Bottom), **Sp**:	9	
Pad Rebar Quantity (Bottom), **mp**:	36	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, δc:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	125	pcf
Ultimate Gross Bearing, Qult:	6.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	34	degrees
SPT Blow Count, N_{blows}:	50	
Base Friction, μ:	0.6	
Neglected Depth, **N**:	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	14	ft

<--Toggle between Gross and Net

Foundation Analysis Checks				
	Capacity	**Demand**	**Rating***	**Check**
Lateral (Sliding) (kips)	549.07	31.10	**5.4%**	**Pass**
Bearing Pressure (ksf)	4.50	2.27	**48.0%**	**Pass**
*Overturning (kip*ft)*	8783.07	3859.95	**43.9%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	6852.71	3768.59	**52.4%**	**Pass**
Pier Compression (kip)	28118.83	114.14	**0.4%**	**Pass**
*Pad Flexure (kip*ft)*	3941.07	1277.44	**30.9%**	**Pass**
Pad Shear - 1-way (kips)	777.90	195.10	**23.9%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.051	**25.4%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	4354.14	2261.15	**49.5%**	**Pass**

**Rating per TIA-222-H Section 15.5*

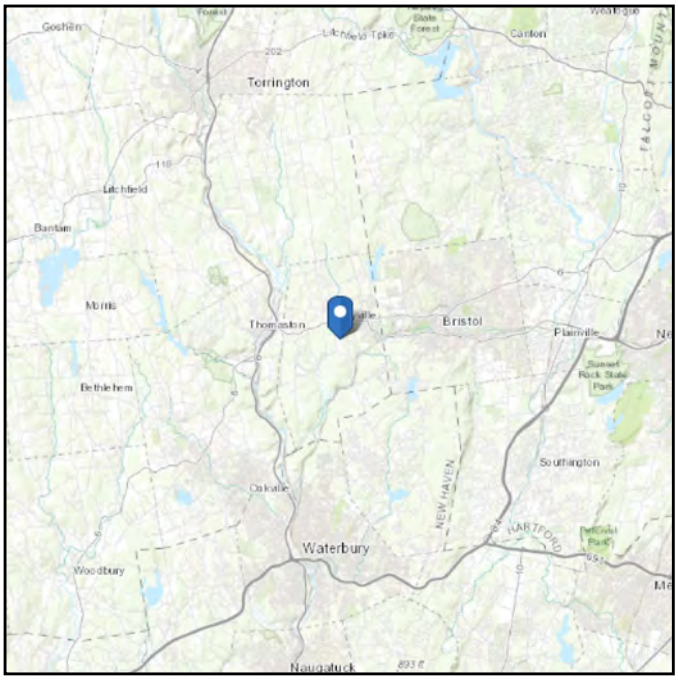
Soil Rating*:	**48.0%**
Structural Rating*:	**52.4%**

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 889.9 ft (NAVD 88)
Latitude: 41.668388
Longitude: -73.019956



Wind

Results:

Wind Speed:	119 Vmph	Wind speed is considered 120mph as per Connecticut State Building code
10-year MRI	76 Vmph	
25-year MRI	86 Vmph	
50-year MRI	91 Vmph	
100-year MRI	98 Vmph	

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Mon Jul 13 2020

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

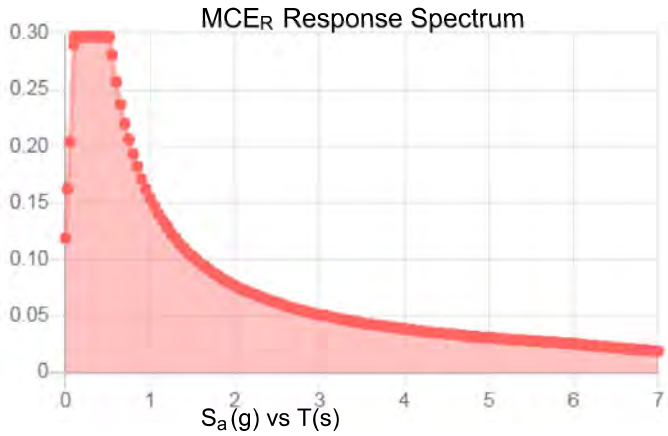
Seismic

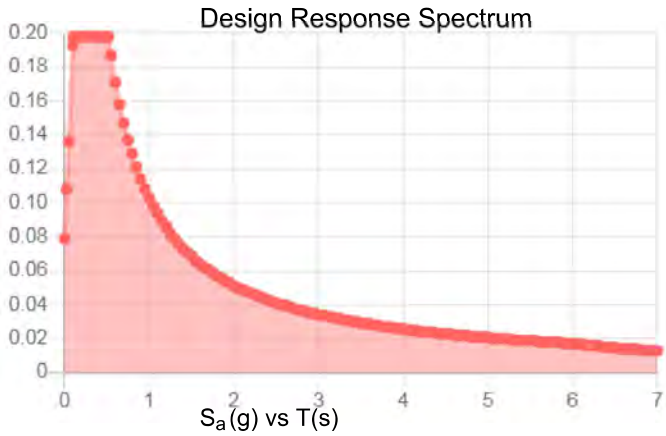
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.186	S_{DS} :	0.198
S_1 :	0.064	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.095
S_{MS} :	0.297	PGA_M :	0.152
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Mon Jul 13 2020

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Mon Jul 13 2020

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Exhibit E

Mount Analysis

Date: **July 9, 2020**

Darcy Tarr
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
(704) 405-6589

Infinigy Engineering, PLLC
1033 Watervliet Shaker Road
Albany, NY 12205
518-690-0790
structural@infinigy.com

Subject:	**Mount Modification Report**	
Carrier Designation:	**T-Mobile Anchor**	
	Carrier Site Number:	CT11417C
	Carrier Site Name:	Plymouth/RT 6
Crown Castle Designation:	**Crown Castle BU Number:**	826768
	Crown Castle Site Name:	Plymouth/RT 6
	Crown Castle JDE Job Number:	614503
	Crown Castle Order Number:	524461 Rev. 0
Engineering Firm Designation:	**Infinigy Engineering, PLLC Report Designation:** 1039-Z0001-B	
Site Data:	**171 Town Hill Road, Plymouth, Litchfield County, CT, 06786** **Latitude 41°40'6.20" Longitude -73°1'11.84"**	
Structure Information:	**Tower Height & Type:**	**169.0 ft Monopole**
	Mount Elevation:	**164.0 ft**
	Mount Type:	**13.4 ft Platform**

Dear Darcy Tarr,

Infinigy Engineering, PLLC is pleased to submit this **"Mount Modification Report"** to determine the structural integrity of T-Mobile's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform **Sufficient**
***Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.**

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Steven Youssef, E.I.T.

Respectfully Submitted by:
John Stevens, P.E.
518-690-0790
jstevens@infinigy.com
CT PE License No. PEN.0024705

7/9/2020

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 sector 13.4 ft Platform, designed by Pirod Inc.

The mount has been modified per reinforcement drawings prepared by Infinigy Engineering, PLLC, in July of 2020. Reinforcement consists of adding a stabilizer kit to the existing platform.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC / 2018 Connecticut Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	120 mph
Exposure Category:	C
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.50 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.186
Seismic S_1:	0.064
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
164.0	165.0	3	Ericsson	Air 32 B2A/B66AA	13.4 ft Platform
		3	Ericsson	Air 6449 B41	
		3	RFS/Celwave	APXVAARR24_43-U-NA20	
		3	Ericsson	Radio 4449 B71 B85A_T-Mobile	
		3	Ericsson	RRUS 4415 B25	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	524461 Rev. 0	CCI Sites
Mount Manufacturer Drawings	Pirod Inc.	P/N 852208	Infinigy
Mount Modification Drawings	Infinigy Engineering, PLLC	Appendix E	Infinigy

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Infinigy Mount Analysis Tool 2.1.4, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision B).

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
4) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
5) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36) & Q345 (GR 35)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Infinigy Engineering, PLLC should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2	Mount Pipe(s)	MP10	164.0	82.4	Pass
	Corner Plate(s)	M50		31.5	Pass
	Horizontal(s)	M11		34.5	Pass
	Grating Angle(s)	M16		16.6	Pass
	Standoff(s)	M1		24.9	Pass
	Reinforcement Angle(s)	M71		32.2	Pass
	Mount Connection(s)	--		14.5	Pass

Structure Rating (max from all components) =	82.4%

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) All sectors are typical

4.1) Recommendations

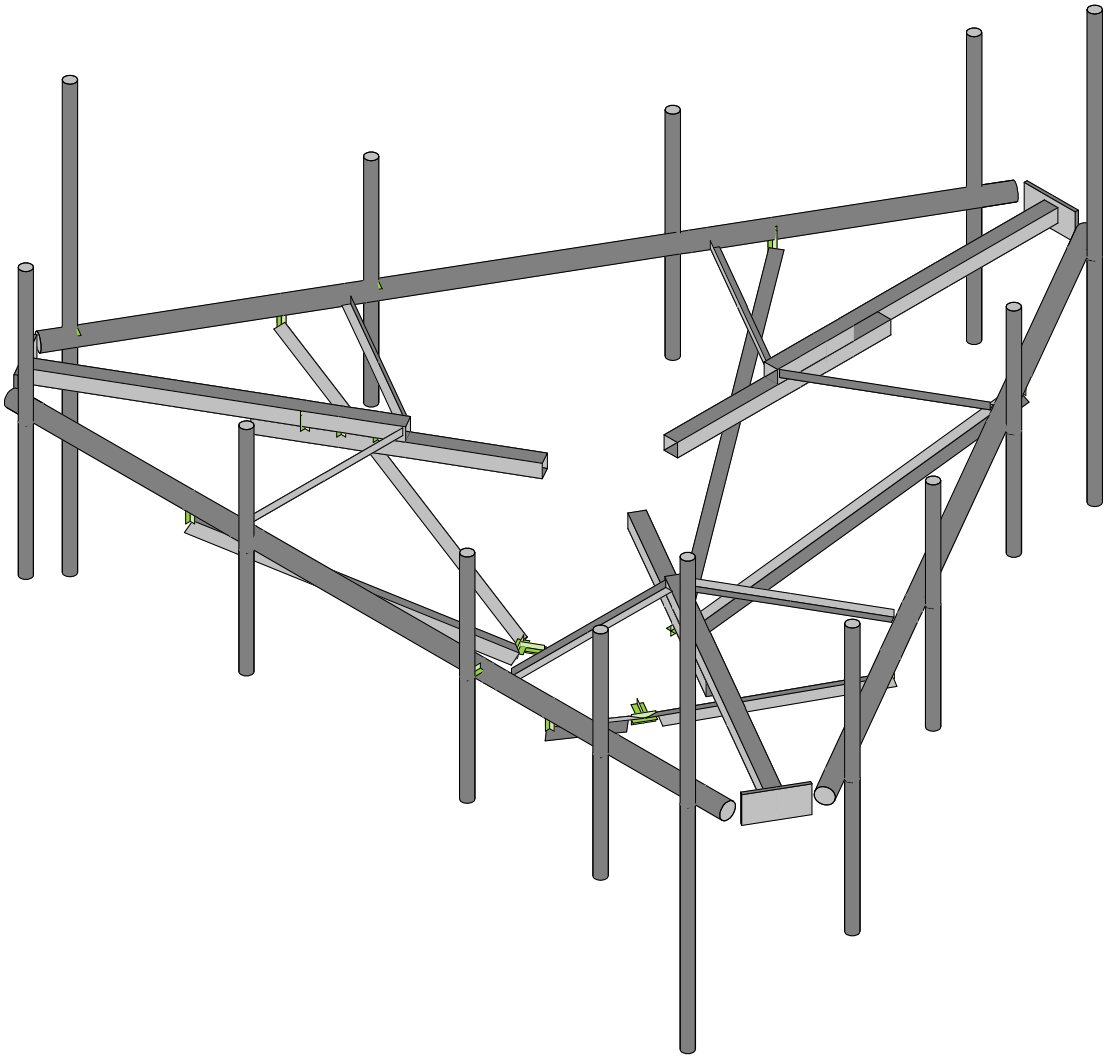
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Site Pro 1 reinforcement angle part number PRK-SFS-L to be installed

Engineering detail drawings have been provided in Appendix E – Mount Modification Design Drawings. Connection from the mount to the tower and local stresses on the tower are sufficient.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



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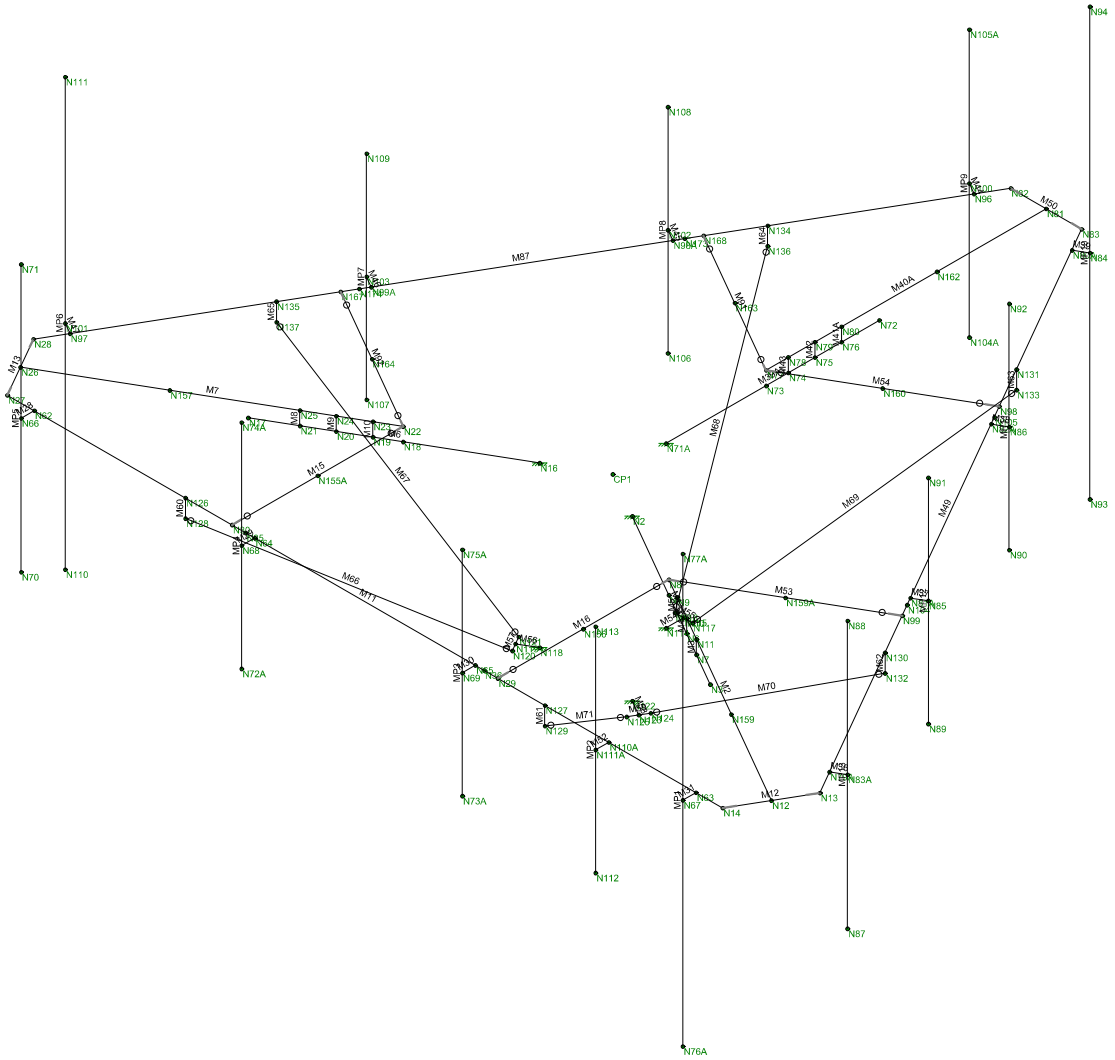

Envelope Only Solution

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APPENDIX B

SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Client:	Crown Castle
Carrier:	T-Mobile
Engineer:	Steven Youssef

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil	
Ground Elevation:	890	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	164.0	ft
Tower Height AGL:	169.0	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.95	
Ground Ele. Factor (K_e):	0.97	*Rev H Only
Rooftop Speed-Up (K_s):	1.00	*Rev H Only
Topographic Factor (K_{zt}):	1.00	
Gust Effect Factor (G_h):	1.0	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	120	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	95.26	psf
Round Pressure:	57.15	psf
Ice Wind Pressure:	9.92	psf

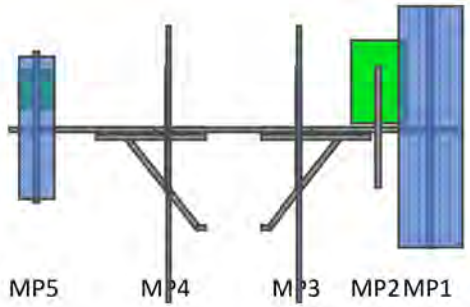
SEISMIC DATA		
Short-Period Accel. (S_s):	0.19	g
1-Second Accel. (S_1):	0.06	g
Short-Period Design (S_{DS}):	0.20	
1-Second Design (S_{D1}):	0.10	
Short-Period Coeff. (F_a):	1.60	
1-Second Coeff. (F_v):	2.40	
Amplification Factor (a_p):	1.00	
Response Mod. (R_p):	2.50	
Overstrength (Ω_o):	1.00	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

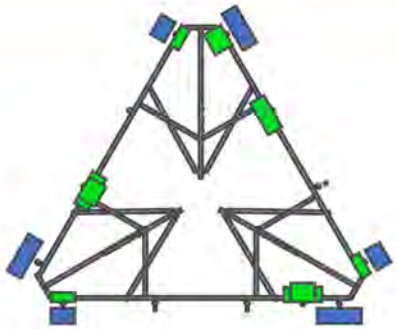
Infinigy Load Calculator V2.1.4

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.4

APPURTENANCE INFORMATION

Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
ERICSSON AIR 32 B2A/B66AA	165.0	3	0.90	47.69	6.51	4.71	279.41	202.25	132.20	13.11	MP5
ERICSSON AIR6449 B41	165.0	3	0.90	47.69	5.68	2.49	243.88	106.90	104.00	10.32	MP2
RFS/CELWAVE APXVAARR24_43-U-NA2(	165.0	3	0.90	47.69	14.69	6.87	630.65	295.01	96.80	9.60	MP1
ICSSON RADIO 4449 B71 B85A_T-MOBI	165.0	3	0.90	47.69	1.97	1.59	84.56	68.09	73.21	7.26	MP2
ERICSSON RRUS 4415 B25	165.0	3	0.90	47.69	1.64	0.68	70.58	29.13	44.00	4.36	MP5
RFI ANTENNAS COL45-70	164.0	2	0.90	47.63	2.30	2.30	98.41	98.41	5.50	0.55	MP3
RFI ANTENNAS COL45-70	164.0	1	0.90	47.63	2.30	2.30	98.41	98.41	5.50	0.55	MP4

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Sh...	Type	Design List	Material	Design Rules
1	M1	N2	N3			Standoff	Beam	None	A500 Gr.B Rect	Typical
2	M2	N8	N12			Standoff	Beam	None	A500 Gr.B Rect	Typical
3	M3	N11	N7			RIGID	None	None	RIGID	Typical
4	M4	N10	N6			RIGID	None	None	RIGID	Typical
5	M5	N9	N5			RIGID	None	None	RIGID	Typical
6	M6	N16	N17			Standoff	Beam	None	A500 Gr.B Rect	Typical
7	M7	N22	N26			Standoff	Beam	None	A500 Gr.B Rect	Typical
8	M8	N25	N21			RIGID	None	None	RIGID	Typical
9	M9	N24	N20			RIGID	None	None	RIGID	Typical
10	M10	N23	N19			RIGID	None	None	RIGID	Typical
11	M11	N27	N14			Horizontal	Beam	None	A53 Gr.B	Typical
12	M12	N14	N13			Corner Plate	Beam	None	A36 Gr.36	Typical
13	M13	N28	N27			Corner Plate	Beam	None	A36 Gr.36	Typical
14	M15	N22	N30			Grating An...	Beam	None	A36 Gr.36	Typical
15	M16	N8	N29		270	Grating An...	Beam	None	A36 Gr.36	Typical
16	M39A	N71A	N72			Standoff	Beam	None	A500 Gr.B Rect	Typical
17	M40A	N77	N81			Standoff	Beam	None	A500 Gr.B Rect	Typical
18	M41A	N80	N76		240	RIGID	None	None	RIGID	Typical
19	M42	N79	N75		240	RIGID	None	None	RIGID	Typical
20	M43	N78	N74		240	RIGID	None	None	RIGID	Typical
21	M49	N13	N83			Horizontal	Beam	None	A53 Gr.B	Typical
22	M50	N83	N82			Corner Plate	Beam	None	A36 Gr.36	Typical
23	M53	N8	N99			Grating An...	Beam	None	A36 Gr.36	Typical
24	M54	N77	N98		270	Grating An...	Beam	None	A36 Gr.36	Typical
25	M87	N82	N28			Horizontal	Beam	None	A53 Gr.B	Typical
26	M91	N77	N168			Grating An...	Beam	None	A36 Gr.36	Typical
27	M92	N22	N167		270	Grating An...	Beam	None	A36 Gr.36	Typical
28	M28	N62	N66			RIGID	None	None	RIGID	Typical
29	M29	N64	N68			RIGID	None	None	RIGID	Typical
30	M30	N65	N69			RIGID	None	None	RIGID	Typical
31	M31	N63	N67			RIGID	None	None	RIGID	Typical
32	MP5	N71	N70			Mount Pipes	Column	None	A53 Gr.B	Typical
33	MP4	N74A	N72A			Mount Pipes	Column	None	A53 Gr.B	Typical
34	MP3	N75A	N73A			Mount Pipes	Column	None	A53 Gr.B	Typical
35	MP1	N77A	N76A			Mount Pipes	Column	None	A53 Gr.B	Typical
36	M36	N79A	N83A			RIGID	None	None	RIGID	Typical
37	M37	N81A	N85			RIGID	None	None	RIGID	Typical
38	M38	N82A	N86			RIGID	None	None	RIGID	Typical
39	M39	N80A	N84			RIGID	None	None	RIGID	Typical
40	MP13	N88	N87			Mount Pipes	Column	None	A53 Gr.B	Typical
41	MP12	N91	N89			Mount Pipes	Column	None	A53 Gr.B	Typical
42	MP11	N92	N90			Mount Pipes	Column	None	A53 Gr.B	Typical
43	MP10	N94	N93			Mount Pipes	Column	None	A53 Gr.B	Typical
44	M44	N96	N100			RIGID	None	None	RIGID	Typical
45	M45	N98A	N102			RIGID	None	None	RIGID	Typical
46	M46	N99A	N103			RIGID	None	None	RIGID	Typical
47	M47	N97	N101			RIGID	None	None	RIGID	Typical
48	MP9	N105A	N104A			Mount Pipes	Column	None	A53 Gr.B	Typical
49	MP8	N108	N106			Mount Pipes	Column	None	A53 Gr.B	Typical
50	MP7	N109	N107			Mount Pipes	Column	None	A53 Gr.B	Typical
51	MP6	N111	N110			Mount Pipes	Column	None	A53 Gr.B	Typical
52	M52	N110A	N111A			RIGID	None	None	RIGID	Typical
53	MP2	N113	N112			Mount Pipes	Column	None	A53 Gr.B	Typical
54	M54A	N114	N115			RIGID	None	None	RIGID	Typical
55	M55	N116	N117			RIGID	None	None	RIGID	Typical
56	M56	N118	N119			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Sh...	Type	Design List	Material	Design Rules
57	M57	N120	N121			RIGID	None	None	RIGID	Typical
58	M58	N122	N123			RIGID	None	None	RIGID	Typical
59	M59	N124	N125			RIGID	None	None	RIGID	Typical
60	M60	N126	N128			RIGID	None	None	RIGID	Typical
61	M61	N127	N129			RIGID	None	None	RIGID	Typical
62	M62	N130	N132			RIGID	None	None	RIGID	Typical
63	M63	N131	N133			RIGID	None	None	RIGID	Typical
64	M64	N134	N136			RIGID	None	None	RIGID	Typical
65	M65	N135	N137			RIGID	None	None	RIGID	Typical
66	M66	N128	N120		180	Angle Kicker	VBrace	Single Angle	Q345	Typical
67	M67	N137	N121		90	Angle Kicker	VBrace	Single Angle	Q345	Typical
68	M68	N136	N116		180	Angle Kicker	VBrace	Single Angle	Q345	Typical
69	M69	N133	N117		90	Angle Kicker	VBrace	Single Angle	Q345	Typical
70	M70	N132	N124		180	Angle Kicker	VBrace	Single Angle	Q345	Typical
71	M71	N129	N125		90	Angle Kicker	VBrace	Single Angle	Q345	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		34	113.3	0
3	Total General		34	113.3	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	6x11/16	3	34.5	40.355
7	A36 Gr.36	L1.5x1.5x1/4	6	208.1	40.563
8	A500 Gr.B Rect	HSS3X3X6	6	333	344.279
9	A53 Gr.B	PIPE_2.0	13	804	232.546
10	A53 Gr.B	PIPE_3.0	3	482.6	283.291
11	Q345	L2.5x2.5x3	6	384	98.118
12	Total HR Steel		37	2246.2	1039.152

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			27		7	
2	Wind Load AZI 0	WLZ					54			
3	Wind Load AZI 30	None					54			
4	Wind Load AZI 60	None					54			
5	Wind Load AZI 90	WLX					54			
6	Wind Load AZI 120	None					54			
7	Wind Load AZI 150	None					54			
8	Wind Load AZI 180	None					54			
9	Wind Load AZI 210	None					54			
10	Wind Load AZI 240	None					54			
11	Wind Load AZI 270	None					54			
12	Wind Load AZI 300	None					54			
13	Wind Load AZI 330	None					54			
14	Distr. Wind Load Z	WLZ						71		
15	Distr. Wind Load X	WLX						71		
16	Ice Weight	OL1					27	71	7	
17	Ice Wind Load AZI 0	OL2					54			
18	Ice Wind Load AZI 30	None					54			
19	Ice Wind Load AZI 60	None					54			
20	Ice Wind Load AZI 90	OL3					54			
21	Ice Wind Load AZI 120	None					54			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
22	Ice Wind Load AZI 150	None					54			
23	Ice Wind Load AZI 180	None					54			
24	Ice Wind Load AZI 210	None					54			
25	Ice Wind Load AZI 240	None					54			
26	Ice Wind Load AZI 270	None					54			
27	Ice Wind Load AZI 300	None					54			
28	Ice Wind Load AZI 330	None					54			
29	Distr. Ice Wind Load Z	OL2						71		
30	Distr. Ice Wind Load X	OL3						71		
31	Seismic Load Z	ELZ			-.099		27			
32	Seismic Load X	ELX	-.099				27			
33	Service Live Loads	LL					1			
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				
37	Maintenance Load 4	LL				1				
38	Maintenance Load 5	LL				1				
39	Maintenance Load 6	LL				1				
40	Maintenance Load 7	LL				1				
41	Maintenance Load 8	LL				1				
42	Maintenance Load 9	LL				1				
43	Maintenance Load 10	LL				1				
44	Maintenance Load 11	LL				1				
45	Maintenance Load 12	LL				1				
46	Maintenance Load 13	LL				1				
47	BLC 1 Transient Area Loads	None						48		
48	BLC 16 Transient Area Loads	None						48		

Load Combinations

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL	Yes	Y		1	1.4																				
2	1.2DL + 1WL AZI 0	Yes	Y		1	1.2	2	1	14	1	15															
3	1.2DL + 1WL AZI 30	Yes	Y		1	1.2	3	1	14	.866	15	.5														
4	1.2DL + 1WL AZI 60	Yes	Y		1	1.2	4	1	14	.5	15	.866														
5	1.2DL + 1WL AZI 90	Yes	Y		1	1.2	5	1	14		15	1														
6	1.2DL + 1WL AZI 120	Yes	Y		1	1.2	6	1	14	-.5	15	.866														
7	1.2DL + 1WL AZI 150	Yes	Y		1	1.2	7	1	14	-.866	15	.5														
8	1.2DL + 1WL AZI 180	Yes	Y		1	1.2	8	1	14	-1	15															
9	1.2DL + 1WL AZI 210	Yes	Y		1	1.2	9	1	14	-.866	15	-.5														
10	1.2DL + 1WL AZI 240	Yes	Y		1	1.2	10	1	14	-.5	15	-.866														
11	1.2DL + 1WL AZI 270	Yes	Y		1	1.2	11	1	14		15	-1														
12	1.2DL + 1WL AZI 300	Yes	Y		1	1.2	12	1	14	.5	15	-.866														
13	1.2DL + 1WL AZI 330	Yes	Y		1	1.2	13	1	14	.866	15	-.5														
14	0.9DL + 1WL AZI 0	Yes	Y		1	.9	2	1	14	1	15															
15	0.9DL + 1WL AZI 30	Yes	Y		1	.9	3	1	14	.866	15	.5														
16	0.9DL + 1WL AZI 60	Yes	Y		1	.9	4	1	14	.5	15	.866														
17	0.9DL + 1WL AZI 90	Yes	Y		1	.9	5	1	14		15	1														
18	0.9DL + 1WL AZI 120	Yes	Y		1	.9	6	1	14	-.5	15	.866														
19	0.9DL + 1WL AZI 150	Yes	Y		1	.9	7	1	14	-.866	15	.5														
20	0.9DL + 1WL AZI 180	Yes	Y		1	.9	8	1	14	-1	15															
21	0.9DL + 1WL AZI 210	Yes	Y		1	.9	9	1	14	-.866	15	-.5														
22	0.9DL + 1WL AZI 240	Yes	Y		1	.9	10	1	14	-.5	15	-.866														
23	0.9DL + 1WL AZI 270	Yes	Y		1	.9	11	1	14		15	-1														
24	0.9DL + 1WL AZI 300	Yes	Y		1	.9	12	1	14	.5	15	-.866														
25	0.9DL + 1WL AZI 330	Yes	Y		1	.9	13	1	14	.866	15	-.5														

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
26	1.2D + 1.0Di	Yes	Y		1	1.2	16	1																
27	1.2D + 1.0Di +1.0Wi AZI 0	Yes	Y		1	1.2	16	1	17	1	29	1	30											
28	1.2D + 1.0Di +1.0Wi AZI 30	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5										
29	1.2D + 1.0Di +1.0Wi AZI 60	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866										
30	1.2D + 1.0Di +1.0Wi AZI 90	Yes	Y		1	1.2	16	1	20	1	29		30	1										
31	1.2D + 1.0Di +1.0Wi AZI 120	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866										
32	1.2D + 1.0Di +1.0Wi AZI 150	Yes	Y		1	1.2	16	1	22	1	29	-.866	30	.5										
33	1.2D + 1.0Di +1.0Wi AZI 180	Yes	Y		1	1.2	16	1	23	1	29	-1	30											
34	1.2D + 1.0Di +1.0Wi AZI 210	Yes	Y		1	1.2	16	1	24	1	29	-.866	30	-.5										
35	1.2D + 1.0Di +1.0Wi AZI 240	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.866										
36	1.2D + 1.0Di +1.0Wi AZI 270	Yes	Y		1	1.2	16	1	26	1	29		30	-1										
37	1.2D + 1.0Di +1.0Wi AZI 300	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.866										
38	1.2D + 1.0Di +1.0Wi AZI 330	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5										
39	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	1	32															
40	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	.866	32	.5														
41	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	.5	32	.866														
42	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31		32	1														
43	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	-.5	32	.866														
44	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	-.866	32	.5														
45	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	-1	32															
46	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	-.866	32	-.5														
47	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	-.5	32	-.866														
48	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31		32	-1														
49	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	.5	32	-.866														
50	(1.2 + 0.2Sds)DL + 1.0E AZ..	Yes	Y		1	1.24	31	.866	32	-.5														
51	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	1	32															
52	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	.866	32	.5														
53	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	.5	32	.866														
54	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31		32	1														
55	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	-.5	32	.866														
56	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	-.866	32	.5														
57	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	-1	32															
58	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	-.866	32	-.5														
59	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	-.5	32	-.866														
60	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31		32	-1														
61	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	.5	32	-.866														
62	(0.9 - 0.2Sds)DL + 1.0E AZI..	Yes	Y		1	.86	31	.866	32	-.5														
63	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	2	.25	14	.25	15		33	1.5										
64	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	3	.25	14	.216	15	.125	33	1.5										
65	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	4	.25	14	.125	15	.216	33	1.5										
66	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	5	.25	14		15	.25	33	1.5										
67	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	6	.25	14	-.125	15	.216	33	1.5										
68	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	7	.25	14	-.216	15	.125	33	1.5										
69	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	8	.25	14	-.25	15		33	1.5										
70	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	9	.25	14	-.216	15	-.125	33	1.5										
71	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	10	.25	14	-.125	15	-.216	33	1.5										
72	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	11	.25	14		15	-.25	33	1.5										
73	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	12	.25	14	.125	15	-.216	33	1.5										
74	1.0DL + 1.5LL + 1.0SWL (6..	Yes	Y		1	1	13	.25	14	.216	15	-.125	33	1.5										
75	1.2DL + 1.5LL	Yes	Y		1	1.2	33	1.5																
76	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	2	.063	14	.063	15											
77	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	3	.063	14	.054	15	.031										
78	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	4	.063	14	.031	15	.054										
79	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	5	.063	14		15	.063										
80	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	6	.063	14	-.031	15	.054										
81	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	7	.063	14	-.054	15	.031										
82	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	8	.063	14	-.063	15											

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
83	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	9	.063	14	-.054	15	-.031										
84	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	10	.063	14	-.031	15	-.054										
85	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	11	.063	14		15	-.063										
86	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	12	.063	14	.031	15	-.054										
87	1.2DL + 1.5LM-MP1 + 1SW..	Yes	Y		1	1.2	34	1.5	13	.063	14	.054	15	-.031										
88	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	2	.063	14	.063	15											
89	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	3	.063	14	.054	15	.031										
90	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	4	.063	14	.031	15	.054										
91	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	5	.063	14		15	.063										
92	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	6	.063	14	-.031	15	.054										
93	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	7	.063	14	-.054	15	.031										
94	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	8	.063	14	-.063	15											
95	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	9	.063	14	-.054	15	-.031										
96	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	10	.063	14	-.031	15	-.054										
97	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	11	.063	14		15	-.063										
98	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	12	.063	14	.031	15	-.054										
99	1.2DL + 1.5LM-MP2 + 1SW..	Yes	Y		1	1.2	35	1.5	13	.063	14	.054	15	-.031										
100	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	2	.063	14	.063	15											
101	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	3	.063	14	.054	15	.031										
102	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	4	.063	14	.031	15	.054										
103	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	5	.063	14		15	.063										
104	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	6	.063	14	-.031	15	.054										
105	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	7	.063	14	-.054	15	.031										
106	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	8	.063	14	-.063	15											
107	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	9	.063	14	-.054	15	-.031										
108	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	10	.063	14	-.031	15	-.054										
109	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	11	.063	14		15	-.063										
110	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	12	.063	14	.031	15	-.054										
111	1.2DL + 1.5LM-MP3 + 1SW..	Yes	Y		1	1.2	36	1.5	13	.063	14	.054	15	-.031										
112	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	2	.063	14	.063	15											
113	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	3	.063	14	.054	15	.031										
114	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	4	.063	14	.031	15	.054										
115	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	5	.063	14		15	.063										
116	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	6	.063	14	-.031	15	.054										
117	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	7	.063	14	-.054	15	.031										
118	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	8	.063	14	-.063	15											
119	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	9	.063	14	-.054	15	-.031										
120	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	10	.063	14	-.031	15	-.054										
121	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	11	.063	14		15	-.063										
122	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	12	.063	14	.031	15	-.054										
123	1.2DL + 1.5LM-MP4 + 1SW..	Yes	Y		1	1.2	37	1.5	13	.063	14	.054	15	-.031										
124	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	2	.063	14	.063	15											
125	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	3	.063	14	.054	15	.031										
126	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	4	.063	14	.031	15	.054										
127	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	5	.063	14		15	.063										
128	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	6	.063	14	-.031	15	.054										
129	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	7	.063	14	-.054	15	.031										
130	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	8	.063	14	-.063	15											
131	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	9	.063	14	-.054	15	-.031										
132	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	10	.063	14	-.031	15	-.054										
133	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	11	.063	14		15	-.063										
134	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	12	.063	14	.031	15	-.054										
135	1.2DL + 1.5LM-MP5 + 1SW..	Yes	Y		1	1.2	38	1.5	13	.063	14	.054	15	-.031										
136	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	2	.063	14	.063	15											
137	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	3	.063	14	.054	15	.031										
138	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	4	.063	14	.031	15	.054										
139	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	5	.063	14		15	.063										

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
140	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	6	.063	14	-.031	15	.054										
141	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	7	.063	14	-.054	15	.031										
142	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	8	.063	14	-.063	15											
143	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	9	.063	14	-.054	15	-.031										
144	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	10	.063	14	-.031	15	-.054										
145	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	11	.063	14		15	-.063										
146	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	12	.063	14	.031	15	-.054										
147	1.2DL + 1.5LM-MP6 + 1SW..	Yes	Y		1	1.2	39	1.5	13	.063	14	.054	15	-.031										
148	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	2	.063	14	.063	15											
149	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	3	.063	14	.054	15	.031										
150	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	4	.063	14	.031	15	.054										
151	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	5	.063	14		15	.063										
152	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	6	.063	14	-.031	15	.054										
153	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	7	.063	14	-.054	15	.031										
154	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	8	.063	14	-.063	15											
155	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	9	.063	14	-.054	15	-.031										
156	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	10	.063	14	-.031	15	-.054										
157	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	11	.063	14		15	-.063										
158	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	12	.063	14	.031	15	-.054										
159	1.2DL + 1.5LM-MP7 + 1SW..	Yes	Y		1	1.2	40	1.5	13	.063	14	.054	15	-.031										
160	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	2	.063	14	.063	15											
161	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	3	.063	14	.054	15	.031										
162	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	4	.063	14	.031	15	.054										
163	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	5	.063	14		15	.063										
164	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	6	.063	14	-.031	15	.054										
165	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	7	.063	14	-.054	15	.031										
166	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	8	.063	14	-.063	15											
167	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	9	.063	14	-.054	15	-.031										
168	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	10	.063	14	-.031	15	-.054										
169	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	11	.063	14		15	-.063										
170	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	12	.063	14	.031	15	-.054										
171	1.2DL + 1.5LM-MP8 + 1SW..	Yes	Y		1	1.2	41	1.5	13	.063	14	.054	15	-.031										
172	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	2	.063	14	.063	15											
173	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	3	.063	14	.054	15	.031										
174	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	4	.063	14	.031	15	.054										
175	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	5	.063	14		15	.063										
176	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	6	.063	14	-.031	15	.054										
177	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	7	.063	14	-.054	15	.031										
178	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	8	.063	14	-.063	15											
179	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	9	.063	14	-.054	15	-.031										
180	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	10	.063	14	-.031	15	-.054										
181	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	11	.063	14		15	-.063										
182	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	12	.063	14	.031	15	-.054										
183	1.2DL + 1.5LM-MP9 + 1SW..	Yes	Y		1	1.2	42	1.5	13	.063	14	.054	15	-.031										
184	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	2	.063	14	.063	15											
185	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	3	.063	14	.054	15	.031										
186	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	4	.063	14	.031	15	.054										
187	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	5	.063	14		15	.063										
188	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	6	.063	14	-.031	15	.054										
189	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	7	.063	14	-.054	15	.031										
190	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	8	.063	14	-.063	15											
191	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	9	.063	14	-.054	15	-.031										
192	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	10	.063	14	-.031	15	-.054										
193	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	11	.063	14		15	-.063										
194	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	12	.063	14	.031	15	-.054										
195	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	13	.063	14	.054	15	-.031										
196	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	2	.063	14	.063	15											

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
197	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	3	.063	14	.054	15	.031										
198	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	4	.063	14	.031	15	.054										
199	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	5	.063	14		15	.063										
200	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	6	.063	14	-.031	15	.054										
201	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	7	.063	14	-.054	15	.031										
202	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	8	.063	14	-.063	15											
203	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	9	.063	14	-.054	15	-.031										
204	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	10	.063	14	-.031	15	-.054										
205	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	11	.063	14		15	-.063										
206	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	12	.063	14	.031	15	-.054										
207	1.2DL + 1.5LM-MP11 + 1S...	Yes	Y		1	1.2	44	1.5	13	.063	14	.054	15	-.031										
208	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	2	.063	14	.063	15											
209	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	3	.063	14	.054	15	.031										
210	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	4	.063	14	.031	15	.054										
211	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	5	.063	14		15	.063										
212	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	6	.063	14	-.031	15	.054										
213	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	7	.063	14	-.054	15	.031										
214	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	8	.063	14	-.063	15											
215	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	9	.063	14	-.054	15	-.031										
216	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	10	.063	14	-.031	15	-.054										
217	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	11	.063	14		15	-.063										
218	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	12	.063	14	.031	15	-.054										
219	1.2DL + 1.5LM-MP12 + 1S...	Yes	Y		1	1.2	45	1.5	13	.063	14	.054	15	-.031										
220	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	2	.063	14	.063	15											
221	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	3	.063	14	.054	15	.031										
222	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	4	.063	14	.031	15	.054										
223	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	5	.063	14		15	.063										
224	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	6	.063	14	-.031	15	.054										
225	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	7	.063	14	-.054	15	.031										
226	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	8	.063	14	-.063	15											
227	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	9	.063	14	-.054	15	-.031										
228	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	10	.063	14	-.031	15	-.054										
229	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	11	.063	14		15	-.063										
230	1.2DL + 1.5LM-MP13 + 1S...	Yes	Y		1	1.2	46	1.5	12	.063	14	.031	15	-.054										

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N16	m...	2285.775	18	383.01	37	1959.438	12	70.067	15	1579.026	3	-85.674	22
2		min	-3152.295	12	22.533	18	-1306.18	18	-743.414	83	-1452.084	21	-1204.425	29
3	N2	m...	3053.584	4	382.444	29	1947.416	2	153.564	14	2164.253	7	1277.668	37
4		min	-2376.933	22	26.754	22	-1659.669	20	-959.213	33	-2101.735	25	157.379	18
5	N71A	m...	1068.458	5	383.34	33	2680.304	14	1450.271	27	1725.897	23	331.004	11
6		min	-1022.209	23	22.703	14	-3534.929	8	212.819	20	-1838.685	5	-307.77	17
7	N114	m...	438.837	153	2751.429	27	-771.675	20	917.519	27	38.068	23	97.235	1...
8		min	-434.126	195	515.459	20	-3553.844	27	171.935	20	-38.093	17	-96.024	1...
9	N118	m...	-553.877	25	2641.467	31	1583.411	30	-40.74	23	33.328	15	-131.943	25
10		min	-3036.94	32	441.047	24	135.844	23	-411.109	30	-37.711	9	-780.38	31
11	N122	m...	3271.345	35	3003.488	35	2135.348	36	-82.671	17	31.531	18	844.699	35
12		min	619.169	15	524.671	16	316.356	17	-540.696	36	-34.754	12	144.454	16
13	Totals:	m...	5714.902	17	9344.507	29	5733.613	14						
14		min	-5714.902	11	2388.013	59	-5733.613	8						

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code ...	Loc[in]	LC	Shear C...	Loc[in]	Dir	LC	phi*Pn...	phi*Pnt ...	phi*Mn y-y...	phi*Mn ...	Cb	Eqn
1	MP10	PIPE_2.0	.824	48	12	.046	48		12	14916....	32130	1871.625	1871.625	1.379	H1-...
2	MP1	PIPE_2.0	.728	48	8	.038	48		8	14916....	32130	1871.625	1871.625	1.317	H1-...
3	MP6	PIPE_2.0	.728	48	4	.038	48		4	14916....	32130	1871.625	1871.625	1.331	H1-...
4	M11	PIPE_3.0	.345	122.332	35	.211	122.332		27	64706....	65205	5748.75	5748.75	1.37	H1-...
5	M49	PIPE_3.0	.336	38.543	35	.172	122.332		31	62462....	65205	5748.75	5748.75	1.41	H1-...
6	M87	PIPE_3.0	.332	38.543	38	.153	122.332		37	62462....	65205	5748.75	5748.75	1.52	H1-...
7	M71	L2.5x2....	.322	32.003	35	.011	0	z	36	11537....	29192.4	872.574	1587.601	1.136	H2-1
8	M50	6x11/16	.315	5.75	7	.255	5.75	y	170	127872...	133650	1914.257	16706.25	1.006	H1-...
9	M12	6x11/16	.311	5.75	3	.260	5.75	y	134	127872...	133650	1914.257	16706.25	1.011	H1-...
10	M13	6x11/16	.301	5.75	11	.264	5.75	y	82	127872...	133650	1914.257	16706.25	1.027	H1-...
11	M67	L2.5x2....	.288	32.67	32	.012	64.006	y	8	11537....	29192.4	872.574	1587.601	1.136	H2-1
12	M69	L2.5x2....	.285	32.67	28	.010	64.006	z	37	11537....	29192.4	872.574	1587.601	1.136	H2-1
13	M70	L2.5x2....	.277	32.003	35	.012	0	z	8	11537....	29192.4	872.574	1587.601	1.136	H2-1
14	M68	L2.5x2....	.267	32.67	27	.011	64.006	y	27	11537....	29192.4	872.574	1587.601	1.136	H2-1
15	M66	L2.5x2....	.255	32.003	30	.010	64.006	y	30	11537....	29192.4	872.574	1587.601	1.136	H2-1
16	M1	HSS3X...	.249	0	7	.079	0	z	7	136124...	140346	11212.5	11212.5	1.764	H1-...
17	MP5	PIPE_2.0	.244	30	8	.025	30		8	23808....	32130	1871.625	1871.625	1.398	H1-...
18	MP13	PIPE_2.0	.244	30	12	.025	30		12	23808....	32130	1871.625	1871.625	1.44	H1-...
19	MP9	PIPE_2.0	.244	30	4	.025	30		4	23808....	32130	1871.625	1871.625	1.44	H1-...
20	M39A	HSS3X...	.213	0	5	.063	0	z	11	136124...	140346	11212.5	11212.5	1.89	H1-...
21	M6	HSS3X...	.188	0	3	.060	0	z	3	136124...	140346	11212.5	11212.5	1.908	H1-...
22	M16	L1.5x1....	.166	21.313	33	.014	34.678	z	31	10601....	22275	360.338	831.549	1.193	H2-1
23	MP2	PIPE_2.0	.159	24	8	.024	24		8	26521....	32130	1871.625	1871.625	1.442	H1-...
24	MP7	PIPE_2.0	.158	24	4	.024	24		4	26521....	32130	1871.625	1871.625	1.65	H1-...
25	M53	L1.5x1....	.154	21.313	38	.009	34.678	y	155	10601....	22275	360.338	832.113	1.199	H2-1
26	M92	L1.5x1....	.152	21.313	29	.011	34.678	z	38	10601....	22275	360.338	831.711	1.195	H2-1
27	M54	L1.5x1....	.151	21.313	37	.013	34.678	z	35	10601....	22275	360.338	831.33	1.191	H2-1
28	M91	L1.5x1....	.148	21.313	30	.010	34.678	y	207	10601....	22275	360.338	831.786	1.195	H2-1
29	M15	L1.5x1....	.144	21.313	34	.010	34.678	y	35	10601....	22275	360.338	832.035	1.198	H2-1
30	MP11	PIPE_2.0	.111	24	12	.015	24		12	26521....	32130	1871.625	1871.625	1.559	H1-...
31	M2	HSS3X...	.103	17.063	31	.034	4.594	z	7	123526...	140346	11212.5	11212.5	1	H1-...
32	M7	HSS3X...	.098	17.063	38	.026	4.594	z	3	123526...	140346	11212.5	11212.5	1	H1-...
33	MP3	PIPE_2.0	.097	24	9	.013	24		9	26521....	32130	1871.625	1871.625	1.629	H1-...
34	MP4	PIPE_2.0	.097	24	7	.013	24		7	26521....	32130	1871.625	1871.625	1.629	H1-...
35	MP12	PIPE_2.0	.097	24	12	.013	24		12	26521....	32130	1871.625	1871.625	1.629	H1-...
36	M40A	HSS3X...	.096	17.063	35	.027	4.594	z	5	123526...	140346	11212.5	11212.5	1	H1-...
37	MP8	PIPE_2.0	.012	24	4	.002	24		4	26521....	32130	1871.625	1871.625	1.562	H1-...

APPENDIX D

ADDITIONAL CALCUATIONS

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

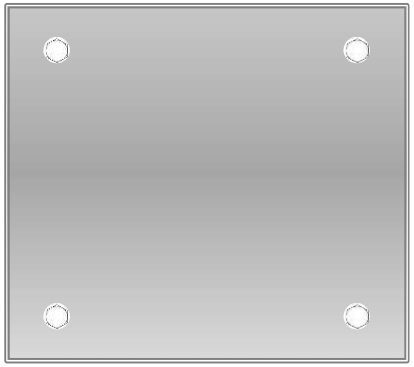
Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	Plymouth/RT 6
Site Number:	826768
Job Code:	1039-Z0001-B
Connection Description:	Standoff & Reinforcement Conn

APPLIED LOADS		
Bolt Tension:	2939.75	lbs
Bolt Shear:	542.54	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Tensile Usage	14.5%	
Shear Usage	3.9%	
Interaction Check	0.02	***≤1.05***
Result	Pass	



APPENDIX E

MOUNT MODIFICATION DESIGN DRAWINGS (MDD) / SUPPLEMENTAL DRAWINGS

GENERAL NOTES:

1. THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE LATEST VERSION OF APPLICABLE LOCAL/STATE/COUNTY/CITY BUILDING CODES, AS WELL AS ANSI/TIA-222 STANDARD, AWWA-D100 STANDARD, NDS, NEC, MSJC, AND/OR THE LATEST VERSION OF THE INTERNATIONAL BUILDING CODE, UNLESS NOTED OTHERWISE IN THE CORRESPONDING STRUCTURAL REPORT.
2. ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
3. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN SIMILAR CONSTRUCTION.
4. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. IF OBSTRUCTIONS ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD PRIOR TO CONTINUING WORK.
5. ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND/OR CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE DURING CONSTRUCTION. TIA-1019-A-2011 IS AN APPROPRIATE REFERENCE FOR THOSE DESIGNS MEETING TIA STANDARDS. THE ENGINEER OF RECORD MAY PROVIDE FORMAL RIGGING PLANS AT THE REQUEST AND EXPENSE OF THE CONTRACTOR.
7. INSTALLATION SHALL NOT INTERFERE NOR DENY ADEQUATE ACCESS TO OR FROM ANY EXISTING OR PROPOSED OPERATIONAL AND SAFETY EQUIPMENT.
8. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

STEEL CONSTRUCTION NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
2. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES, AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS' RECOMMENDATIONS.
3. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
4. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. ALL STEEL MEMBERS AND CONNECTIONS SHALL MEET THE FOLLOWING GRADES:
   - ANGLES, CHANNELS, PLATES AND BARS TO BE A36. Fy=36 KSI, U.N.O.
   - W SHAPES TO BE A992. Fy=50 KSI, U.N.O.
   - RECTANGULAR HSS TO BE A500, GRADE B. FY=46 KSI, U.N.O.
   - ROUND HSS TO BE A500, GRADE B. FY=42 KSI, U.N.O.
   - STEEL PIPE TO BE A53, GRADE B. Fy=35 KSI, U.N.O.
   - BOLTS TO BE A325-X. Fu=120 KSI, U.N.O.
   - U-BOLTS AND LAG SCREWS TO BE A307 GR A. Fu=60 KSI, U.N.O.
6. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES, U.N.O.
7. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION.
8. ALL HILTI ANCHORS TO BE CARBON STEEL, U.N.O.
   - MECHANICAL ANCHORS: KWIK BOLT-TZ, U.N.O.
   - CMU BLOCK ANCHORS: ADHESIVE - HY120, U.N.O.
   - CONCRETE ANCHORS: ADHESIVE - HY150, U.N.O.
   - CONCRETE REBAR: ADHESIVE - RE500, U.N.O.
9. ALL STUDS TO BE NELSON CAPACITOR DISCHARGE 1/4"-20 LOW CARBON STEEL COPPER-FLASH AT 55 KSI ULT/50 KSI YIELD, U.N.O.
10. BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
11. MINIMUM EDGE DISTANCES SHALL CONFORM TO AISC TABLE J3.4.
12. REMOVAL/REPLACEMENT OF STRUCTURAL MEMBERS SHALL BE DONE ONE MEMBER AT A TIME. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STRUCTURAL INTEGRITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.

CONCRETE CONSTRUCTION NOTES:

1. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.
2. EXISTING CONCRETE SURFACES THAT ARE TO BE IN CONTACT WITH NEW PROPOSED CONCRETE SHOULD BE WIRE BRUSHED CLEAN AND TREATED WITH APPROPRIATE MECHANICAL SCRATCH COAT AND REPAIR MATERIALS OR APPROPRIATE CHEMICAL METHODS SUCH AS THE APPLICATION OF A BONDING AGENT, EX. SAKRETE OR EQUIVALENT, TO ENSURE A QUALITY BOND BETWEEN EXISTING AND PROPOSED CONCRETE SURFACES.

FIBER REINFORCED POLYMER (FRP) NOTES:

1. FRP PLATES, SHAPES, BOLTS AND NUTS (STUD/NUT ASSEMBLIES) SHALL CONFORM TO ASTM D638, 695, 790. PLATES AND SHAPES TO BE FY = 5.35 KSI LW (SAFETY FACTOR OF 8), .945 KSI CW (SAFETY FACTOR OF 8) MIN.
2. IF FIELD FABRICATION IS REQUIRED, ALL CUT EDGES AND DRILLED HOLES TO BE SEALED USING VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
3. ALL FASTENERS TO BE 1/2" DIA FRP THREADED ROD WITH FIBER REINFORCED THERMOPLASTIC NUT, SPACED AT 12 INCHES ON CENTER MAXIMUM, U.N.O., FOR PANELS AND AS DESIGNED FOR STRUCTURAL MEMBERS.
4. THE COLOR AND SURFACE PATTERN OF EXPOSED FRP PANELS SHALL MATCH THE EXTERIOR OF THE EXISTING BUILDING, U.N.O.
5. STUD/NUT ASSEMBLIES SHOULD BE LUBRICATED FOR INSTALLATION
6. ENSURE BEARING SURFACES OF THE NUTS ARE PARALLEL TO THE SURFACES BEING FASTENED.
7. TORQUE BOLTS ACCORDING TO THE FOLLOWING TABLE:

INSTALLATION TORQUE TABLE		
SIZE	ULTIMATE TORQUE STRENGTH	RECOMMENDED MAXIMUM INSTALLATION TORQUE
3/8-16 UNC	8 FT-LBS	4 FT-LBS
1/2-13 UNC	18 FT-LBS	8 FT-LBS
5/8-11 UNC	35 FT-LBS	16 FT-LBS
3/4-10 UNC	50 FT-LBS	24 FT-LBS
1-8 UNC	110 FT-LBS	50 FT-LBS

8. WHEN TIGHTENING FRP STUD/NUT ASSEMBLIES, WRENCHES MUST MAKE FULL CONTACT WITH ALL NUT EDGES. A STANDARD SIX POINT SOCKET IS RECOMMENDED.
9. STUD/NUT ASSEMBLIES SHOULD BE BONDED BY APPLYING BONDING AGENT TO ENTIRE NUT AND EXPOSED STUD.
10. ALL FRP MATERIALS TO BE PROVIDED BY FIBERGRATE COMPOSITE STRUCTURES, DALLAS TX, OR APPROVED EQUAL.
11. ALL FRP SHAPES TO BE DYNAFORM PULTRUDED STRUCTURAL SHAPES.
12. ALL FRP PLATES TO BE FIBERPLATE MOLDED FRP PLATE.
13. ALL FRP PANELS TO BE FIBERPLATE CLADDING PANEL.
14. EACH FRP PANEL TO BE IDENTIFIED WITH LARR#25536 AND FIBERGRATE COMPOSITE STRUCTURAL LABEL.
15. FRP MATERIAL TO BE CLASSIFIED AS CC1 OR BETTER, AND HAVE MAXIMUM FLAME SPREAD OF 50.
16. ALL DESIGN AND CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH LOS ANGELES RESEARCH REPORT RR25536, DATED FEBRUARY 1, 2016.
17. SPECIAL INSPECTIONS MUST BE PROVIDED FOR ALL FRP INSTALLMENTS. SEE SPECIAL INSPECTION SECTION, THIS SHEET.

RATIO OF EDGE DISTANCE TO FRP FASTENER DIAMETER		
	RANGE	RECOMMENDED
EDGE DISTANCE - CL* BOLT TO END	2.0-4.0	3.0
EDGE DISTANCE - CL* BOLT TO SIDE	1.5-3.5	2.5
BOLT PITCH - CL* TO CL*	4.0-5.0	5.0

WOOD CONSTRUCTION NOTES:

1. ALL EXISTING WOOD SHAPES ARE ASSUMED TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN.
2. ALL PROPOSED WOOD SHAPES ARE TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN. U.N.O.
3. ALL EXISTING AND PROPOSED GLUED LAMINATED TIMBERS ARE TO BE 24F-1.8C DOUGLAS FIR BALANCED WITH A REFERENCE DESIGN BENDING VALUE OF 2400 PSI MIN. U.N.O.

MASONRY CONSTRUCTION NOTES:

1. ALL BRICK TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 100 PSI SHALL BE USED. FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 133 PSI.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
2. ALL CMU TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS, TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 64 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 158 PSI FOR FULLY GROUTED BLOCKS.
   - FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 84 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 163 PSI FOR FULLY GROUTED BLOCKS.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.

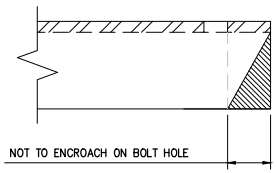
TOWER PLUMB & TENSION NOTES:

1. PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.
2. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
3. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS FOR LATTICED STRUCTURES.
4. THE TWIST BETWEEN ANY TWO ELEVATIONS THROUGHOUT THE HEIGHT OF A LATTICE STRUCTURE SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE LATTICE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.

SPECIAL INSPECTIONS NOTES:

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER AND APPROVED BY THE JURISDICTION, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH THE THE GOVERNING BUILDING CODE, APPLICABLE SECTION(S) AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
   a. STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELDS ONLY).
   b. HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 AND/OR A490 BOLTS) TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD.
   c. MECHANICAL AND EPOXIED ANCHORAGES.
   d. FIBER REINFORCED POLYMER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE FRP MATERIAL SPECIFIED ON THE APPROVED DESIGN DOCUMENTS IS BEING INSTALLED.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT ALL CUT EDGES AND DRILLED HOLES ARE PROPERLY SEALED USING A VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE STRUCTURE IS BUILT IN ACCORDANCE WITH THE APPROVED DESIGN DOCUMENTS.
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM WORK WITHOUT THE SPECIAL INSPECTIONS.

MAXIMUM ALLOWABLE ANGLE CLIP



CROWN CASTLE
CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

INFINIGY ENGINEERING LLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

T-Mobile

SUBMITTALS

DATE	DESCRIPTION	REVISION
07/08/20	FOR REVIEW	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	1039-Z0001-B
DRAWN BY:	WJD
CHECKED BY:	CL

STATE OF CONNECTICUT
JOHN S. STEVENS
24705
LICENSED PROFESSIONAL ENGINEER

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

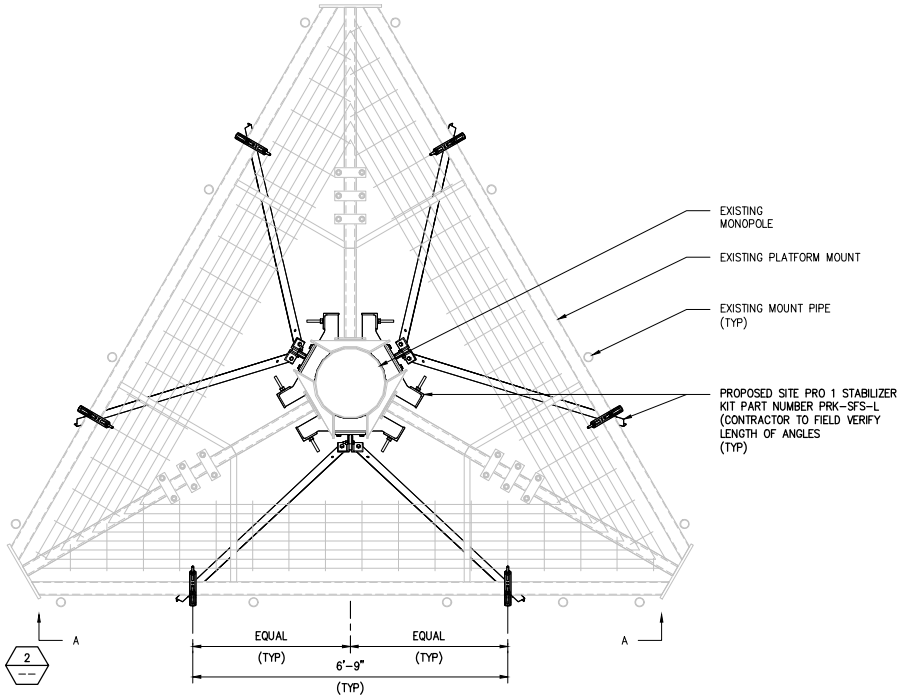
SITE NUMBER
826768

SITE NAME
PLYMOUNT/RT6

171 TOWN HILL ROAD
PLYMOUNT, CT 06786

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
S-1



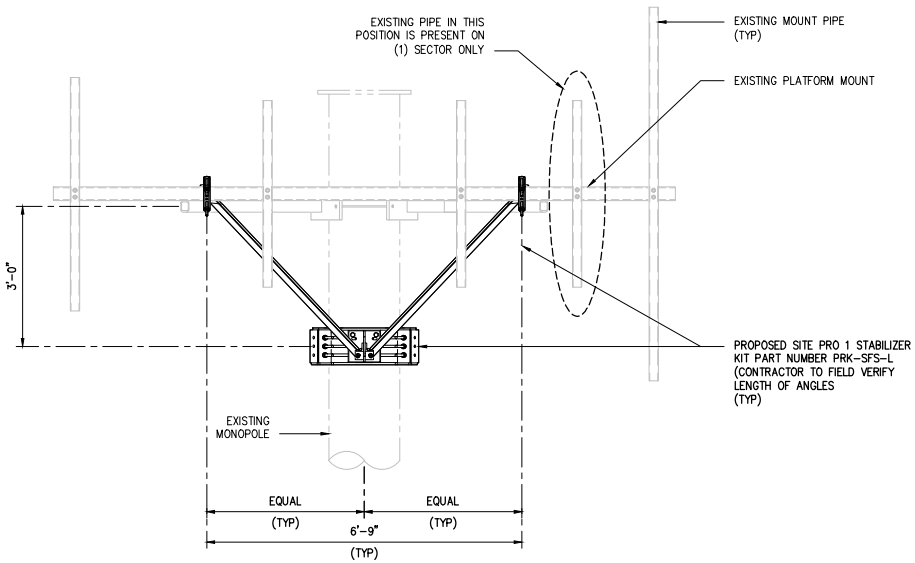
1 PLAN VIEW
SCALE: NOT TO SCALE

NOTES:

1. VARIOUS EXISITNG CONDITIONS AND PROPOSED MODIFICATIONS NOT SHOWN FOR CLARITY.

2. ALL DESIGNATED PARTS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

3. CONTRACTOR TO FIELD VERIFY REQUIRED LENGTHS OF ALL PROPOSED REINFORCEMENT KIT ANGLES AND TRIM & DRILL ON SITE AS NECESSARY.



2 SECTION A-A
SCALE: NOT TO SCALE

CROWN CASTLE
CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

INFINIGY ENGINEERING LLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

T-Mobile

SUBMITTALS

DATE	DESCRIPTION	REVISION
07/08/20	FOR REVIEW	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	1039-Z0001-B
DRAWN BY:	WJD
CHECKED BY:	CL

STATE OF CONNECTICUT
JOHN S. STEVENS
24705
LICENCED
PROFESSIONAL ENGINEER

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER
826768

SITE NAME
PLYMOUNT/RT6

171 TOWN HILL ROAD
PLYMOUNT, CT 06786

SHEET TITLE
MOUNT MODIFICATION DETAILS

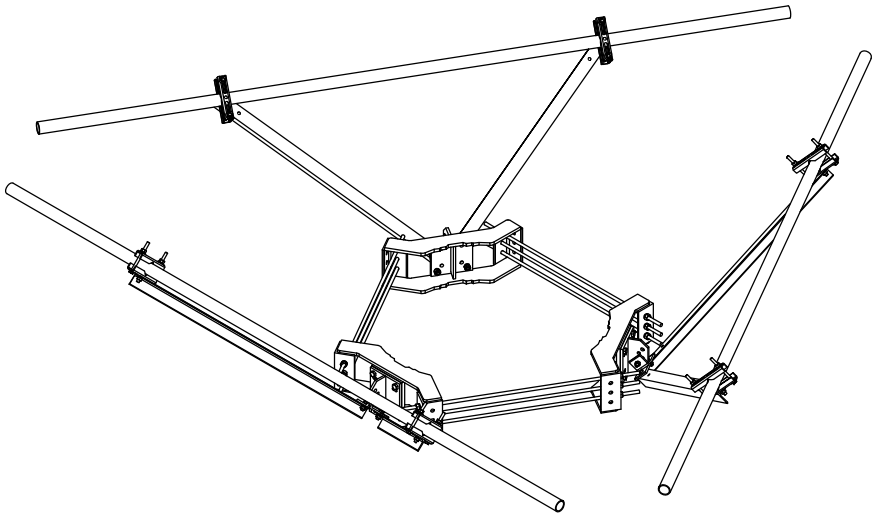
SHEET NUMBER
S-2

NOTES:

1. VARIOUS EXISITNG CONDITIONS AND PROPOSED MODIFICATIONS NOT SHOWN FOR CLARITY.

2. ALL DESIGNATED PARTS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

3. CONTRACTOR TO FIELD VERIFY REQUIRED LENGTHS OF ALL PROPOSED REINFORCEMENT KIT ANGLES AND TRIM & DRILL ON SITE AS NECESSARY.



1 SITE PRO 1 P/N PRK-SFS-L

SCALE: NOT TO SCALE

CROWN CASTLE
CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

INFINIGY ENGINEERING LLC
1033 Watervliet Shaker Rd
Albany, NY 12205
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T-Mobile

SUBMITTALS

DATE	DESCRIPTION	REVISION
07/08/20	FOR REVIEW	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	1039-Z0001-B
DRAWN BY:	WJD
CHECKED BY:	CL

STATE OF CONNECTICUT
JOHN S. STEVENS
24705
LICENSED PROFESSIONAL ENGINEER

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER
826768

SITE NAME
PLYMOUNT/RT6

171 TOWN HILL ROAD
PLYMOUNT, CT 06786

SHEET TITLE

REQUIRED PARTS

SHEET NUMBER

S-3

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11417C

Plymouth/RT 6
171 Town Hill Road
Plymouth, Connecticut 06786

July 29, 2020

EBI Project Number: 6220003505

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**24.75%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

July 29, 2020

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

Emissions Analysis for Site: CT11417C - Plymouth/RT 6

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **171 Town Hill Road** in **Plymouth, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 171 Town Hill Road in Plymouth, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 2 LTE channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

8) 2 NR channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

11) The antennas used in this modeling are the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector A, the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector B, the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

12) The antenna mounting height centerline of the proposed antennas is 165 feet above ground level (AGL).

13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd
Height (AGL):	165 feet	Height (AGL):	165 feet	Height (AGL):	165 feet
Channel Count:	7	Channel Count:	7	Channel Count:	7
Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts
ERP (W):	8,466.41	ERP (W):	8,466.41	ERP (W):	8,466.41
Antenna A1 MPE %:	**1.86%**	Antenna B1 MPE %:	**1.86%**	Antenna C1 MPE %:	**1.86%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	165 feet	Height (AGL):	165 feet	Height (AGL):	165 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts
ERP (W):	25,651.93	ERP (W):	25,651.93	ERP (W):	25,651.93
Antenna A2 MPE %:	**3.39%**	Antenna B2 MPE %:	**3.39%**	Antenna C2 MPE %:	**3.39%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	165 feet	Height (AGL):	165 feet	Height (AGL):	165 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A3 MPE %:	**1.70%**	Antenna B3 MPE %:	**1.70%**	Antenna C3 MPE %:	**1.70%**

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	6.94%
Sprint	0.79%
Town	2.28%
Verizon	3.46%
Nextel	0.54%
AT&T	10.74%
Site Total MPE % :	24.75%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	6.94%
T-Mobile Sector B Total:	6.94%
T-Mobile Sector C Total:	6.94%
Site Total MPE % :	24.75%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 600 MHz LTE	2	591.73	165.0	1.56	600 MHz LTE	400	0.39%
T-Mobile 600 MHz NR	1	1577.94	165.0	2.08	600 MHz NR	400	0.52%
T-Mobile 700 MHz LTE	2	648.82	165.0	1.71	700 MHz LTE	467	0.37%
T-Mobile 1900 MHz LTE	2	2203.69	165.0	5.82	1900 MHz LTE	1000	0.58%
T-Mobile 2500 MHz LTE	2	6412.98	165.0	16.94	2500 MHz LTE	1000	1.69%
T-Mobile 2500 MHz NR	2	6412.98	165.0	16.94	2500 MHz NR	1000	1.69%
T-Mobile 1900 MHz GSM	4	1028.30	165.0	5.43	1900 MHz GSM	1000	0.54%
T-Mobile 1900 MHz LTE	2	2056.61	165.0	5.43	1900 MHz LTE	1000	0.54%
T-Mobile 2100 MHz LTE	2	2307.55	165.0	6.09	2100 MHz LTE	1000	0.61%
						Total:	**6.94%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	6.94%
Sector B:	6.94%
Sector C:	6.94%
T-Mobile Maximum MPE % (Sector A):	6.94%
Site Total:	24.75%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **24.75%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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