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

July 18, 2016

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

RE: **Notice of Exempt Modification for AT&T/ LTE 3C Crown Site BU: 876331**
AT&T Site ID: CT1024
115 North Mountain Road, New Britain, CT 06053
Latitude: 41° 40' 35.72"/ Longitude: -72° 49' 17.09"

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 100-foot level of the existing 118.9-foot monopole tower at 115 North Mountain Road in New Britain, CT. The tower and property is owned by Crown Castle. AT&T now intends to replace six (3) antennas with three (3) new CCI 700 MHz antennas. These antennas would be installed at the 100-foot level of the tower. AT&T also intends to install three (3) RRU11/A2s and remove six (6) diplexers.

The City of New Britain could not confirm the original date and conditions of zoning.

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.S.C.A. § 16-50j-73, a copy of this letter is being sent to The Honorable Erin Stewart, Mayor, City of New Britain, as well as the property owner, and Crown Castle is the tower 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, AT&T 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: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Real Estate Specialist
12 Gill Street, Suite 5800, Woburn, MA 01801
781-729-0053
Jeff.Barbadora@crowncastle.com

Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
Tab 2: Exhibit-2: Structural Modification Report
Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: The Honorable Erin Stewart, Mayor
City of New Britain
27 West Main Street
New Britain, CT 06051

115 NORTH MOUNTAIN RD

Location	115 NORTH MOUNTAIN RD	**Mblu**	F2D/ 102/ / /
Acct#	66600115	**Owner**	OCTOBER TWENTY FOUR INC
Assessment	$232,330	**Appraisal**	$331,900
PID	1134	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2012	$234,100	$97,800	$331,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2012	$163,870	$68,460	$232,330

Owner of Record

Owner OCTOBER TWENTY FOUR INC
Co-Owner
Address C/O A AIUDI + SONS LLC
PO BOX 279
PLAINVILLE, CT 06062

Sale Price $550,000
Certificate 1
Book & Page 1826/ 309
Sale Date 09/29/2011
Instrument 19

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
OCTOBER TWENTY FOUR INC	$550,000	1	1826/ 309	19	09/29/2011
OCTOBER TWENTY FOUR INC	$0		733/ 284		02/02/1978
GIUSEPPE CACCAMO SALVATORE	$0		431/ 424		01/01/1900
	$0		224/ 239		01/01/1900

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes

Field	Description
Style	Outbuildings
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Central Heat Sys	
AC Type	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs	
Total Rooms	
Bath Style	
Kitchen Style	
Whirlpool Tub	
Fireplaces	
Rec Room Finish	
Rec Room Qual	
Bsmt Garages	
Bldg Nbhd	

(http://images.vgsi.com/photos/NewBritainCTPhotos//default.jpg

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	4400
Description	Ind Ld De
Zone	TP
Neighborhood	101G
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.82
Depth	
Assessed Value	$68,460
Appraised Value	$97,800

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV5	Conc Pad			256 S.F.	$3,100	1
FN3	Fence-6' Chain			150 L.F.	$1,500	1
CB3	PreCastConcCel			286 S.F.	$89,200	1
CB3	PreCastConcCel			360 S.F.	$140,300	1

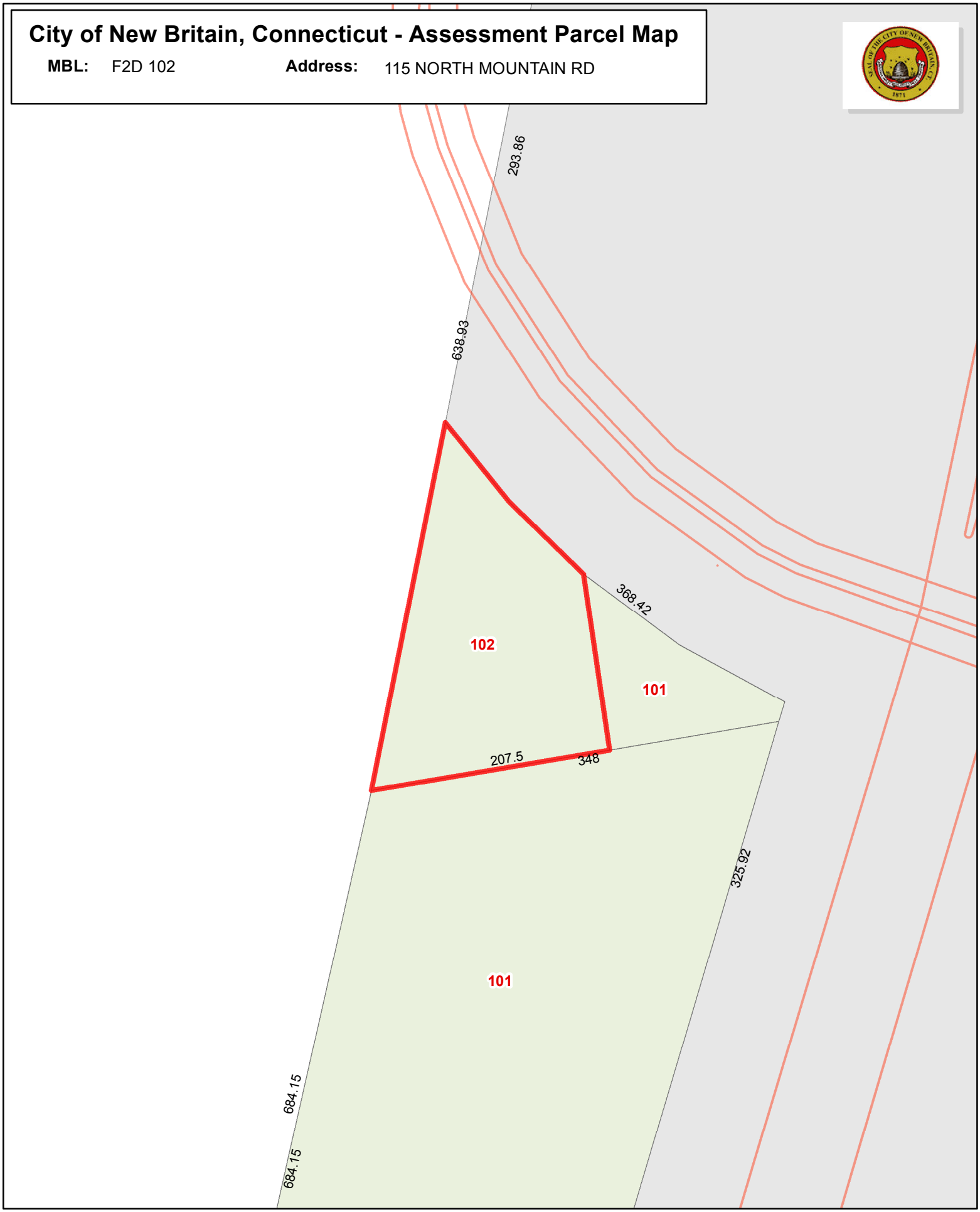
Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$234,100	$97,800	$331,900
2014	$234,100	$97,800	$331,900
2013	$234,100	$97,800	$331,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$163,870	$68,460	$232,330
2014	$163,870	$68,460	$232,330
2013	$163,870	$68,460	$232,330

City of New Britain, Connecticut - Assessment Parcel Map

MBL: F2D 102 **Address:** 115 NORTH MOUNTAIN RD



N
W E
S

Approximate Scale:

1 inch = 100 feet

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

Map Produced January 2015

GROUND LEASE EXTENSION AGREEMENT

THIS GROUND LEASE EXTENSION AGREEMENT (this "Agreement") is by and between Global Signal Acquisition IV LLC, a Delaware limited liability company ("Landlord") and STC Five LLC, a Delaware limited liability company ("Tenant"), effective as of September 13, 2011 ("Effective Date").

Whereas, Landlord has acquired an easement ("*Easement*") along with a concomitant ground lease ("*Ground Lease*") relating to a certain tower site ("*Tower Site*") upon which Tenant has one or more communication towers and related improvements or assets; and

Whereas, Landlord and Tenant desire to extend the term of the Ground Lease; and

Whereas, Landlord and Tenant have agreed upon terms for the extension of the Ground Lease and they desire to memorialize such agreement in writing.

Now, Therefore, Landlord and Tenant, for good and valuable consideration, agree as follows:

Definitions.

"Agreement" means this Ground Lease Extension Agreement.

"Ground Lease" means the lease dated September 3, 1996, for property located in New Britain, Hartford County, Connecticut. The original landlord's interest in the lease was assigned to Landlord in the Easement which is dated 9-13-11.

"Tenant's Notice Address" means c/o Crown Castle USA Inc., E. Blake Hawk, General Counsel, Attn: Legal Department, 2000 Corporate Drive, Canonsburg, PA 15317.

"Landlord's Notice Address" means c/o Crown Castle USA Inc., E. Blake Hawk, General Counsel, Attn: Legal Department, 2000 Corporate Drive, Canonsburg, PA 15317.

Ground Lease Term. Effective as of the date of this Agreement, the term of the Ground Lease shall be extended to the earlier of (i) September 2, 2021, or (ii) the termination date of the Easement. If there is any conflict between the Ground Lease and this Agreement, this Agreement shall prevail.

Ground Lease Termination. Tenant has the right to terminate the Ground Lease with at least five (5) years' prior written notice to Landlord.

Rent. Effective as of the Effective Date, Tenant shall pay rent to Landlord in the monthly amount of [redacted]. The monthly rent shall increase annually commencing on each January 1, to an amount equal to the monthly rent prior to such adjustment multiplied by the CPI indicator published on or about October 1 prior to such adjustment divided by the CPI indicator published on or about October 1 for the prior year. "CPI" means the Consumer Price Index published by the Bureau of Labor for all Urban Consumers, U.S. City Averages or a substantially similar index if such index is not published.

Notices. All notices hereunder shall be in writing and shall be given by (i) established national courier service which maintains delivery records, (ii) hand delivery, or (iii) certified or registered mail, postage prepaid, return receipt requested. Notices are effective upon receipt, or upon attempted delivery if delivery is refused or if delivery is impossible because of failure to provide reasonable means for accomplishing delivery. The notices shall be sent to Landlord at Landlord's Notice Address and to Tenant at Tenant's Notice Address.

Assignment, Sublease, Licensing and Encumbrance. Tenant has the right, without any requirement that it pay any additional consideration to Landlord and at its sole discretion, to assign all or any interest in the Ground Lease and to sublease or license the rights granted to it in the Ground Lease or modify or alter the Tower Site. If there is any conflict between the Ground Lease and this Agreement, this Agreement shall prevail.

IN WITNESS WHEREOF, Landlord and Tenant having read the foregoing and intending to be legally bound hereby, have executed this Agreement as of the day and year first written above.

LANDLORD:
Global Signal Acqusitions IV LLC,
a Delaware limited liability company

By: Tracy Van Swol
Name Tracy Van Swol
Title Real Estate Transaction Manager

Witness

TENANT:
STC Five LLC, a Delaware limited liablity company,
By: Global Signal Acquisitions II LLC, a Delaware limited liability company, its attorney-in-fact

By: Tracy Van Swol
Name Tracy Van Swol
Title Real Estate Transaction Manager

Witness

Site Name: New Britain Gravel Pit
BUN: 876331
692311.2 09/09/2011

By: (initials) SRR Date 9/23/11 Doc Type I
BUN: 876331 Lease/Lic 154486

A. AIUDI & SONS, LLC CONCRETE
Committed To Our Customers For Over 70 Years
Administrative Offices: P.O. Box 279, Plainville, CT 06062
TEL (860) 747-5534 FAX (860) 747-8212
www.aiudiconcrete.com

FAX TRANSMITTAL

****

TO: JOSEPH KNISELL

COMPANY: CROWN CASTLE INC

FAX #: 724-416-6442

FROM: John KEARNEY

COMPANY: **A. AIUDI & SONS LLC**

FAX #: **(860) 747-8212**

DATE: 4/04/2011 ~~2010~~

TIME: 11:40 AM ~~PM~~

NUMBER OF PAGES INCLUDING THIS COVER SHEET: 3

IF TRANSMITTED PAGES ARE UNCLEAR OR MISSING, PLEASE CALL (860) 747-5534

COMMENTS:

Facsimile 724-416-6442

Joseph P. Knisell
Site Lease Specialist
Crown Castle International
301 N. Cattleman Road
Sarasota, FL 34232

Re: October Twenty Four Inc., Lease Agreement dated September 3, 1996

Dear Mr. Knisell:

As discussed attached is a copy of the May 16, 2000 agreement between Sprint PCS and October Twenty Four, Inc with respect to Omnipoint's co-location on the telecommunication tower and future co-locations on said tower.

In reviewing the file it appears that at least five (5) telecommunication companies are co-located on the telecommunication tower. These are Sprint, T-Mobile, AT&T Verizon and Clearwire. Since the parties agreed that October Twenty Four, Inc would share in future co-location rental revenue, could you please provide the relevant details of the co-location rental arrangements in order to calculate the amount which is due to October Twenty Four, Inc.

I expect to have the relevant information from local tax collector's office this week in order to calculate the amount of tax due to October Twenty Four, Inc.

Thank you in advance for your assistance.

John P. Kearney
Enclosure

Sprint SPECTRUM
Sprint Sites USA
East Region-Northeast District Office
330 Franklin Turnpike, 2nd Floor
Mahwah, NJ 07430
Mailstop NJMAH80101

May 16, 2000

Elmo Aiudi
October Twenty Four, Inc.
179 Camp Street
Plainville, CT 06062
(860) 747-8212

RE: *Notification of Intent to Sublease*
Site #CT03XC083
20 Belmont Street, New Britain & Plainville, CT ("Gravel Pit")

Dear Mr. Aiudi:

Sprint PCS, as a corporate policy, believes strongly in the principle of co-location. We have found that co-location is good for all parties involved. This is especially true for the neighborhood in which the telecommunication tower is located, in that co-location keeps down the number of towers necessary for companies to efficiently and effectively operate their networks. Other telecommunication providers share our view of co-location.

Omnipoint, another telecommunications company, has approached Sprint PCS and requested permission to co-locate on our tower which is designed for collocations, located on your property, as well as to utilize a small part of our ground space for their equipment. We would like to comply with their request.

Please refer to the PCS Site Agreement, dated September 3, 1996, Section 5, which states that Sprint PCS will notify the Owner of a proposed sublease and the Owner will provide his/her written consent to allow Sprint PCS the right to sublease, in an unconditioned, timely manner. As such, we ask that you sign the line below to indicate that you consent to this sublease and return this letter to my attention in the enclosed self-addressed, pre-paid, overnight envelope.

In consideration of your consent, we will pay your of the gross receipts from Omnipoint's collocation rental revenue. They have agreed to per month to begin at construction with a annual increase. In exchange, you have agreed to grant to the next collocation provided that notice is furnished under the terms of our lease for of the gross receipts of said future collocation rental revenue.

If you have any questions, feel free to contact me at

Very truly yours,

Robert S. Greenwell
Collocation Analyst

CONSENTED TO : _____ DATE: 5-31-2000
October Twenty Four, Inc.
By: Elmo Aiudi

PCS SITE AGREEMENT

Site Name: Gravel Pit **Site I. D.: 03-083.D**

. Premises and Use. Owner leases to Sprint Spectrum L.P., a Delaware limited artnership ("SSLP"), the site described below:
Check appropriate box(es)]
]Real property consisting of approximately 10,000 square feet of land;
]Building interior space consisting of approximately square feet;
]Building exterior space for attachment of antennas;
]Building exterior space for placement of base station equipment;
]Tower antenna space;
]Space required for cable runs to connect PCS equipment and antennas,

the location(s) shown on Exhibit A, together with a non-exclusive easement for easonable access thereto and to the appropriate, in the discretion of SSLP, ource of electric and telephone facilities (collectively, the "Site"). The Site will be sed by SSLP for the purpose of installing, removing, replacing, modifying, aintaining and operating, at its expense, a personal communications service ystem facility ("PCS"), including, without limitation, related antenna equipment nd fixtures. SSLP will use the Site in a manner which will not unreasonably isturb the occupancy of Owner's other tenants.

. Term. The term of this Agreement (the "Initial Term") is five years, ommencing on the date ("Commencement Date") SSLP signs this Agreement. his Agreement will be automatically renewed for four additional terms (each a Renewal Term") of five years each, unless SSLP provides Owner notice of ntention not to renew not less than 90 days prior to the expiration of the Initial erm or any Renewal Term.

. Rent. Until the earlier of (a) the date which is 30 days after the issuance of a uilding permit for installation of the PCS, or (b) the first day of the month ollowing commencement of physical preparation of the Site, rent will be [redacted] the receipt of which Owner acknowledges. Thereafter, rent will be paid advance in equal monthly installments of [redacted] (until increased as set rth herein), partial months to be prorated. Rent for each Renewal Term will be e annual rent in effect for the final year of the Initial Term or prior Renewal erm, as the case may be, increased by [redacted]

. Title and Quiet Possession. Owner represents and agrees (a) that it is the)wner of the Site; (b) that it has the right to enter into this Agreement; (c) that the erson signing this Agreement has the authority to sign; (d) that SSLP is entitled) access to the Site at all times and to the quiet possession of the Site roughout the Initial Term and each Renewal Term so long as SSLP is not in efault beyond the expiration of any cure period; and (e) that Owner will not have nsupervised access to the Site (excluding the non-exclusive easement for ccess and utilities) or to the PCS equipment.

. Assignment/Subletting. SSLP will not assign or transfer this Agreement or ublet all or any portion of the Site without the prior written consent of Owner, hich consent will not be unreasonably withheld, delayed or conditioned; rovided, however, SSLP may assign or sublet without Owner's prior written onsent to any party controlling, controlled by or under common control with SLP or to any party which acquires substantially all of the assets of SSLP.

. Notices. All notices must be in writing and are effective when deposited in the .S. mail, certified and postage prepaid, or when sent via overnight delivery, to e address set forth below, or as otherwise provided by law.

. Improvements. SSLP may, at its expense, make such improvements on the ite as it deems necessary from time to time for the operation of a transmitter te for wireless voice and data communications. Owner agrees to cooperate ith SSLP with respect to obtaining any required zoning approvals for the Site id such improvements. Upon termination or expiration of this Agreement, SSLP ay remove its equipment and improvements and will restore the Site (excluding e non-exclusive easement for access and utilities) to substantially the condition isting on the Commencement Date, except for ordinary wear and tear and sualty loss.

Compliance with Laws. Owner represents that Owner's property (including e Site), and all improvements located thereon, are in substantial compliance h building, life/safety, disability and other laws, codes and regulations of plicable governmental authorities. SSLP will substantially comply with all plicable laws relating to its possession and use of the Site.

Interference. SSLP will resolve technical interference problems with other uipment located at the Site on the Commencement Date or any equipment it becomes attached to the Site at any future date when SSLP desires to add ditional equipment to the Site. Likewise, Owner will not permit the installation any future equipment which results in technical interference problems with LP's then existing equipment.

Utilities. Owner represents that utilities adequate for SSLP's use of the Site available. SSLP will pay for all utilities used by it at the Site. Owner will perate with SSLP in SSLP's efforts to obtain utilities from any location vided by Owner or the servicing utility.

11. Termination. SSLP may terminate this Agreement at any time by notice t Owner without further liability if SSLP does not obtain all permits or othe approvals (collectively, "approval") required from any governmental authority c any easements required from any third party to operate the PCS system, or any such approval is canceled, expires or is withdrawn or terminated, or if Owne fails to have proper ownership of the Site or authority to enter into thi Agreement, or if SSLP, for any other reason, in its sole discretion, determine: that it will be unable to use the Site for its intended purpose. Upon termination, a prepaid rent will be retained by Owner.

12. Default. If either party is in default under this Agreement for a period of (a 10 days following receipt of notice from the non-defaulting party with respect to a default which may be cured solely by the payment of money, or (b) 30 days following receipt of notice from the non-defaulting party with respect to a defaul which may not be cured solely by the payment of money, then, in either event the non-defaulting party may pursue any remedies available to it against the defaulting party under applicable law, including, but not limited to, the right t terminate this Agreement. If the non-monetary default may not reasonably be cured within a 30 day period, this Agreement may not be terminated if the defaulting party commences action to cure the default within such 30 day perio and proceeds with due diligence to fully cure the default.

13. Indemnity. Owner and SSLP each indemnifies the other against and holds the other harmless from any and all costs (including reasonable attorneys' fees and claims of liability or loss which arise out of the use and/or occupancy of the Site by the indemnifying party. This indemnity does not apply to any claims arising from the sole negligence or intentional misconduct of the indemnified party.

14. Hazardous Substances. Owner represents that it has no knowledge of any substance, chemical or waste (collectively, "substance") on the Site that is identified as hazardous, toxic or dangerous in any applicable federal, state o local law or regulation. SSLP will not introduce or use any such substance on the Site in violation of any applicable law.

15. Miscellaneous. (a) This Agreement applies to and binds the heirs successors, executors, administrators and assigns of the parties to this Agreement; (b) This Agreement is governed by the laws of the State in which the Site is located; (c) If requested by SSLP, Owner agrees promptly to execute and deliver to SSLP a recordable Memorandum of this Agreement in the form o Exhibit B; (d) This Agreement (including the Exhibits) constitutes the entire agreement between the parties and supersedes all prior written and verba agreements, representations, promises or understandings between the parties Any amendments to this Agreement must be in writing and executed by both parties; (e) If any provision of this Agreement is invalid or unenforceable with respect to any party, the remainder of this Agreement or the application of such provision to persons other than those as to whom it is held invalid o unenforceable, will not be affected and each provision of this Agreement will be valid and enforceable to the fullest extent permitted by law; and (f) The prevailing party in any action or proceeding in court or mutually agreed upon arbitration proceeding to enforce the terms of this Agreement is entitled t receive its reasonable attorneys' fees and other reasonable enforcement costs and expenses from the non-prevailing party.

The following Exhibits are attached to and made a part of this Agreement:
Exhibit A, B, C, D, E, F and G

OWNER: October Twenty-Four Inc.
BY: [signature]
ITS: President, Elmo R. Aiudi
S.S./TAX NO.: [redacted]

☐ See Exhibit A1 for continuation of Owner signatures

ADDRESS: PO Box 279
Plainville, CT 06062
DATE: August 12 1996

SPRINT SPECTRUM L.P., a Delaware limited partnership
BY: [signature]
ITS: Director, Engineering and Operations, John Kossitch
ADDRESS: 4717 Grand Street, Fifth Floor
Kansas City, Missouri 64112
Attn: Business Law Group - Albany MTA Counsel
DATE: 9/3/96

EXHIBIT A

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Site situated in the City of New Britain and Plainville, County of Hartford, State of Connecticut, commonly described as follows:

Legal Description: a certain piece or parcel of land with all buildings and improvements thereon, situated in the Towns of Plainville and New Britain, County of Hartford and State of Connecticut, through which runs LOON LAKE ROAD, so called (a private right-of-way) and being more particularly bounded and described as follows, to wit:

NORTHERLY:	by land now or formerly of Ashland Oil & Refining Co. and Mary Pastor, partly by each;
NORTHEASTERLY:	by land now or formerly of Philip J. and Mary L. Pelletier;
NORTHWESTERLY:	by land now or formerly of Philip J. and Mary L. Pelletier;
NORTHEASTERLY AGAIN:	by land now or formerly of Philip J. and Mary L. Pelletier;
SOUTHERLY:	by land now or formerly of Edwin R. and Dorothy N. Barrington;
NORTHEASTERLY AGAIN:	by land now or formerly of Edwin R. and Dorothy N. Barrington;
NORTHWESTERLY AGAIN:	by land now or formerly of Edwin R. and Dorothy N. Barrington;
NORTHEASTERLY AGAIN:	by land now or formerly of Joseph F. Jr. and Croceann C. Caccamo;
NORTHWESTERLY AGAIN:	by land now or formerly of Joseph F. Jr. and Croceann C. Caccamo;
NORTHERLY AGAIN:	by land now or formerly of F. Lucy Tolley and Mary Pastor, partly by each;
EASTERLY:	by land now or formerly of Society of the Children of Mary of the Immaculate Conception, Inc.;
NORTHERLY AGAIN:	by land now or formerly of Society of the Children of Mary of the Immaculate Conception, Inc.
SOUTHERLY AGAIN:	by land now or formerly of State of Connecticut;
EASTERLY AGAIN:	by a curved line being land now or formerly of the State of Connecticut;
EASTERLY AGAIN:	by land now or formerly of the State of Connecticut;

Owner Initials_____

SSLP Initials_____

Note: Owner and SSLP may, at SSLP's option, replace this Exhibit with an exhibit setting forth the legal description of the property on which the Site is located and/or an as-built drawing depicting the Site.

EXHIBIT A

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Site situated in the City of New Britain and Plainville, County of Hartford, State of Connecticut, commonly described as follows:

Legal Description:(continued)

SOUTHERLY, SOUTHEASTERLY and SOUTHERLY AGAIN:	by land now or formerly of Sherman-Tomasso Concrete, Inc.;
WESTERLY AGAIN:	by land now or formerly of Ashland Oil & Refining Co.;
SOUTHERLY AGAIN:	by land now or formerly of Ashland Oil & Refining Co.; and
WESTERLY:	by land now or formerly of Ashland Oil & Refining Co., being an irregular line.

Together with any and all interests in and to passways and roadways to and from the above-described parcel, which interests appear more fully of record.

Being the same premises conveyed to October Twenty-Four, Inc. by warranty deed from Guiseppe Caccamo, a/k/a Giuseppe Caccamo or as Joseph Caccamo, Salvatore Caccamo, Antonino Caccamo, a/k/a Anthony J. Caccamo, Fortunata Lucia Tolley, a/k/a Fottonnata Lucia Caccamo and Mary Pastor, a/k/a Maria Pastor and as Maria Pastori or as Marie Pastori dated January 10, 1978 and recorded in the Plainville Land Records in Volume 194, Page 742.

Sketch of Site: (continued on next page)

Owner Initials _____

SSLP Initials _____

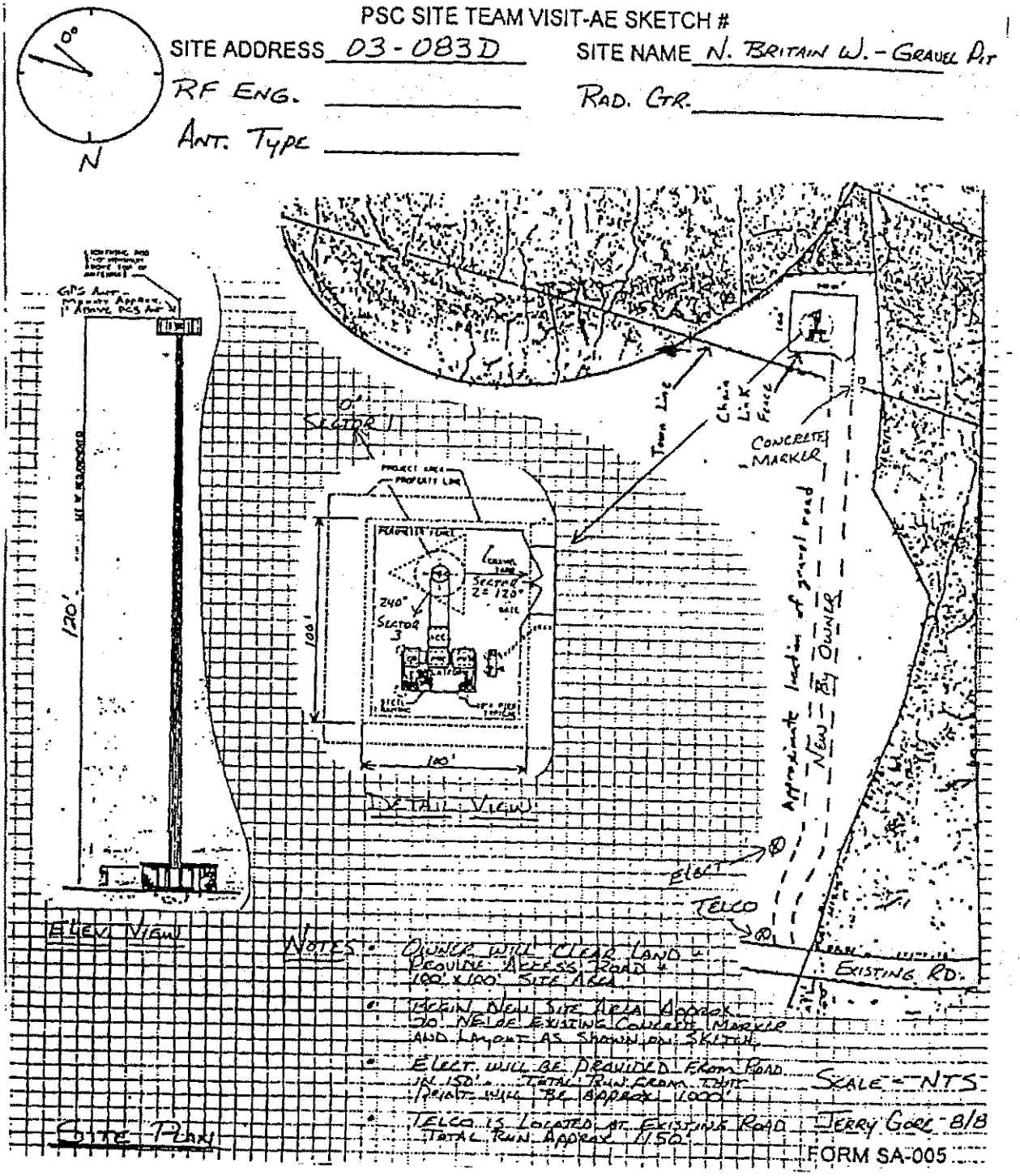
Note: Owner and SSLP may, at SSLP's option, replace this Exhibit with an exhibit setting forth the legal description of the property on which the Site is locate and/or an as-built drawing depicting the Site.

EXHIBIT A (continued)

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Sketch of Site:



Owner Initials _____

SSLP Initials _____

Note: Owner and SSLP may, at SSLP's option, replace this Exhibit with an exhibit setting forth the legal description of the property on which the Site is located and/or an as-built drawing depicting the Site.

EXHIBIT B

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Memorandum of PCS Site Agreement

(Notice of Lease)

This memorandum evidences that a lease was made and entered into by written PCS Site Agreement dated Aug 12, 1996 between October Twenty-Four Inc. (Owner") a corporation having an office at Camp Street and Sprint Spectrum L.P. ("SSLP"), a Delaware limited partnership having an office at 4717 Grand Street, Fifth Floor, Kansas City, Missouri 64112, Attn: Business Law Group - Albany MTA Counsel, the terms and conditions of which are incorporated herein by reference.

Such Agreement provides in part that Owner leases to SSLP a certain site ("Site") located at Lot C North Mountain Road and Loon Lake Road in the Town of New Britain and Plainville, County of Hartford, State of Connecticut within the property of Owner which is described in Exhibit A attached hereto, with grant of easement for unrestricted rights of access thereto and to electric and telephone facilities for an Initial Term of five (5) years commencing on September 3, 1996 and terminating on September 2, 2001, which term shall be automatically renewed for four additional five year Renewal Terms unless SSLP provides Owner notice of intention not to renew not less than 90 days prior to the expiration of the Initial Term or any Renewal Term. Said PCS Site Agreement is on file at the offices of Owner and SSLP at their respective addresses hereinabove set forth.

IN WITNESS WHEREOF, the parties have executed this Memorandum as of the day and year first above written.

WITNESSES:

Sandra Aiudi DiNicola

"OWNER"

October Twenty-Four Inc.

BY:

NAME: Elmo R. Aiudi

TITLE: President

S.S/TAX NO: [redacted]

☐ See Exhibit B1 for continuation of Owner signatures

ADDRESS: PO Box 279
Plainville, CT 06062

OWNER INTIALS

SSLP INITIALS

WITNESSES:

Susan R. Beardsley

"SSLP"

SPRINT SPECTRUM, L.P., a Delaware limited partnership

BY:

NAME: John Kossitch

TITLE: Director, Engineering and Operations

ADDRESS: 4717 Grand Street, Fifth Floor
Kansas City, Missouri 64112
Attn: Business Law Group - Albany MTA Counsel

OWNER NOTARY BLOCK:

STATE OF Connecticut

COUNTY OF Hartford

The foregoing instrument was acknowledged before me this 12th day of August, 1996 ☒by Elmo R. Aiudi, as President of October Twenty-Four, Inc., a corporation, on behalf of the corporation.

(AFFIX NOTARIAL SEAL)

(OFFICIAL NOTARY SIGNATURE)
NOTARY PUBLIC-STATE OF

(PRINTED, TYPED OR STAMPED NAME OF NOTARY)
THOMAS F. FLYNN III
Commissioner of
The Superior Court

My commission expires:

SPRINT SPECTRUM NOTARY BLOCK:

STATE OF New York

COUNTY OF Albany

The foregoing instrument was acknowledged before me this 3rd day of September, 1996, by John Kossitch, Director, Engineering and Operations of Sprint Spectrum L.P. a Delaware limited partnership, on behalf of the limited partnership

(AFFIX NOTARIAL SEAL)

(OFFICIAL NOTARY SIGNATURE)
NOTARY PUBLIC-STATE OF

HALINA GAJEWSKI
Notary Public, State of New York
Qualified in Schenectady County
No. 4795965
Commission Expires Oct. 31, 1997

(PRINTED, TYPED OR STAMPED NAME OF NOTARY)

My commission expires:

EXHIBIT C

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Insurance

SSLP will procure and maintain a public liability policy, with limits of $1,000,000 for bodily injury, $1,000,000 for property damage, $2,000,(aggregate, with a certificate of insurance to be furnished to Owner within 30 days of written request. Such policy will provide that cancellation will occur without at least 15 days prior written notice to Owner.

Owner Initials _____

SSLP Initials _____

EXHIBIT D

PCS Site Agreement

Site Name: Gravel Pit **Site I.D.: 03-083.D**

Owner's Antenna

Owner may, upon prior approval by SSLP, place a single antenna ("Antenna") on SSLP's tower. Owner will resolve any technical interferer problems with other equipment located at the Site at the time Owner's antenna is placed on the Site. If, at any time, SSLP determines that Antenna is causing technical interference with the PCS, Owner agrees to immediately cease all transmission until such interference is resol by Owner, at Owner's sole cost and expense.

Owner Initials: _____

SSLP Initials: _____

EXHIBIT E

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Rental Increases

Anything set forth in Section 3 of the foregoing Agreement to the contrary notwithstanding, following the termination of the period covered b the [redacted] rental payment, the rent due hereunder will be increased on each anniversary of the Commencement Date to an amount equal (check appropriate box):

[redacted]

Owner Initials _____

SSLP Initials _____

EXHIBIT F

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Taxes

SSLP will be responsible for payment of all personal and/or real property taxes assessed directly upon, or any such portion of such taxe attributable to, the installation and use of the communications facility on the Site. Owner will pay when due all personal and/or real property taxe and all other fees and assessments attributable to the Site. However, SSLP will pay, as additional rent, any increase in personal and/or re property taxes levied against the Site (excluding any additional taxes that relate to the period prior to the Commencement Date, i.e., rollback taxe which is directly attributable to SSLP's use of the Site and Owner agrees to furnish reasonable proof of such increase to SSLP.

Owner Initials _____

SSLP Initials _____

EXHIBIT G

PCS Site Agreement

Site Name: Gravel Pit **Site I. D.: 03-083.D**

Additional Provisions

The following provisions are in addition to the provisions contained in the foregoing Agreement:

1. The following sentence is herby added to the last sentence in Provision 8. Compliance with Laws.

"And shall not look to and hold owner to such compliance with respect to SSLP's use of the Site or thereon."

2. In addition to Exhibit D, Owners's Antenna.

The following entities in which Elmo R. Aiudi has an ownership interest shall be allowed to utilize the tower upon his request:

1. October Twenty - Four, Inc.
2. A. Aiudi & Son, LLC
3. Aiudi Realty, LLC
4. Alpha Lotomia, Inc.
5. La Dirche, Inc.

3. In the first paragraph of Exhibit E, Rental Increases.

The word "year" will be inserted after the word anniversary.

Owner Initials _____

SSLP Initials _____

WIRELESS COMMUNICATIONS FACILITY
CT1024 - LTE 2C
CROWN CASTLE, INC. SITE NO: 876331
NEW BRITAIN - LOON LAKE
115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMENDMENTS, INCLUDING THE TIA/EIA-222 REVISION "F" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

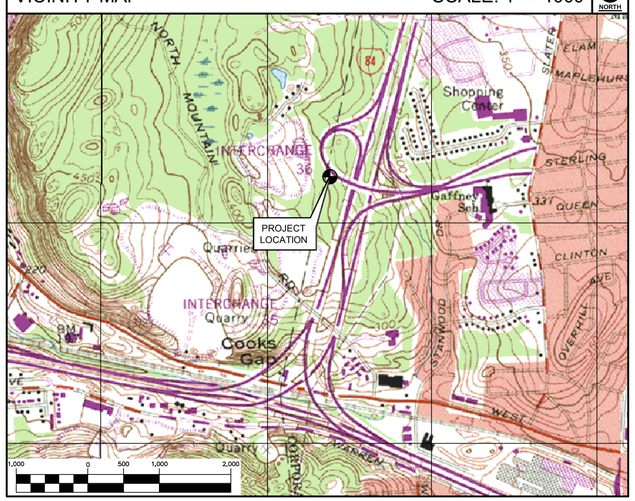
FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT

TO: 10 LOON LAKE ROAD, NEW BRITAIN, CT

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.31 MI
2.	TURN LEFT ONTO CAPITAL BLVD	0.27 MI
3.	TURN LEFT ONTO WEST ST	0.30 MI
4.	TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN	1.63 MI
5.	TAKE EXIT 22N ONTO CT-9	6.58 MI
6.	TAKE EXIT 28 ONTO CT-72	1.65 MI
7.	TAKE EXIT 7 ONTO CT-372	0.28 MI
8.	TURN RIGHT ONTO CORBIN AVE	0.14 MI
9.	TAKE FIRST LEFT ONTO W MAIN ST	0.67 MI
10.	TURN RIGHT ONTO N MOUNTAIN RD	0.48 MI
11.	N MOUNTAIN BECOMES LOON LAKE RD	0.54 MI
12.	ARRIVE AT 10 LOON LAKE RD ON THE LEFT	

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:

A. REMOVE AND REPLACE EXISTING POSITION 3 LTE ANTENNA FOR PROPOSED HEXPORT ANTENNA, (1) PER SECTOR.

B. INSTALL (3) NEW RRUS-11+A2 BEHIND EXISTING ANTENNAS WITHIN EXISTING TOWER MOUNT.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT1024
AT&T SITE NAME:	NEW BRITAIN - LOON LAKE
SITE ADDRESS:	CROWN CASTLE, INC. SITE NO: 876331 115 NORTH MOUNTAIN ROAD NEW BRITAIN, CT 06053
LESSEE/APPLICANT:	NEW CINGULAR WIRELESS PCS, LLC 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT. 06405
PROJECT COORDINATES:	LATITUDE: 41°-40'-35.724" N LONGITUDE: 72°-49'-17.076" W GROUND ELEVATION: ±412.0' AMSL GROUND ELEVATION REFERENCED FROM GOOGLE EARTH. COORDINATES REFERENCED FROM RFD DOCUMENTS.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
N-1	NOTES AND SPECIFICATIONS	1
C-1	PLANS, ELEVATION AND DETAILS	1
C-2	LTE 2C EQUIPMENT DETAILS	1
E-1	LTE SCHEMATIC DIAGRAM AND NOTES	1
E-2	LTE WIRING DIAGRAM	1
E-3	TYPICAL ELECTRICAL DETAILS	1

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	06/02/16	CAG	LVP	CONSTRUCTION DOCUMENTS - ISSUED FINAL
0	05/11/16	JTD	CAG	CONSTRUCTION DOCUMENTS - ISSED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY

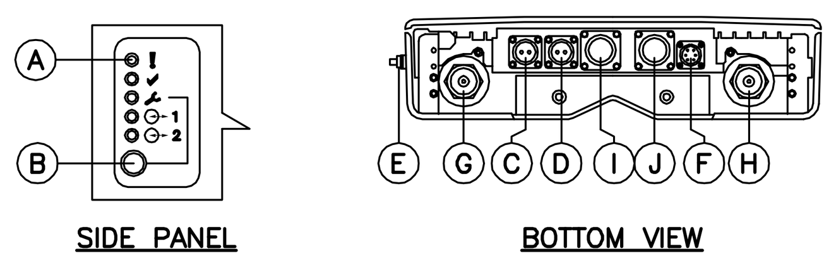
NEW BRITAIN - LOON LAKE
SITE NUMBER: CT1024
115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053

DATE: 05/09/16
SCALE: AS NOTED
JOB NO. 16071.01

TITLE SHEET

T-1

Sheet No. 1 of 7



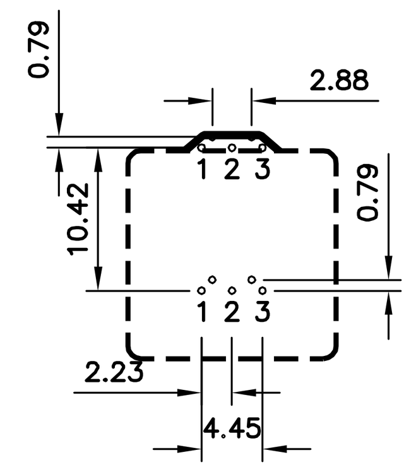
SIDE PANEL

BOTTOM VIEW

CONNECTION INTERFACE

POSITION (ID)	DESCRIPTION	MARKING
A	OPTICAL INDICATORS	!, ✓, ⚒, ⊖-1, ⊖-2
B	MAINTENANCE	⚒
C	−48V DC POWER SUPPLY	POW IN
D	−48V DC POWER SUPPLY TO RRU	POW OUT
E	GROUNDING	⏚
F	RET	RET
G	ANTENNA B	←B
H	ANTENNA A	←A
I	OPTICAL CABLE 1	⊖-1
J	OPTICAL CABLE 2	⊖-2

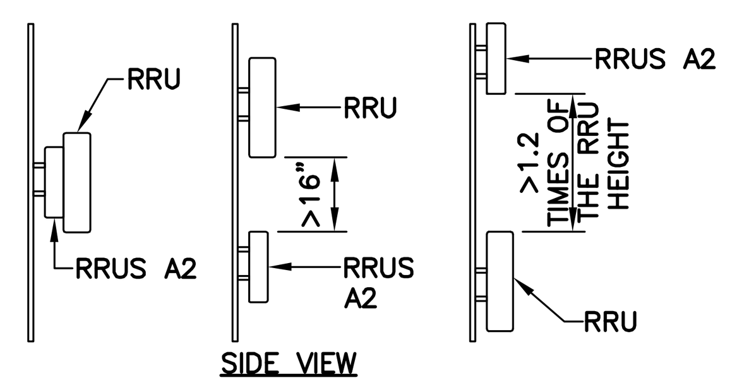
NOTES:
1. STACKING OF RRU's IS NOT PERMITTED.
2. NO PAINTING OF RRU OR THE SOLAR SHIELD IS ALLOWED.
3. A SINGLE RRUS A2 CAN BE INSTALLED AS A STAND ALONE UNIT OR MOUNTED TO THE BACK OF ITS ASSOCIATED RRU.



THE NUMBER OF BOLT HOLES DEPENDS ON THE WALL MATERIAL, AS SPECIFIED BY THE SITE ENGINEER. A MINIMUM OF TWO BOLT HOLES ARE RECOMMENDED FOR EACH BRACKET.

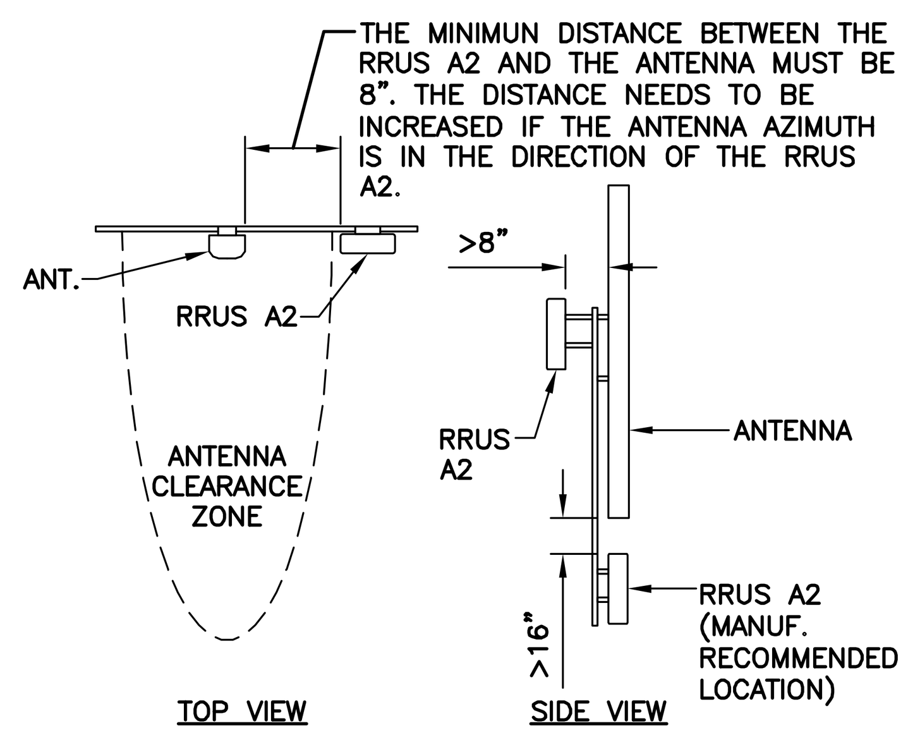
ONE OF THE FOLLOWING SOLUTIONS FOR HOLE POSITIONS MUST BE USED:
- 1, 3
- 1, 2, 3

WALL MOUNTING BRACKET INSTALLATION



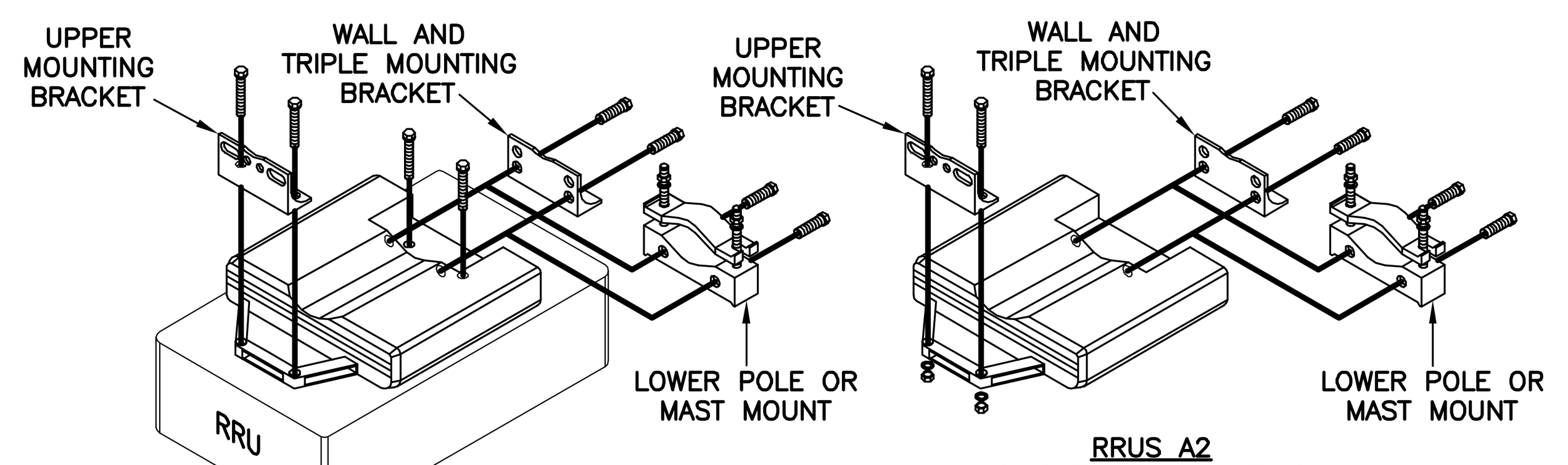
SIDE VIEW

RRUS A2 MANUFACTURER INSTALLATION REQUIREMENTS



TOP VIEW

SIDE VIEW



RRUS A2 W/ASSOCIATED RRU MOUNTING

RRUS A2 SINGLE UNIT MOUNTING

THE UPPER AND LOWER POLE OR MAST MOUNTS DIFFER, BE SURE TO CORRECTLY POSITION THE MOUNTS BEFORE INSTALLATION.

1 / N−1 **ERICSSON RRU A2 DETAILS**

NOT TO SCALE

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2003 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2005 CT STATE BUILDING CODE AND 2009 AMENDMENTS.

1. DESIGN CRITERIA:

- WIND LOAD: PER EIA/TIA 222 F−96 (ANTENNA MOUNTS): 80 MPH (FASTEST MILE), EQUIVALENT TO 100 MPH (3 SECOND GUST)
- BUILDING CLASSIFICATION: II (BASED ON IBC TABLE 1604.5)
- BASIC WIND SPEED (OTHER STRUCTURE): 95 MPH (3 SECOND GUST) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7−02) PER 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMMENDMENT.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7−02 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
3. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
7. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
10. THE STRUCTURE IS DESIGNED TO BE SELF−SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
11. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
12. SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
13. NO DRILLING WELDING OR TAPING ON CL&P OWNED EQUIPMENT.
14. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)

   A. STRUCTURAL STEEL (W SHAPES)−−−ASTM A992 (FY = 50 KSI)
   B. STRUCTURAL STEEL (OTHER SHAPES)−−−ASTM A36 (FY = 36 KSI)
   C. STRUCTURAL HSS (RECTANGULAR SHAPES)−−−ASTM A500 GRADE B, (FY = 46 KSI)
   D. STRUCTURAL HSS (ROUND SHAPES)−−−ASTM A500 GRADE B, (FY = 42 KSI)
   E. PIPE−−−ASTM A53 (FY = 35 KSI)
   F. CONNECTION BOLTS−−−ASTM A325−N
   G. U−BOLTS−−−ASTM A36
   H. ANCHOR RODS−−−ASTM F 1554
   I. WELDING ELECTRODE−−−ASTM E 70XX

2. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON−GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT−DIP) ON IRON AND STEEL HARDWARE".
10. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

PAINT NOTES

PAINTING SCHEDULE:

1. ANTENNA PANELS:

   A. SHERWIN WILLIAMS POLANE−B
   B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.

2. COAXIAL CABLES:

   A. ONE COAT OF DTM BONDING PRIMER (2−5 MILS. DRY FINISH)
   B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5−5 MILS. DRY FINISH)
   C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

EXAMINATION AND PREPARATION:

1. DO NOT APPLY PAINT IN SNOW, RAIN, FOG OR MIST OR WHEN RELATIVE HUMIDITY EXCEEDS 85%. DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
2. VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
3. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
4. PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
5. CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
6. IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI−SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
7. ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH−PRESSURE WATER. REMOVE OXIDATION WITH ACID ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
8. FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER FOREIGN SUBSTANCES. USE SOLVENT OR MECHANICAL CLEANING METHODS THAT COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL'S (SSPC) RECOMMENDATIONS. TOUCH UP BARE AREAS AND SHOP APPLIED PRIME COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME PRIMER AS THE SHOP COAT.
9. GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON−PETROLEUM−BASED SOLVENTS SO SURFACE IS FREE OF OIL AND SURFACE CONTAMINANTS. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL FABRICATED FROM COIL STOCK BY MECHANICAL METHODS.
10. ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
11. COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE. DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

1. COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.

APPLICATION:

1. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
3. APPLY EACH COAT TO UNIFORM FINISH.
4. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
5. SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
6. VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
7. ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

COMPLETED WORK:

1. SAMPLES: PREPARE 24" X 24" SAMPLE AREA FOR REVIEW.
2. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

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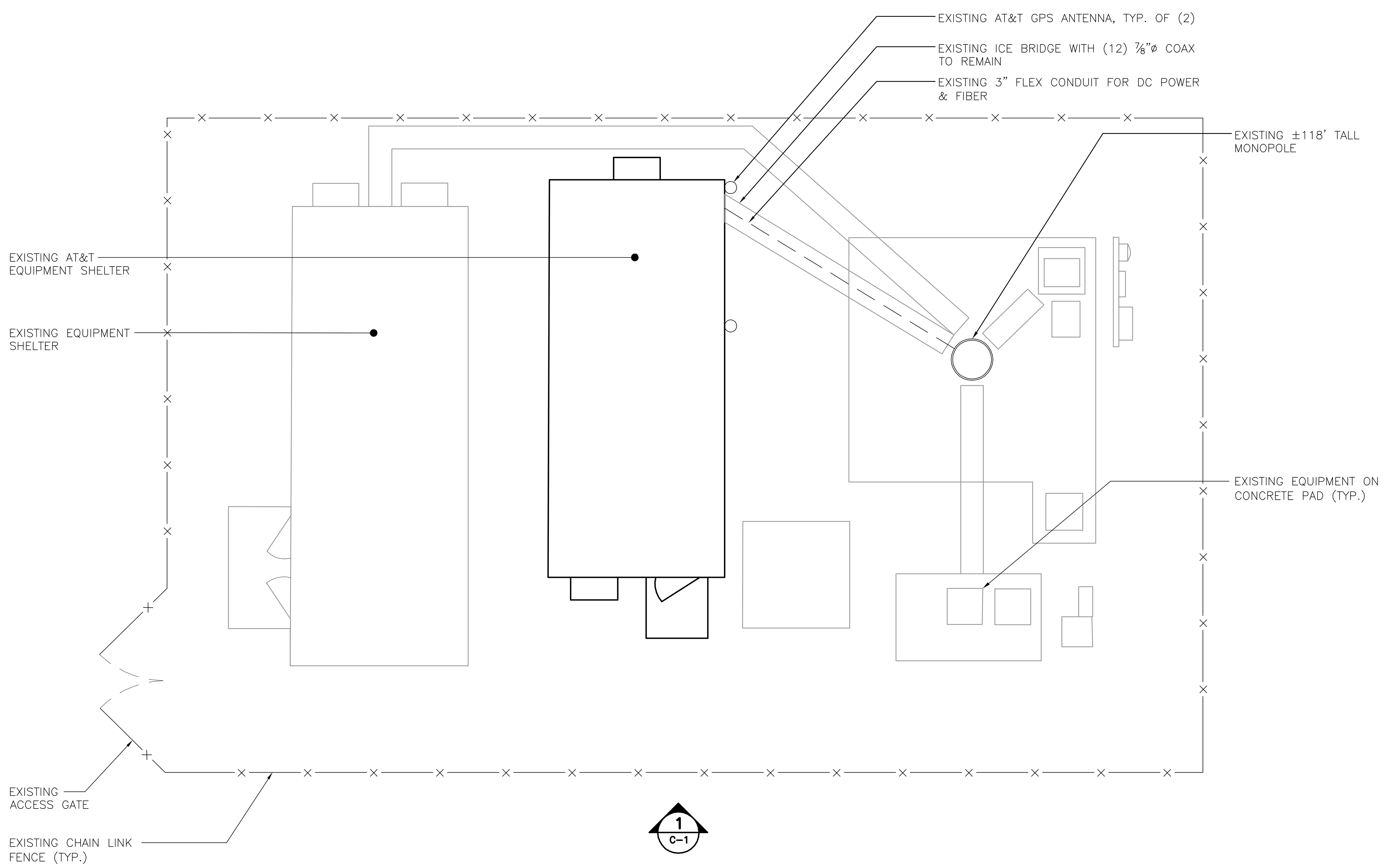
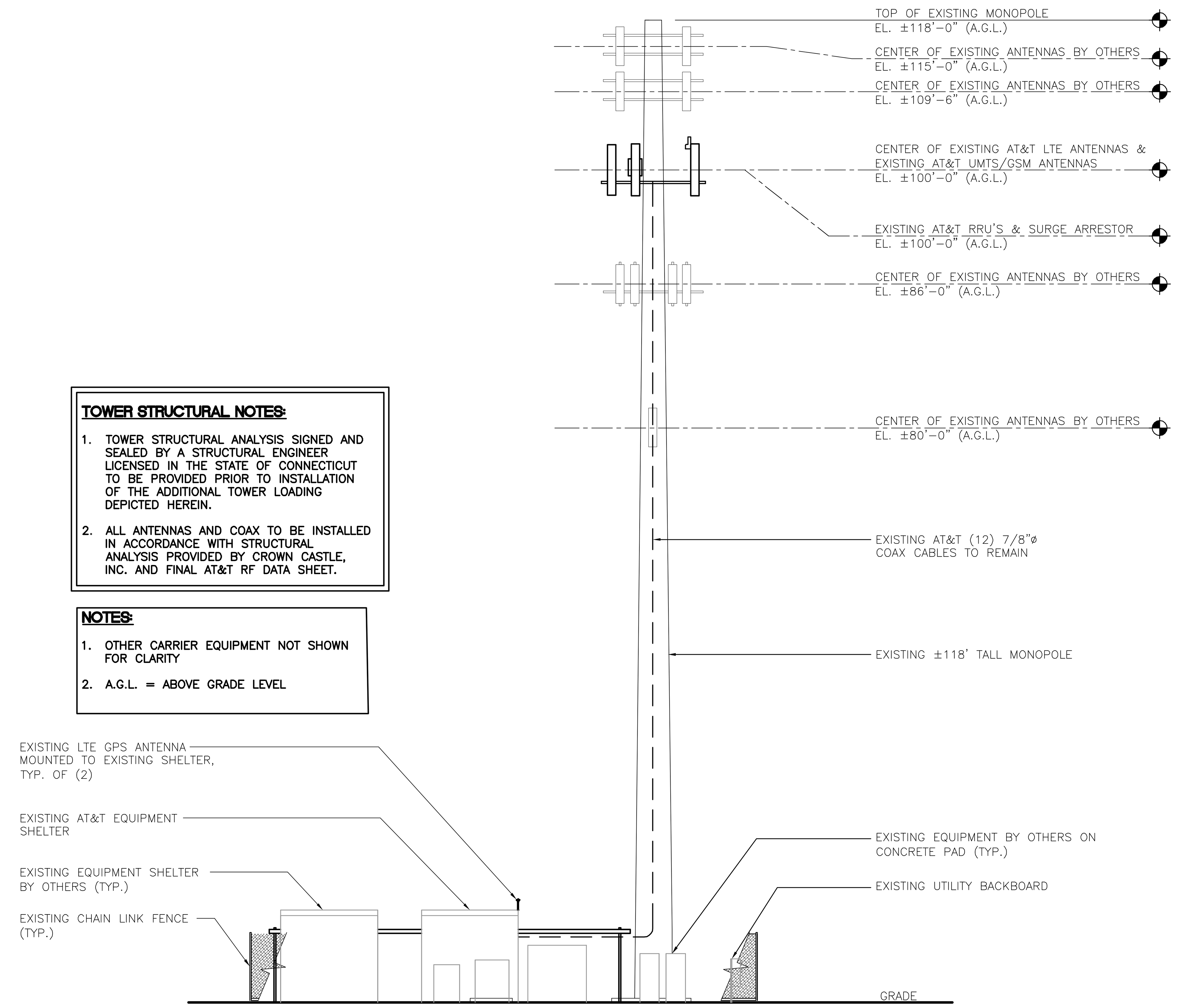
NOTES AND SPECIFICATIONS

N−1



2 C-1 **COMPOUND PLAN**
SCALE: 1/2" = 1'-0"
NORTH



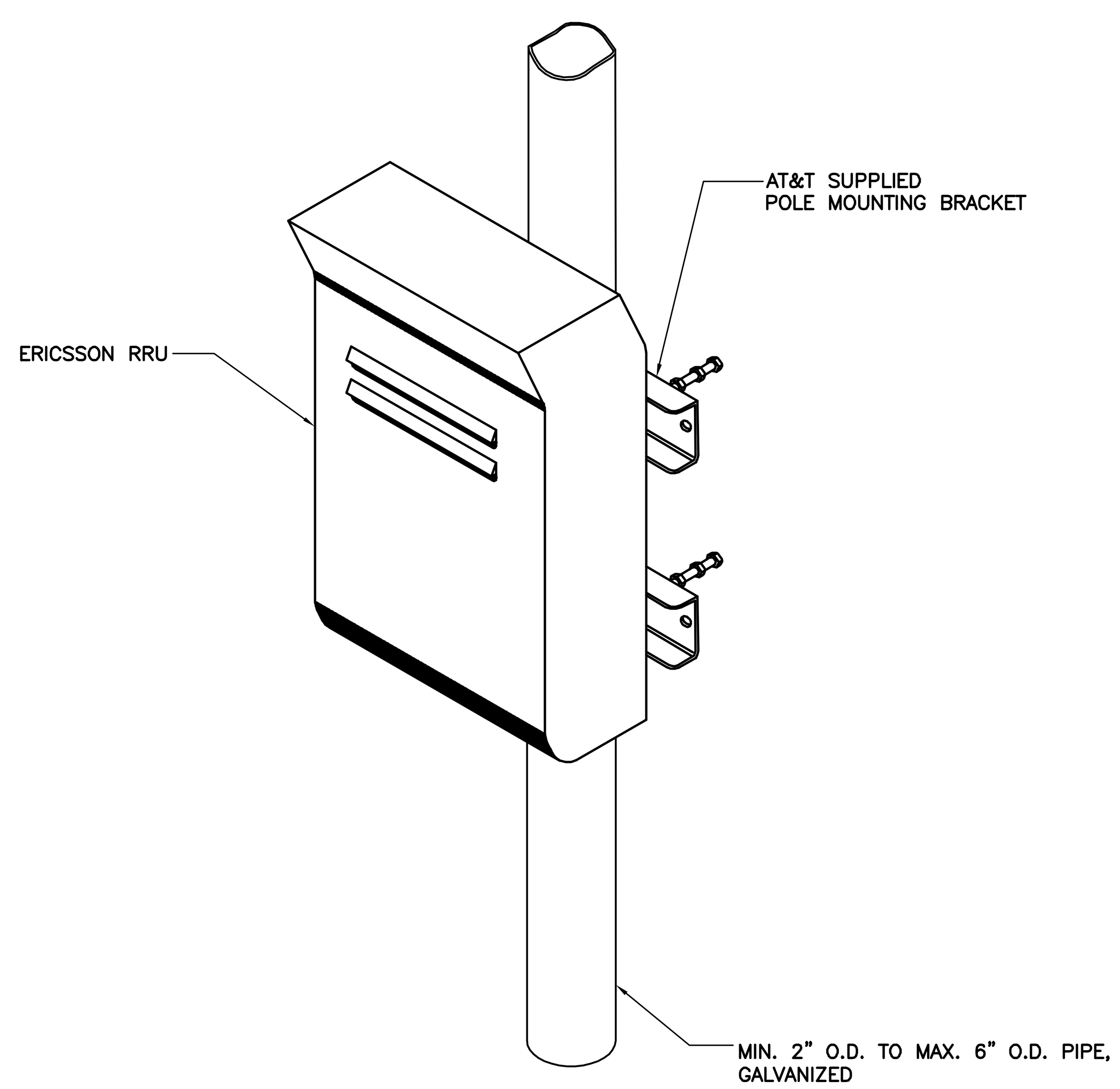
TOWER STRUCTURAL NOTES:

1. TOWER STRUCTURAL ANALYSIS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT TO BE PROVIDED PRIOR TO INSTALLATION OF THE ADDITIONAL TOWER LOADING DEPICTED HEREIN.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE, INC. AND FINAL AT&T RF DATA SHEET.

NOTES:

1. OTHER CARRIER EQUIPMENT NOT SHOWN FOR CLARITY
2. A.G.L. = ABOVE GRADE LEVEL

1 C-1 **NORTHWEST ELEVATION**
SCALE: 1" = 10'

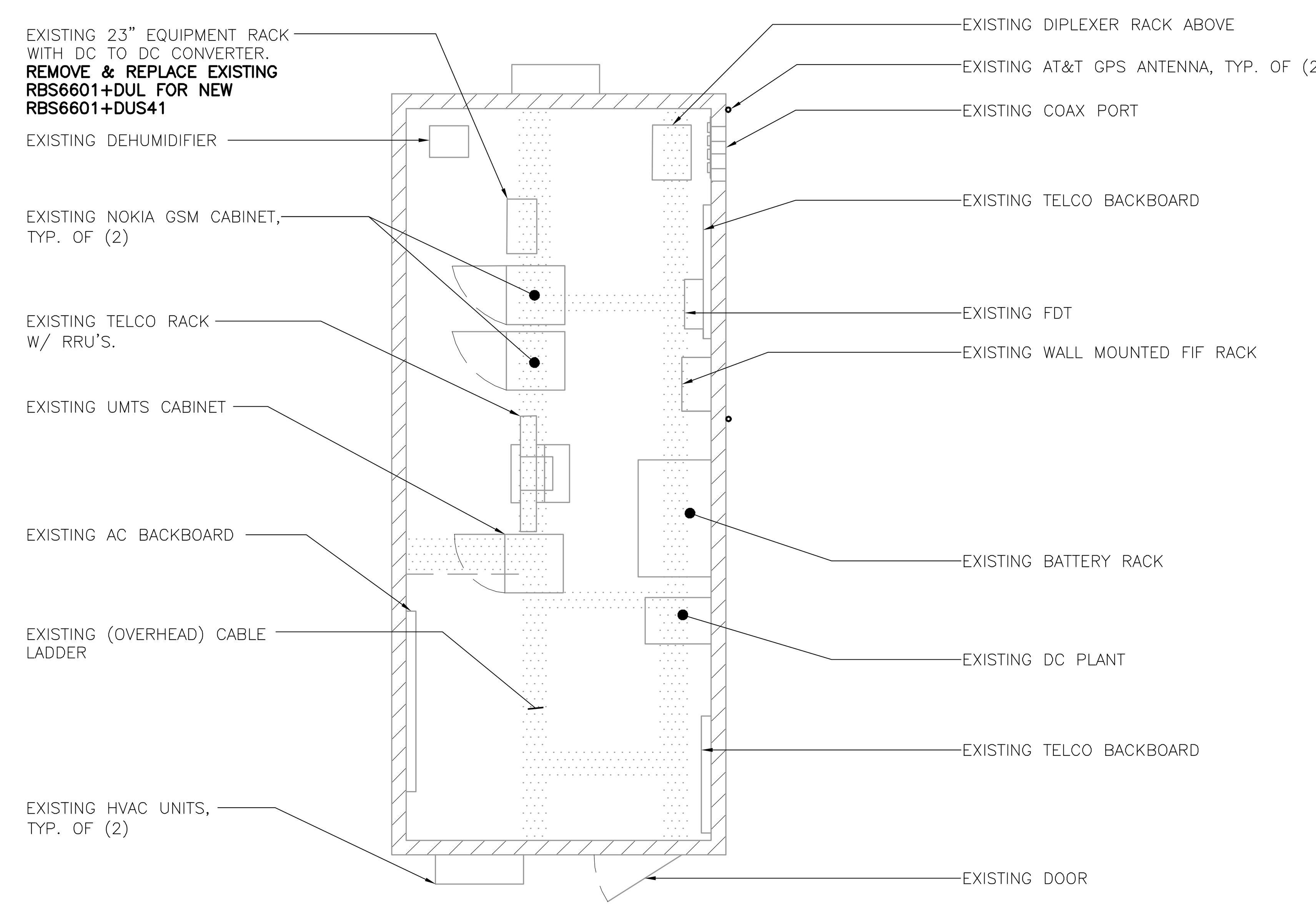


ISOMETRIC VIEW

NOTES:

1. AT&T SHALL SUPPLY RRU, AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL INSTALLS RRU AND MAKES CABLE TERMINATIONS.
3. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

4 C-1 **TYPICAL RRUS MOUNTING DETAILS**
SCALE: 1 1/2" = 1'-0"



3 C-1 **EQUIPMENT LAYOUT PLAN**
SCALE: 1/4" = 1'-0"
NORTH

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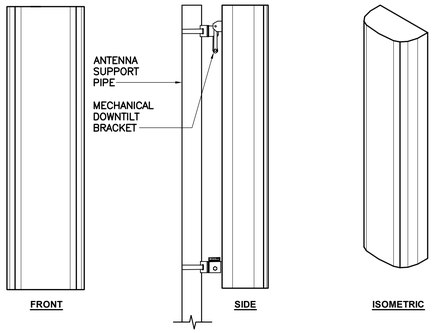
PLANS, ELEVATION AND DETAILS

C-1

Sheet No. 3 of 7

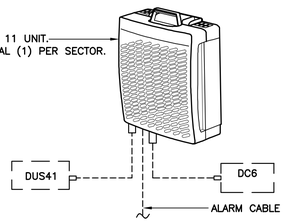


ALPHA/BETA/GAMMA ANTENNA			
EQUIPMENT		DIMENSIONS	WEIGHT
MAKE: CCI MODEL: HPA-65R-BUU-H8		92.4"H x 14.8"W x 7.4"D	68-LBS
MAKE: CCI MODEL: HPA-65R-BUU-H6		72.0"H x 14.8"W x 9.0"D	51-LBS

6 / C-2 PROPOSED ANTENNA DETAIL

SCALE: NTS

NOTES:
1. INSTALL ANTENNA TO EXISTING PIPE MAST USING MANUFACTURERS SUPPLIED BRACKETS AND MOUNTING HARDWARE
2. SET MECHANICAL DOWNTILT TO VALUE SPECIFIED IN LATEST RFDS

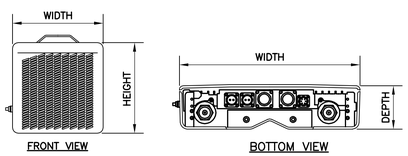


RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 11	17.8"L x 17.3"W x 7.2"D	50 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

6 / C-2 ERICSSON RRUS 11 DETAIL

SCALE: 1" = 1'-0"

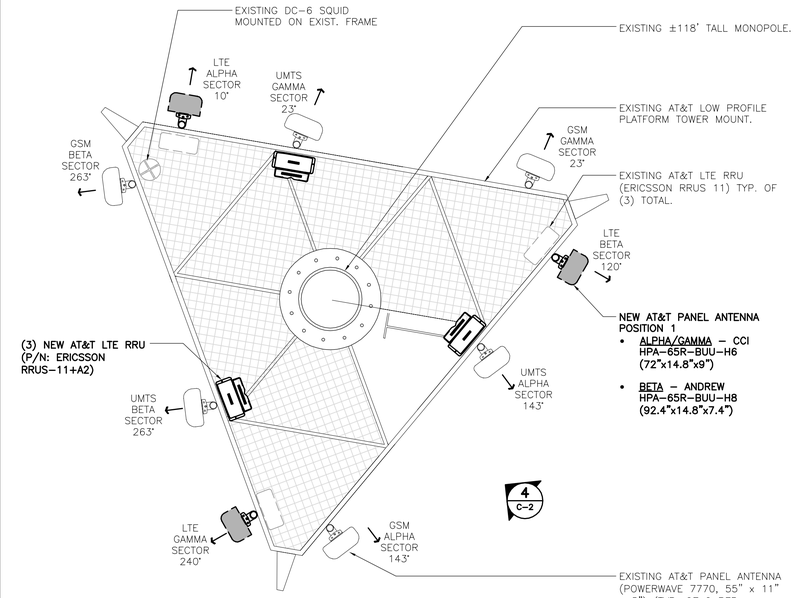


RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS A2	16.42"L x 15.19"W x 3.35"D	22.05 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

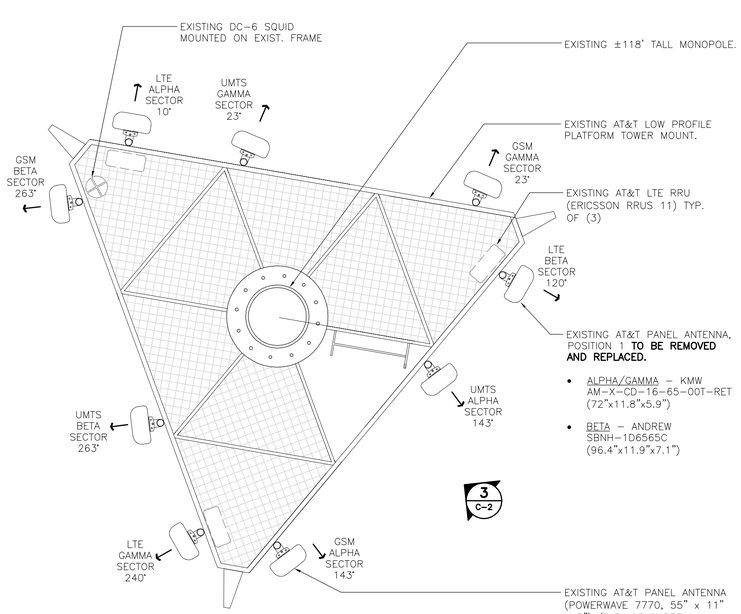
7 / C-2 ERICSSON RRUS A2 DETAIL

SCALE: 1" = 1'-0"



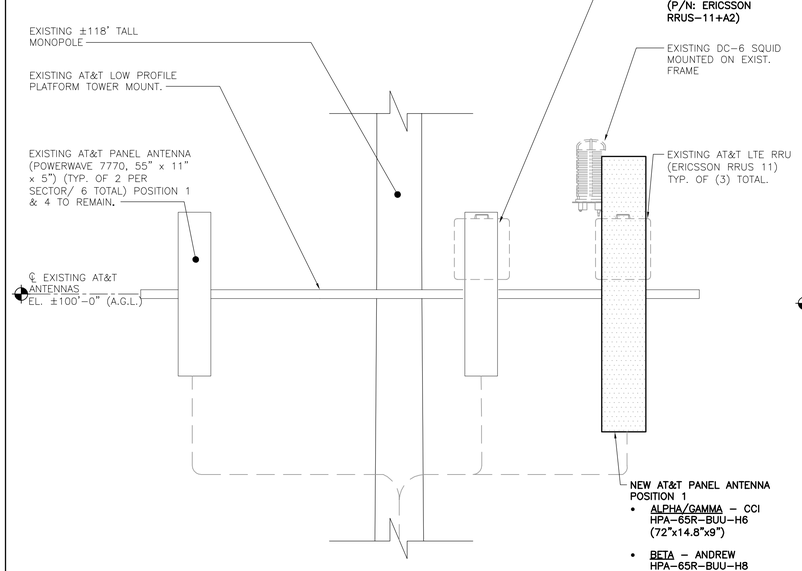
2 / C-2 PROPOSED ANTENNA PLAN

SCALE: 3/8" = 1'-0"



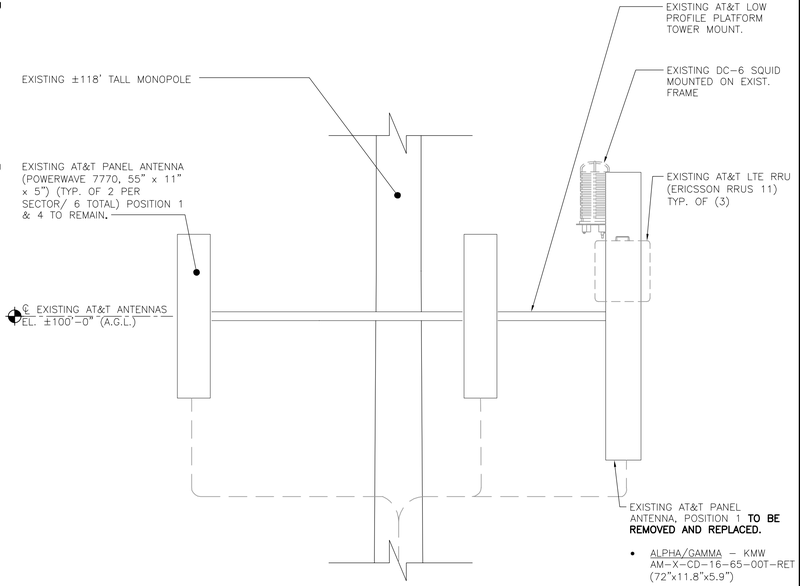
1 / C-2 EXISTING ANTENNA PLAN

SCALE: 3/8" = 1'-0"



4 / C-2 PROPOSED ANTENNA PLAN

SCALE: 1/2" = 1'-0"



3 / C-2 EXISTING ANTENNA PLAN

SCALE: 1/2" = 1'-0"

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LTE 2C EQUIPMENT DETAILS

C-2

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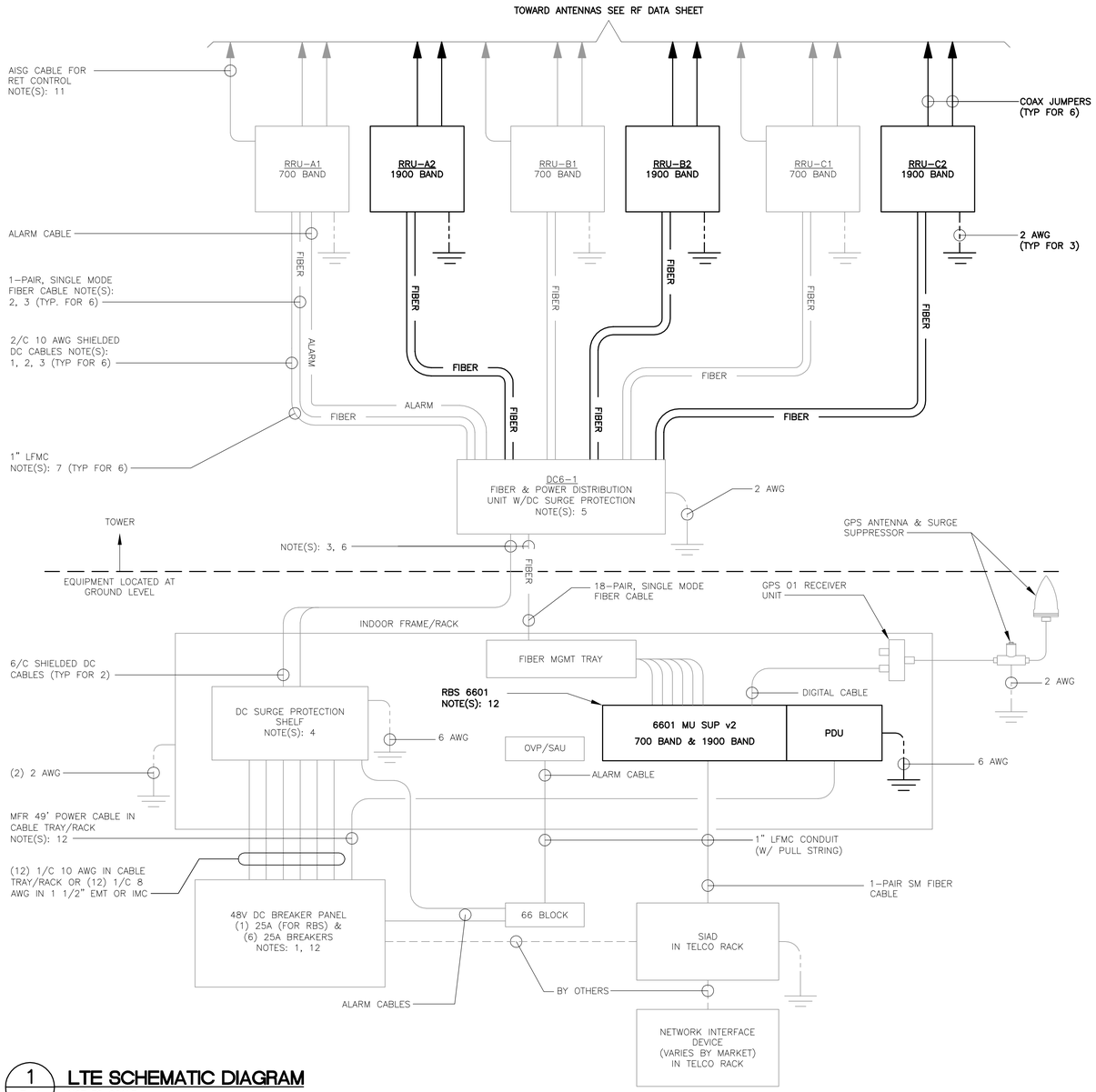

1/E-1 LTE SCHEMATIC DIAGRAM

NOT TO SCALE

LTE SCHEMATIC DIAGRAM NOTES:

1. BREAKERS TO BE TAGGED AND LOCKED OUT. A 20A (MIN.) OR 30A (MAX.) BREAKER FOR RRUs MAY BE SUBSTITUTED FOR THE RECOMMENDED 25A BREAKER. SIZE 12 CONDUCTORS MAY BE USED ONLY WITH 20A BREAKERS.
2. LEAVE COILED AND PROTECTED UNTIL TERMINATED.
3. DC AND FIBER CABLE SHALL BE ROUTED WITH THE EXISTING COAX CABLE.
4. DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCX-48-60-RM.
5. FIBER & DC DISTRIBUTION BOX W/DC SURGE PROTECTION SHALL BE RAYCAP DC6-48-60-18-8F.
6. SUPPORT FIBER & DC POWER CABLES WITH SNAP-IN HANGERS SPACED NO GREATER THAN 3 FEET APART ON TOWER. SUPPORT FIBER AND DC POWER CABLES INSIDE MONOPOLE WITH CABLE HOISTING GRIPS AT 250 FT MAXIMUM INTERVALS. DRESS CABLES TO PREVENT CONTACT WITH ENTRANCE AND EXIT OPENINGS.
7. CONDUIT TO BE USED ON A TOWER IF THE RRU IS MORE THAN 10' FROM THE DISTRIBUTION UNITS. MAX CABLE LENGTH IS 16 FEET.
8. SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX® OR KS24194™, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER). UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS I (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL BE COPPER, CLASS B STRANDING WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/ 75°C WET INSTALLATION.
9. GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
10. FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
11. RET CONTROL FROM THE RRU IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
12. RBS 6601 VARIANT 2 REQUIRES A 25A BREAKER AND 10 AWG (MIN.) CONDUCTORS. REPLACE EXISTING 15A OR 20A BREAKERS AND 12 AWG CONDUCTORS WHEN UPGRADING AN EXISTING RBS 6601 VARIANT 1.

ELECTRICAL NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
3. CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
4. MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
5. PRIOR TO INSTALLATION CONTRACTOR SHALL MEASURE EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF INADEQUATE CAPACITY IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY COMPANY TO UPGRADE EXISTING ELECTRIC SERVICE.
6. CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC, AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNERS REPRESENTATIVE, AND ANY DEFICIENCIES SHALL BE CORRECTED.
7. ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BURIED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH, AND APPROVED BY, THE TOWER OWNER'S SITE REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
8. PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
9. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:
10. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
11. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
12. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNER'S REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
15. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
16. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
17. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
18. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
19. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
20. CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:

TEST 1: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.

THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:

1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.

B. TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNERS CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.

C. THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.

D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

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LTE SCHEMATIC DIAGRAM AND NOTES

E-1

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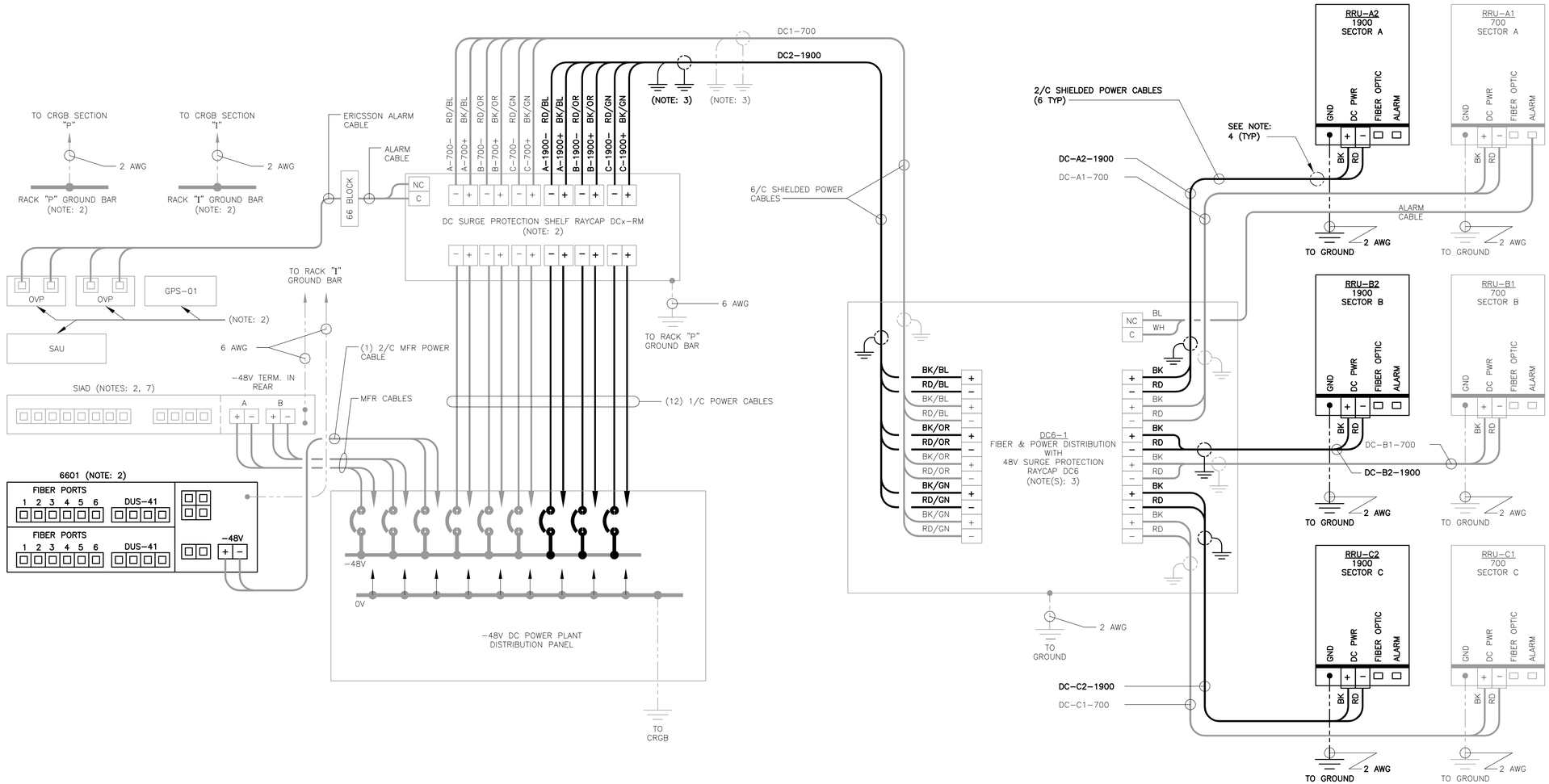

1 E-2 LTE WIRING DIAGRAM

NOT TO SCALE

LTE WIRING DIAGRAM NOTES:

1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A-1900+". CABLE AND WIRE LABELS SHOWN ARE REPRESENTATIVE AND MAY BE MODIFIED AS DIRECTED BY AT&T.
2. INSTALL ON BASEBAND EQUIPMENT RACK.
3. THE BARE GROUND WIRE OF EACH MULTI-CONDUCTOR CABLE SHALL BE CONNECTED TO THE "P" GROUND BAR ON THE RACK. WHEN A SHIELDED CABLE IS USED, THE DRAIN WIRE ALSO SHALL BE CONNECTED TO THE "P" GROUND BAR.
4. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN-TERMINATED AT RRU AND DC POWER PLANT.
5. SEE LTE SCHEMATIC DIAGRAM DETAIL 1/E-1 FOR BREAKER RATING.

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LTE WIRING DIAGRAM

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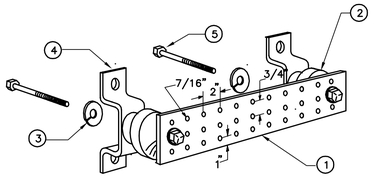
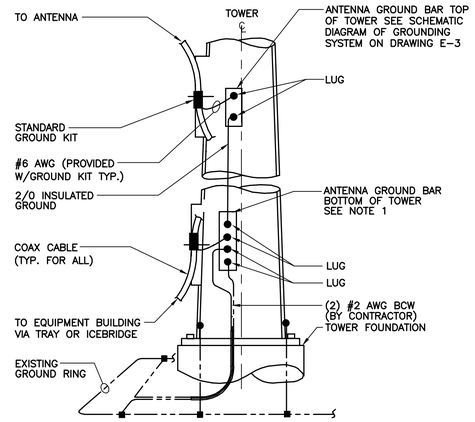


LEGEND

1. TINNED COPPER GROUND BAR, 1/4"x 4"x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG .
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 2. 3061-4.
3. 3. 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. 4. CAT NO. A-6056.
5. STAINLESS STEEL SECURITY SCREWS.

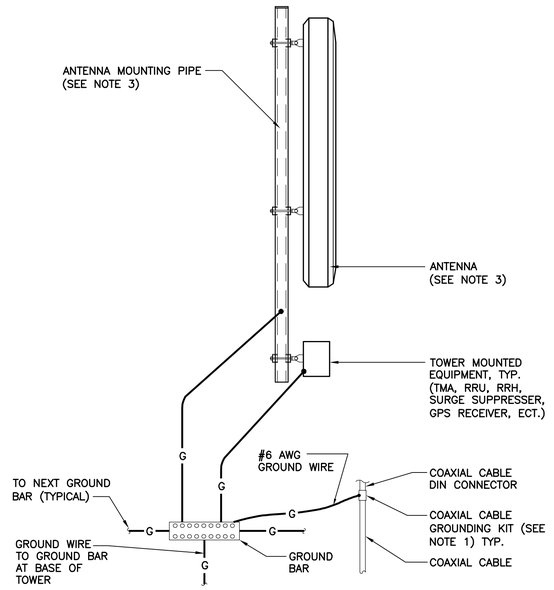
3 GROUND BAR DETAIL
E-3 NOT TO SCALE



NOTES:

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

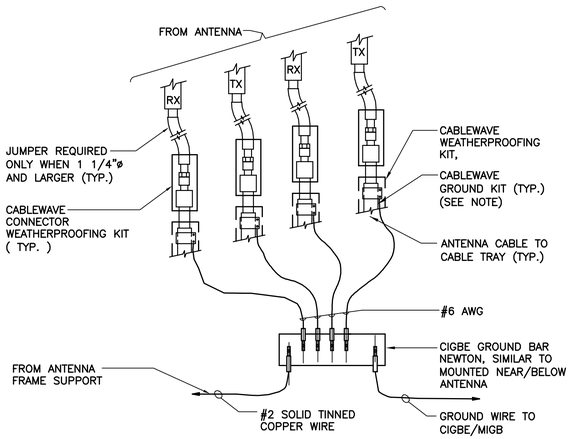
2 ANTENNA CABLE GROUNDING - TOWER
E-3 NOT TO SCALE



NOTES:

1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURERS SPECIFICATIONS.
3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.

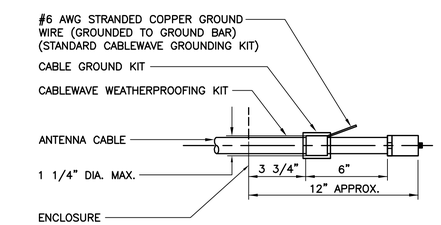
1 TYPICAL ANTENNA GROUNDING DETAIL
E-3 NOT TO SCALE



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

5 CONNECTION OF GROUND WIRES TO GROUND BAR
E-3 NOT TO SCALE



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

4 ANTENNA CABLE GROUNDING DETAIL
E-3 NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	06/02/16	CAG	LVP	CONSTRUCTION DOCUMENTS - ISSUED FINAL
0	05/11/16	JTD	CAG	CONSTRUCTION DOCUMENTS - ISSED FOR CLIENT REVIEW

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WIRELESS COMMUNICATIONS FACILITY

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SITE NUMBER: CT1024

115 NORTH MOUNTAIN ROAD
NEW BRITAIN, CT 06053

DATE: 05/09/16
SCALE: AS NOTED
JOB NO. 16071.01

TYPICAL ELECTRICAL DETAILS

E-3

Sheet No. 7 of 7

PAUL J. FORD & COMPANY

Date: **July 7, 2016**

Charles McGuirt
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
614.221.6679
jjohnson@pjfweb.com

Subject: **Structural Analysis Report**

Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CTL01024
	Carrier Site Name:	New Britain Loon Lake
Crown Castle Designation:	**Crown Castle BU Number:**	876331
	Crown Castle Site Name:	NEW BRITAIN GRAVEL PIT
	Crown Castle JDE Job Number:	384992
	Crown Castle Work Order Number:	1263004
	Crown Castle Application Number:	343894 Rev. 1
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37516-2325.001.7805 (Proposed Antennas)
Site Data:	**115 North Mountain Rd, NEW BRITAIN, Hartford County, CT** **Latitude *41° 40' 35.72"*, Longitude *-72° 49' 17.09"*** **118 Foot - Monopole Tower**	

Dear Charles McGuirt,

Paul J. Ford and Company is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 921151, in accordance with application 343894, revision 1.

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: Existing + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing loading, respectively.

The structural analysis was performed for this tower in accordance with the requirements of the 2005 Connecticut Building Code with 2009 amendment and the TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1 inch ice thickness and 50 mph under service loads.

We at *Paul J. Ford and Company* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

Joshua Johnson, EI KAT
Structural Designer

STATE OF CONNECTICUT
JOSEPH PACIFICARAH JACOBS
22731
LICENSED PROFESSIONAL ENGINEER

tnxTower Report - version 7.0.5.1

JUL 07 2016

PAUL J. FORD & COMPANY

Date: **July 7, 2016**

Charles McGuirt
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3530 Toringdon Way, Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
614.221.6679
jjohnson@pjfweb.com

Subject: **Structural Analysis Report**

Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CTL01024
	Carrier Site Name:	New Britain Loon Lake
Crown Castle Designation:	**Crown Castle BU Number:**	876331
	Crown Castle Site Name:	NEW BRITAIN GRAVEL PIT
	Crown Castle JDE Job Number:	384992
	Crown Castle Work Order Number:	1263004
	Crown Castle Application Number:	343894 Rev. 1
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Respectfully submitted by:

Joshua Johnson, EI
Structural Designer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 118 ft. monopole tower designed by Rohn in October of 1996. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-E.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of the 2005 Connecticut Building Code with 2009 amendment and the TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
98.0	100.0	2	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe	-	-	-
		1	cci antennas	HPA-65R-BUU-H8 w/ Mount Pipe			
		3	ericsson	RRUS11 A2			

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
116.0	116.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	--	--	1
		1	tower mounts	Pipe Mount [PM 601-3]			
	113.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz			
114.0	116.0	1	rfs celwave	APXV9ERR18-C-A20 w/ Mount Pipe	3	1-1/4	1
		2	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe			
	114.0	1	tower mounts	Platform Mount [LP 501-1]			
108.0	108.0	3	commscope	LNX-6515DS-VTM w/ Mount Pipe	12 1	7/8 1-5/8	1
		3	ericsson	RRUS 11 B12			
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe			
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe			
		3	ericsson	KRY 112 144/1			
		1	tower mounts	Sector Mount [SM 802-3]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
98.0	100.0	2	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe	-	-	2
		1	andrew	SBNH-1D6565C w/ Mount Pipe			
		1	andrew	SBNH-1D6565C w/ Mount Pipe	1 2 12	3/8 3/4 7/8	1
		3	communication components inc.	DTMABP7819VG12A			
		3	ericsson	RRUS 11 B12			
		2	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	powerwave technologies	7770.00 w/ Mount Pipe			
		6	powerwave technologies	LGP13519			
		1	raycap	DC6-48-60-18-8F			
	98.0	1	tower mounts	Platform Mount [LP 712-1]			
85.0	86.0	3	alcatel lucent	RRH2X60-AWS	13	1-5/8	1
		3	alcatel lucent	RRH2X60-PCS			
		6	andrew	HBXX-6517DS-A2M w/ Mount Pipe			
		2	antel	BXA-70040-6CF-EDIN-2 w/ Mount Pipe			
		4	antel	BXA-70063-6CF-2 w/ Mount Pipe			
		1	rfs celwave	DB-B1-6C-12AB-0Z			
		6	andrew	CBC721-DF			
	85.0	1	tower mounts	Platform Mount [LP 303-1]			
80.0	81.0	1	lucent	KS24019-L112A	1	1/2	1
	80.0	1	tower mounts	Side Arm Mount [SO 701-1]			
72.0	74.0	2	argus technologies	LLPX310R w/ Mount Pipe	3 3 2	5/8 1/4 1/2	1
		1	dragonwave	HORIZON COMPACT			
		1	samsung telecommunications	WIMAX DAP HEAD			
	73.0	1	andrew	VHLP1-23			
		1	samsung telecommunications	WIMAX DAP HEAD			
	72.0	1	argus technologies	LLPX310R w/ Mount Pipe			
		1	dragonwave	A-ANT-18G-2-C			
		1	dragonwave	HORIZON COMPACT			
		1	samsung telecommunications	WIMAX DAP HEAD			
		1	tower mounts	Side Arm Mount [SO 101-3]			

Notes:
1) Existing Equipment
2) Equipment To Be Removed

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH, 07-11435G, 01/23/2008	2192549	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 126879, 03/17/2013	3684848	CCISITES
4-POST-MODIFICATION INSPECTION	SGS, 145041, 11/21/2014	5407775	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Rohn, 34738SW, 10/24/1996	1947809	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Rohn, 34738SW, 10/24/1996	1947800	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 41707-0508, 05/23/2008	2268906	CCISITES
4-POST-MODIFICATION INSPECTION	SGS, 146127, 3/12/2015	5596857	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 25663.40942, 3/9/2016	6131239	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.5.1), 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.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) Monopole was reinforced in conformance with the referenced modification drawings.
5) The bridge stiffeners take the entire load through the flange connection.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	118 - 90	Pole	P24x0.25	1	-7.84	589.19	79.4	Pass
L2	90 - 76.5	Pole	P24x0.375	2	-12.89	934.94	95.6	Pass
L3	76.5 - 74	Pole	RPS 24" x 0.58167"	3	-13.35	1426.56	70.4	Pass
L4	74 - 68.875	Pole	RPS 24" x 0.82296"	4	-15.07	1528.35	80.9	Pass
L5	68.875 - 64.5	Pole	RPS 24" x 0.81081"	5	-16.15	1483.43	95.7	Pass
L6	64.5 - 63	Pole	RPS 24" x 0.9855"	6	-16.58	1763.24	85.4	Pass
L7	63 - 60	Pole	RPS 24" x 0.94656"	7	-17.42	1704.65	95.7	Pass
L8	60 - 49.08	Pole	RPS 30" x 0.62249"	8	-21.32	1742.86	94.3	Pass
L9	49.08 - 42	Pole	RPS 30" x 0.77273"	9	-23.36	2119.52	90.3	Pass
L10	42 - 34.5	Pole	RPS 30" x 0.89547"	10	-25.80	2456.35	89.9	Pass
L11	34.5 - 34	Pole	RPS 30" x 1.00259"	11	-25.98	2740.06	81.8	Pass
L12	34 - 30	Pole	RPS 30" x 0.87892"	12	-27.27	2407.17	98.6	Pass
L13	30 - 28	Pole	RPS 36" x 0.67823"	13	-29.16	2156.74	93.1	Pass
L14	28 - 23.25	Pole	RPS 36" x 0.8198"	14	-30.83	2581.98	84.2	Pass
L15	23.25 - 21	Pole	RPS 36" x 0.93415"	15	-31.72	2851.09	79.2	Pass
L16	21 - 19	Pole	RPS 36" x 0.79024"	16	-32.40	2378.42	96.9	Pass
L17	19 - 18.5	Pole	RPS 36" x 0.9479"	17	-32.61	2863.54	81.8	Pass
L18	18.5 - 12.7	Pole	RPS 36" x 0.83577"	18	-34.69	2607.45	96.5	Pass
L19	12.7 - 12	Pole	RPS 36" x 0.84294"	19	-34.95	2569.72	98.8	Pass
L20	12 - 10.5	Pole	RPS 36" x 1.01524"	20	-35.58	2890.61	90.4	Pass
L21	10.5 - 10	Pole	RPS 36" x 1.22827"	21	-35.84	3641.12	73.1	Pass
L22	10 - 7.5	Pole	RPS 36" x 0.90812"	22	-36.80	2825.75	95.5	Pass
L23	7.5 - 7	Pole	RPS 36" x 0.94913"	23	-37.01	2806.12	96.9	Pass
L24	7 - 3.75	Pole	RPS 36" x 1.02583"	24	-38.40	3151.56	90.1	Pass
L25	3.75 - 2.75	Pole	RPS 36" x 1.59247"	25	-39.03	4497.85	65.9	Pass
L26	2.75 - 2	Pole	RPS 36" x 1.45929"	26	-39.47	3980.60	74.6	Pass
L27	2 - 1	Pole	RPS 36" x 1.29525"	27	-39.99	3573.64	83.3	Pass
L28	1 - 0	Pole	RPS 36" x 2.19555"	28	-40.83	3448.14	91.8	Pass
							Summary	
						Pole (L19)	98.8	Pass
						RATING =	**98.8**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	98.2	Pass
1	Base Plate	0	76.3	Pass
1	Base Foundation Structural Steel	0	84.1	Pass
1	Base Foundation Soil Interaction	0	74.5	Pass
1	Flange Connection	30	88.5	Pass
1	Flange Connection	60	73.3	Pass
1	Flange Connection	90	34.6	Pass

Structure Rating (max from all components) =	98.8%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The monopole and its foundation have sufficient capacity to carry the existing and proposed loads. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

1) Tower is located in Hartford County, Connecticut.
2) Basic wind speed of 80.0 mph.
3) Nominal ice thickness of 1.00 in.
4) Ice density of 56 pcf.
5) A wind speed of 37.6 mph is used in combination with ice.
6) Temperature drop of 50 °F.
7) Deflections calculated using a wind speed of 50.0 mph.
8) A non-linear (P-delta) analysis was used.
9) Pressures are calculated at each section.
10) Stress ratio used in pole design is 1.333.
11) 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-G Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G 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				

Pole Section Geometry

Section	*Elevation* *ft*	*Section Length* *ft*	*Pole Size*	*Pole Grade*	*Socket Length* *ft*
L1	118.00-90.00	28.00	P24x0.25	A572-42 (42 ksi)	
L2	90.00-76.50	13.50	P24x0.375	A572-42 (42 ksi)	
L3	76.50-74.00	2.50	RPS 24" x 0.58167"	Reinf 41.68 ksi (42 ksi)	
L4	74.00-68.88	5.13	RPS 24" x 0.82296"	Reinf 31.89 ksi (32 ksi)	
L5	68.88-64.50	4.38	RPS 24" x 0.81081"	Reinf 31.40 ksi (31 ksi)	
L6	64.50-63.00	1.50	RPS 24" x 0.9855"	Reinf 30.94 ksi (31 ksi)	
L7	63.00-60.00	3.00	RPS 24" x 0.94656"	Reinf 31.09 ksi (31 ksi)	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L8	60.00-49.08	10.92	RPS 30" x 0.62249"	Reinf 37.93 ksi (38 ksi)	
L9	49.08-42.00	7.08	RPS 30" x 0.77273"	Reinf 37.35 ksi (37 ksi)	
L10	42.00-34.50	7.50	RPS 30" x 0.89547"	Reinf 37.51 ksi (38 ksi)	
L11	34.50-34.00	0.50	RPS 30" x 1.00259"	Reinf 37.51 ksi (38 ksi)	
L12	34.00-30.00	4.00	RPS 30" x 0.87892"	Reinf 37.43 ksi (37 ksi)	
L13	30.00-28.00	2.00	RPS 36" x 0.67823"	Reinf 35.83 ksi (36 ksi)	
L14	28.00-23.25	4.75	RPS 36" x 0.8198"	Reinf 35.63 ksi (36 ksi)	
L15	23.25-21.00	2.25	RPS 36" x 0.93415"	Reinf 34.64 ksi (35 ksi)	
L16	21.00-19.00	2.00	RPS 36" x 0.79024"	Reinf 34.02 ksi (34 ksi)	
L17	19.00-18.50	0.50	RPS 36" x 0.9479"	Reinf 34.30 ksi (34 ksi)	
L18	18.50-12.70	5.80	RPS 36" x 0.83577"	Reinf 35.31 ksi (35 ksi)	
L19	12.70-12.00	0.70	RPS 36" x 0.84294"	Reinf 34.51 ksi (35 ksi)	
L20	12.00-10.50	1.50	RPS 36" x 1.01524"	Reinf 32.39 ksi (32 ksi)	
L21	10.50-10.00	0.50	RPS 36" x 1.22827"	Reinf 33.93 ksi (34 ksi)	
L22	10.00-7.50	2.50	RPS 36" x 0.90812"	Reinf 35.29 ksi (35 ksi)	
L23	7.50-7.00	0.50	RPS 36" x 0.94913"	Reinf 33.57 ksi (34 ksi)	
L24	7.00-3.75	3.25	RPS 36" x 1.02583"	Reinf 34.96 ksi (35 ksi)	
L25	3.75-2.75	1.00	RPS 36" x 1.59247"	Reinf 32.67 ksi (33 ksi)	
L26	2.75-2.00	0.75	RPS 36" x 1.45929"	Reinf 31.43 ksi (31 ksi)	
L27	2.00-1.00	1.00	RPS 36" x 1.29525"	Reinf 31.64 ksi (32 ksi)	
L28	1.00-0.00	1.00	RPS 36" x 2.19555"	Reinf 18.49 ksi (18 ksi)	

Feed Line/Linear Appurtenances - Entered As Area

Description	*Face or Leg*	*Allow Shield*	*Component Type*	*Placement* *ft*	*Total Number*		*C_AA_A* *ft^2/ft*	*Weight* *plf*
HB114-1-08U4-M5J(1 1/4")	C	No	CaAa (Out Of Face)	114.00 - 0.00	2	No Ice	0.00	1.08
						1/2" Ice	0.00	2.33
						1" Ice	0.00	4.18
HB114-1-08U4-M5J(1 1/4")	C	No	CaAa (Out Of Face)	72.00 - 0.00	1	No Ice	0.00	1.08
						1/2" Ice	0.00	2.33
						1" Ice	0.00	4.18
HB114-1-08U4-M5J(1 1/4")	C	No	CaAa (Out Of Face)	114.00 - 72.00	1	No Ice	0.15	1.08
						1/2" Ice	0.25	2.33
						1" Ice	0.35	4.18
***								
AL5-50(7/8)	C	No	Inside Pole	108.00 - 0.00	12	No Ice	0.00	0.26
						1/2" Ice	0.00	0.26
						1" Ice	0.00	0.26
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	C	No	Inside Pole	108.00 - 0.00	1	No Ice	0.00	1.07
						1/2" Ice	0.00	1.07
						1" Ice	0.00	1.07
***								
LDF5-50A(7/8")	C	No	Inside Pole	98.00 - 0.00	12	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33
FB-L98B-002-75000(3/8")	C	No	Inside Pole	98.00 - 0.00	1	No Ice	0.00	0.06
						1/2" Ice	0.00	0.06
						1" Ice	0.00	0.06
WR-VG86ST-BRD(3/4)	C	No	Inside Pole	98.00 - 0.00	2	No Ice	0.00	0.59
						1/2" Ice	0.00	0.59
						1" Ice	0.00	0.59
2" Conduit	C	No	Inside Pole	98.00 - 0.00	1	No Ice	0.00	1.16
						1/2" Ice	0.00	1.16
						1" Ice	0.00	1.16
***								
LDF7-50A(1-5/8")	C	No	CaAa (Out Of Face)	85.00 - 0.00	10	No Ice	0.00	0.82
						1/2" Ice	0.00	2.33
						1" Ice	0.00	4.46
LDF7-50A(1-5/8")	C	No	CaAa (Out Of Face)	85.00 - 0.00	2	No Ice	0.16	1.35
						1/2" Ice	0.26	2.65
						1" Ice	0.36	4.56
HB158-1-08U8-S8J18(1-5/8)	C	No	CaAa (Out Of Face)	85.00 - 0.00	1	No Ice	0.00	1.30
						1/2" Ice	0.00	2.81
						1" Ice	0.00	4.94
***								
LDF4-50A(1/2")	C	No	CaAa (Out Of Face)	80.00 - 0.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.84
						1" Ice	0.00	2.14
1" Conduit	C	No	CaAa (Out Of Face)	80.00 - 0.00	1	No Ice	0.00	0.46
						1/2" Ice	0.00	1.33
						1" Ice	0.00	2.81
***								
FSJ1-50A(1/4")	C	No	CaAa (Out Of Face)	72.00 - 0.00	3	No Ice	0.00	0.04
						1/2" Ice	0.00	0.53
						1" Ice	0.00	1.62
FSJ4P-50B-1(1/2")	C	No	CaAa (Out Of Face)	72.00 - 0.00	2	No Ice	0.00	0.14
						1/2" Ice	0.00	0.77
						1" Ice	0.00	2.01
HJ4.5-50(5/8")	C	No	CaAa (Out Of Face)	72.00 - 0.00	3	No Ice	0.00	0.40
						1/2" Ice	0.00	1.24
						1" Ice	0.00	2.69
2" Conduit	C	No	CaAa (Out Of Face)	72.00 - 0.00	1	No Ice	0.00	1.16
						1/2" Ice	0.00	2.53
						1" Ice	0.00	4.51
2" Conduit	C	No	CaAa (Out Of Face)	72.00 - 0.00	1	No Ice	0.17	1.16
						1/2" Ice	0.27	2.53
						1" Ice	0.37	4.51
***								
1" Flat Reinforcement	C	No	CaAa (Out Of Face)	60.00 - 0.00	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
3/4" Flat Reinforcement	C	No	CaAa (Out Of Face)	75.00 - 60.00	1	No Ice	0.13	0.00
						1/2" Ice	0.24	0.00
						1" Ice	0.35	0.00

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
****								
1" Flat Reinforcement	C	No	CaAa (Out Of Face)	25.00 - 0.00	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00
3/4" Flat Reinforcement	C	No	CaAa (Out Of Face)	43.00 - 33.00	1	No Ice	0.13	0.00
						1/2" Ice	0.24	0.00
						1" Ice	0.35	0.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.00-90.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	3.696	0.20
L2	90.00-76.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	4.842	0.29
L3	76.50-74.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.323	0.07
L4	74.00-68.88	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	3.158	0.15
L5	68.88-64.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.730	0.13
L6	64.50-63.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.936	0.05
L7	63.00-60.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.872	0.09
L8	60.00-49.08	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	7.269	0.33
L9	49.08-42.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	4.838	0.22
L10	42.00-34.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	5.930	0.23
L11	34.50-34.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.395	0.02
L12	34.00-30.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.788	0.12
L13	30.00-28.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.331	0.06
L14	28.00-23.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	3.454	0.15
L15	23.25-21.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.873	0.07
L16	21.00-19.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.665	0.06
L17	19.00-18.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.416	0.02
L18	18.50-12.70	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	4.828	0.18

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L19	12.70-12.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.583	0.02
L20	12.00-10.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.249	0.05
L21	10.50-10.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.416	0.02
L22	10.00-7.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.081	0.08
L23	7.50-7.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.416	0.02
L24	7.00-3.75	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.705	0.10
L25	3.75-2.75	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.832	0.03
L26	2.75-2.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.624	0.02
L27	2.00-1.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.832	0.03
L28	1.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.832	0.03

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.00-90.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	8.496	0.43
L2	90.00-76.50	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	10.941	0.83
L3	76.50-74.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	3.045	0.22
L4	74.00-68.88	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	7.372	0.53
L5	68.88-64.50	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	6.327	0.49
L6	64.50-63.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	2.169	0.17
L7	63.00-60.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	4.339	0.34
L8	60.00-49.08	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	16.248	1.23
L9	49.08-42.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	10.881	0.80
L10	42.00-34.50	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	13.763	0.85
L11	34.50-34.00	A	1.000	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.918	0.06
L12	34.00-30.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	6.299	0.45
L13	30.00-28.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	2.976	0.23
L14	28.00-23.25	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	7.748	0.54
L15	23.25-21.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	4.223	0.25
L16	21.00-19.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	3.754	0.23
L17	19.00-18.50	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.938	0.06
L18	18.50-12.70	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	10.885	0.65
L19	12.70-12.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	1.314	0.08
L20	12.00-10.50	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	2.815	0.17
L21	10.50-10.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.938	0.06
L22	10.00-7.50	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	4.692	0.28
L23	7.50-7.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.938	0.06
L24	7.00-3.75	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	6.099	0.37
L25	3.75-2.75	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	1.877	0.11
L26	2.75-2.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	1.408	0.08
L27	2.00-1.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	1.877	0.11
L28	1.00-0.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	1.877	0.11

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
PCS 1900MHz 4x45W-65MHz	A	From Leg	1.00 0.00 -3.00	0.000	116.00	No Ice 1/2" Ice 1" Ice	2.71 2.95 3.20	2.61 2.85 3.09	0.06 0.08 0.11

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
PCS 1900MHz 4x45W-65MHz	B	From Leg	1.00 0.00 -3.00	0.000	116.00	No Ice 1/2" Ice 1" Ice	2.71 2.95 3.20	2.61 2.85 3.09	0.06 0.08 0.11
PCS 1900MHz 4x45W-65MHz	C	From Leg	1.00 0.00 -3.00	0.000	116.00	No Ice 1/2" Ice 1" Ice	2.71 2.95 3.20	2.61 2.85 3.09	0.06 0.08 0.11
800MHz 2X50W RRH W/FILTER	A	From Leg	1.00 0.00 0.00	0.000	116.00	No Ice 1/2" Ice 1" Ice	2.40 2.61 2.83	2.25 2.46 2.68	0.06 0.09 0.11
800MHz 2X50W RRH W/FILTER	B	From Leg	1.00 0.00 0.00	0.000	116.00	No Ice 1/2" Ice 1" Ice	2.40 2.61 2.83	2.25 2.46 2.68	0.06 0.09 0.11
800MHz 2X50W RRH W/FILTER	C	From Leg	1.00 0.00 0.00	0.000	116.00	No Ice 1/2" Ice 1" Ice	2.40 2.61 2.83	2.25 2.46 2.68	0.06 0.09 0.11
Pipe Mount [PM 601-3]	C	None		0.000	116.00	No Ice 1/2" Ice 1" Ice	4.39 5.48 6.57	4.39 5.48 6.57	0.20 0.24 0.28
***									
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.000	114.00	No Ice 1/2" Ice 1" Ice	8.50 9.15 9.77	6.95 8.13 9.02	0.08 0.15 0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.000	114.00	No Ice 1/2" Ice 1" Ice	8.50 9.15 9.77	6.95 8.13 9.02	0.08 0.15 0.23
APXV9ERR18-C-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.000	114.00	No Ice 1/2" Ice 1" Ice	8.50 9.15 9.77	7.47 8.66 9.56	0.09 0.16 0.24
(3) 2.375" OD x 3' Mount Pipe	A	From Leg	4.00 0.00 0.00	0.000	114.00	No Ice 1/2" Ice 1" Ice	0.58 0.77 0.97	0.58 0.77 0.97	0.03 0.03 0.04
(3) 2.375" OD x 3' Mount Pipe	B	From Leg	4.00 0.00 0.00	0.000	114.00	No Ice 1/2" Ice 1" Ice	0.58 0.77 0.97	0.58 0.77 0.97	0.03 0.03 0.04
(3) 2.375" OD x 3' Mount Pipe	C	From Leg	4.00 0.00 0.00	0.000	114.00	No Ice 1/2" Ice 1" Ice	0.58 0.77 0.97	0.58 0.77 0.97	0.03 0.03 0.04
Platform Mount [LP 501-1]	C	None		0.000	114.00	No Ice 1/2" Ice 1" Ice	32.04 45.28 58.51	32.04 45.28 58.51	0.98 1.28 1.57
***									
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	6.83 7.35 7.86	5.64 6.48 7.26	0.11 0.17 0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	6.83 7.35 7.86	5.64 6.48 7.26	0.11 0.17 0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice	6.83 7.35 7.86	5.64 6.48 7.26	0.11 0.17 0.23

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" Ice			
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	6.82 7.34 7.85	5.63 6.47 7.25	0.11 0.17 0.23
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	6.82 7.34 7.85	5.63 6.47 7.25	0.11 0.17 0.23
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	6.82 7.34 7.85	5.63 6.47 7.25	0.11 0.17 0.23
KRY 112 144/1	A	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.59	0.20 0.27 0.35	0.01 0.01 0.02
KRY 112 144/1	B	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.59	0.20 0.27 0.35	0.01 0.01 0.02
KRY 112 144/1	C	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.59	0.20 0.27 0.35	0.01 0.01 0.02
2.375" OD x 3' Mount Pipe	A	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	0.58 0.77 0.97	0.58 0.77 0.97	0.03 0.03 0.04
2.375" OD x 3' Mount Pipe	B	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	0.58 0.77 0.97	0.58 0.77 0.97	0.03 0.03 0.04
2.375" OD x 3' Mount Pipe	C	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	0.58 0.77 0.97	0.58 0.77 0.97	0.03 0.03 0.04
Sector Mount [SM 802-3]	C	None		0.000	108.00	No Ice 1/2" Ice 1" Ice	24.41 31.39 38.37	24.41 31.39 38.37	0.93 1.36 1.79
LNX-6515DS-VTM w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
LNX-6515DS-VTM w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
LNX-6515DS-VTM w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
RRUS 11 B12	A	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
RRUS 11 B12	B	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
RRUS 11 B12	C	From Leg	4.00 0.00 0.00	0.000	108.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 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
***									
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	8.50 9.15 9.77	6.30 7.48 8.37	0.07 0.14 0.21
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	8.50 9.15 9.77	6.30 7.48 8.37	0.07 0.14 0.21
SBNH-1D6565C w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	11.56 12.22 12.89	9.72 11.19 12.59	0.10 0.19 0.28
7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	6.22 6.71 7.22	4.82 5.51 6.21	0.09 0.14 0.21
7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	6.22 6.71 7.22	4.82 5.51 6.21	0.09 0.14 0.21
7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	6.22 6.71 7.22	4.82 5.51 6.21	0.09 0.14 0.21
RRUS 11 B12	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
RRUS 11 B12	B	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
RRUS 11 B12	C	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
(2) LGP13519	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	0.34 0.42 0.51	0.21 0.28 0.36	0.01 0.01 0.01
(2) LGP13519	B	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	0.34 0.42 0.51	0.21 0.28 0.36	0.01 0.01 0.01
(2) LGP13519	C	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	0.34 0.42 0.51	0.21 0.28 0.36	0.01 0.01 0.01
DTMABP7819VG12A	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	1.14 1.28 1.44	0.39 0.49 0.59	0.02 0.03 0.04
DTMABP7819VG12A	B	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	1.14 1.28 1.44	0.39 0.49 0.59	0.02 0.03 0.04
DTMABP7819VG12A	C	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	1.14 1.28 1.44	0.39 0.49 0.59	0.02 0.03 0.04
DC6-48-60-18-8F	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	1.47 1.67 1.88	1.47 1.67 1.88	0.02 0.04 0.06

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
Platform Mount [LP 712-1]	C	None		0.000	98.00	No Ice 1/2" Ice 1" Ice	24.53 29.94 35.35	24.53 29.94 35.35	1.34 1.65 1.96
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	10.60 11.27 11.91	8.11 9.30 10.21	0.08 0.16 0.25
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	13.53 14.34 15.14	9.58 11.05 12.50	0.10 0.20 0.30
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	10.60 11.27 11.91	8.11 9.30 10.21	0.08 0.16 0.25
RRUS11 A2	A	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	3.26 3.50 3.75	2.01 2.21 2.42	0.07 0.10 0.13
(2) RRUS11 A2	C	From Leg	4.00 0.00 2.00	0.000	98.00	No Ice 1/2" Ice 1" Ice	3.26 3.50 3.75	2.01 2.21 2.42	0.07 0.10 0.13
***									
BXA-70063-6CF-2 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	7.97 8.61 9.22	5.80 6.95 7.82	0.04 0.10 0.17
BXA-70063-6CF-2 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	7.97 8.61 9.22	5.80 6.95 7.82	0.04 0.10 0.17
(2) CBC721-DF	B	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	0.45 0.54 0.64	0.12 0.18 0.26	0.00 0.01 0.01
(4) CBC721-DF	C	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	0.45 0.54 0.64	0.12 0.18 0.26	0.00 0.01 0.01
(2) HBXX-6517DS-A2M w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	8.98 9.65 10.29	6.96 8.18 9.14	0.07 0.14 0.21
(2) HBXX-6517DS-A2M w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	8.98 9.65 10.29	6.96 8.18 9.14	0.07 0.14 0.21
(2) HBXX-6517DS-A2M w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	8.98 9.65 10.29	6.96 8.18 9.14	0.07 0.14 0.21
(2) BXA-70040-6CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	16.76 17.48 18.17	7.37 8.54 9.42	0.06 0.16 0.27
BXA-70063-6CF-2 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	7.97 8.61 9.22	5.80 6.95 7.82	0.04 0.10 0.17
BXA-70063-6CF-2 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	7.97 8.61 9.22	5.80 6.95 7.82	0.04 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) RRH2X60-AWS	A	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	2.19 2.40 2.61	1.43 1.61 1.80	0.04 0.06 0.08
RRH2X60-AWS	B	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	2.19 2.40 2.61	1.43 1.61 1.80	0.04 0.06 0.08
RRH2X60-PCS	B	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	2.57 2.79 3.02	2.01 2.22 2.43	0.06 0.08 0.10
(2) RRH2X60-PCS	C	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	2.57 2.79 3.02	2.01 2.22 2.43	0.06 0.08 0.10
DB-B1-6C-12AB-0Z	B	From Leg	4.00 0.00 1.00	0.000	85.00	No Ice 1/2" Ice 1" Ice	3.92 4.20 4.48	2.56 2.79 3.04	0.03 0.06 0.09
Platform Mount [LP 303-1]	C	None		0.000	85.00	No Ice 1/2" Ice 1" Ice	14.66 18.87 23.08	14.66 18.87 23.08	1.25 1.48 1.71
***									
KS24019-L112A	A	From Leg	3.00 0.00 1.00	0.000	80.00	No Ice 1/2" Ice 1" Ice	0.16 0.22 0.30	0.16 0.22 0.30	0.01 0.01 0.01
Side Arm Mount [SO 701-1]	A	None		0.000	80.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
***									
LLPX310R w/ Mount Pipe	A	From Leg	2.00 0.00 2.00	0.000	72.00	No Ice 1/2" Ice 1" Ice	4.96 5.35 5.75	2.85 3.37 3.90	0.04 0.08 0.12
LLPX310R w/ Mount Pipe	B	From Leg	2.00 0.00 0.00	0.000	72.00	No Ice 1/2" Ice 1" Ice	4.96 5.35 5.75	2.85 3.37 3.90	0.04 0.08 0.12
LLPX310R w/ Mount Pipe	C	From Leg	2.00 0.00 2.00	0.000	72.00	No Ice 1/2" Ice 1" Ice	4.96 5.35 5.75	2.85 3.37 3.90	0.04 0.08 0.12
WIMAX DAP HEAD	A	From Leg	2.00 0.00 2.00	0.000	72.00	No Ice 1/2" Ice 1" Ice	1.80 1.99 2.18	0.78 0.92 1.07	0.03 0.04 0.06
WIMAX DAP HEAD	B	From Leg	2.00 0.00 0.00	0.000	72.00	No Ice 1/2" Ice 1" Ice	1.80 1.99 2.18	0.78 0.92 1.07	0.03 0.04 0.06
WIMAX DAP HEAD	B	From Leg	2.00 0.00 1.00	0.000	72.00	No Ice 1/2" Ice 1" Ice	1.80 1.99 2.18	0.78 0.92 1.07	0.03 0.04 0.06
HORIZON COMPACT	A	From Leg	2.00 0.00 0.00	0.000	72.00	No Ice 1/2" Ice 1" Ice	0.84 0.97 1.10	0.43 0.52 0.63	0.01 0.02 0.03
HORIZON COMPACT	C	From Leg	2.00 0.00 2.00	0.000	72.00	No Ice 1/2" Ice	0.84 0.97 1.10	0.43 0.52 0.63	0.01 0.02 0.03

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" Ice			
Side Arm Mount [SO 101-3]	C	None		0.000	72.00	No Ice	7.50	7.50	0.25
						1/2" Ice	8.90	8.90	0.33
						1" Ice	10.30	10.30	0.41
***									
Bridge Stiffener (84" x 14.5" x 1.25")	A	None		0.000	90.00	No Ice	11.84	1.46	0.43
						1/2" Ice	12.48	2.25	0.48
						1" Ice	13.14	3.06	0.53
Bridge Stiffener (84" x 14.5" x 1.25")	B	None		0.000	90.00	No Ice	0.00	0.00	0.43
						1/2" Ice	0.00	0.00	0.48
						1" Ice	0.00	0.00	0.53
Bridge Stiffener (84" x 14.5" x 1.25")	C	None		0.000	90.00	No Ice	0.00	0.00	0.43
						1/2" Ice	0.00	0.00	0.48
						1" Ice	0.00	0.00	0.53
***									
Bridge Stiffener (84" x 14.5" x 1.25")	A	None		0.000	60.00	No Ice	11.84	1.46	0.43
						1/2" Ice	12.48	2.25	0.48
						1" Ice	13.14	3.06	0.53
Bridge Stiffener (84" x 14.5" x 1.25")	B	None		0.000	60.00	No Ice	0.00	0.00	0.43
						1/2" Ice	0.00	0.00	0.48
						1" Ice	0.00	0.00	0.53
Bridge Stiffener (84" x 14.5" x 1.25")	C	None		0.000	60.00	No Ice	0.00	0.00	0.43
						1/2" Ice	0.00	0.00	0.48
						1" Ice	0.00	0.00	0.53
***									
Bridge Stiffener (84" x 14.5" x 1.25")	A	None		0.000	30.00	No Ice	11.84	1.46	0.43
						1/2" Ice	12.48	2.25	0.48
						1" Ice	13.14	3.06	0.53
Bridge Stiffener (84" x 14.5" x 1.25")	B	None		0.000	30.00	No Ice	0.00	0.00	0.43
						1/2" Ice	0.00	0.00	0.48
						1" Ice	0.00	0.00	0.53
Bridge Stiffener (84" x 14.5" x 1.25")	C	None		0.000	30.00	No Ice	0.00	0.00	0.43
						1/2" Ice	0.00	0.00	0.48
						1" Ice	0.00	0.00	0.53

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
A-ANT-18G-2-C	A	Paraboloid w/Radome	From Leg	2.00 0.00 0.00	0.000		72.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.01 4.30	0.03 0.04 0.05
VHLP1-23	B	Paraboloid w/o Radome	From Leg	2.00 0.00 1.00	0.000		72.00	1.27	No Ice 1/2" Ice 1" Ice	1.28 1.45 1.62	0.01 0.02 0.03

Tower Pressures - No Ice

G_H = 1.690

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 118.00-90.00	104.00	1.388	23	56.000	A	0.000	56.000	56.000	100.00	0.000	0.000
					B	0.000	56.000		100.00	0.000	0.000
					C	0.000	56.000		100.00	0.000	3.696
L2 90.00-76.50	83.25	1.303	21	27.000	A	0.000	27.000	27.000	100.00	0.000	0.000
					B	0.000	27.000		100.00	0.000	0.000
					C	0.000	27.000		100.00	0.000	4.842
L3 76.50-74.00	75.25	1.266	21	5.000	A	0.000	5.000	5.000	100.00	0.000	0.000
					B	0.000	5.000		100.00	0.000	0.000
					C	0.000	5.000		100.00	0.000	1.323
L4 74.00-68.88	71.44	1.247	20	10.250	A	0.000	10.250	10.250	100.00	0.000	0.000
					B	0.000	10.250		100.00	0.000	0.000
					C	0.000	10.250		100.00	0.000	3.158
L5 68.88-64.50	66.69	1.223	20	8.750	A	0.000	8.750	8.750	100.00	0.000	0.000
					B	0.000	8.750		100.00	0.000	0.000
					C	0.000	8.750		100.00	0.000	2.730
L6 64.50-63.00	63.75	1.207	20	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.936
L7 63.00-60.00	61.50	1.195	20	6.000	A	0.000	6.000	6.000	100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	1.872
L8 60.00-49.08	54.54	1.154	19	27.300	A	0.000	27.300	27.300	100.00	0.000	0.000
					B	0.000	27.300		100.00	0.000	0.000
					C	0.000	27.300		100.00	0.000	7.269
L9 49.08-42.00	45.54	1.096	18	17.700	A	0.000	17.700	17.700	100.00	0.000	0.000
					B	0.000	17.700		100.00	0.000	0.000
					C	0.000	17.700		100.00	0.000	4.838
L10 42.00-34.50	38.25	1.043	17	18.750	A	0.000	18.750	18.750	100.00	0.000	0.000
					B	0.000	18.750		100.00	0.000	0.000
					C	0.000	18.750		100.00	0.000	5.930
L11 34.50-34.00	34.25	1.011	17	1.250	A	0.000	1.250	1.250	100.00	0.000	0.000
					B	0.000	1.250		100.00	0.000	0.000
					C	0.000	1.250		100.00	0.000	0.395
L12 34.00-30.00	32.00	1	16	10.000	A	0.000	10.000	10.000	100.00	0.000	0.000
					B	0.000	10.000		100.00	0.000	0.000
					C	0.000	10.000		100.00	0.000	2.788
L13 30.00-28.00	29.00	1	16	6.000	A	0.000	6.000	6.000	100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	1.331
L14 28.00-23.25	25.63	1	16	14.250	A	0.000	14.250	14.250	100.00	0.000	0.000
					B	0.000	14.250		100.00	0.000	0.000
					C	0.000	14.250		100.00	0.000	3.454
L15 23.25-21.00	22.13	1	16	6.750	A	0.000	6.750	6.750	100.00	0.000	0.000
					B	0.000	6.750		100.00	0.000	0.000
					C	0.000	6.750		100.00	0.000	1.873
L16 21.00-19.00	20.00	1	16	6.000	A	0.000	6.000	6.000	100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	1.665
L17 19.00-18.50	18.75	1	16	1.500	A	0.000	1.500	1.500	100.00	0.000	0.000
					B	0.000	1.500		100.00	0.000	0.000
					C	0.000	1.500		100.00	0.000	0.416
L18 18.50-12.70	15.60	1	16	17.400	A	0.000	17.400	17.400	100.00	0.000	0.000
					B	0.000	17.400		100.00	0.000	0.000
					C	0.000	17.400		100.00	0.000	4.828
L19 12.70-12.00	12.35	1	16	2.100	A	0.000	2.100	2.100	100.00	0.000	0.000
					B	0.000	2.100		100.00	0.000	0.000
					C	0.000	2.100		100.00	0.000	0.583
L20 12.00-10.50	11.25	1	16	4.500	A	0.000	4.500	4.500	100.00	0.000	0.000
					B	0.000	4.500		100.00	0.000	0.000
					C	0.000	4.500		100.00	0.000	1.249
L21 10.50-10.00	10.25	1	16	1.500	A	0.000	1.500	1.500	100.00	0.000	0.000
					B	0.000	1.500		100.00	0.000	0.000
					C	0.000	1.500		100.00	0.000	0.416
L22 10.00-7.50	8.75	1	16	7.500	A	0.000	7.500	7.500	100.00	0.000	0.000
					B	0.000	7.500		100.00	0.000	0.000
					C	0.000	7.500		100.00	0.000	2.081
L23 7.50-7.00	7.25	1	16	1.500	A	0.000	1.500	1.500	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					B	0.000	1.500		100.00	0.000	0.000
					C	0.000	1.500		100.00	0.000	0.416
L24 7.00-3.75	5.38	1	16	9.750	A	0.000	9.750	9.750	100.00	0.000	0.000
					B	0.000	9.750		100.00	0.000	0.000
					C	0.000	9.750		100.00	0.000	2.705
L25 3.75-2.75	3.25	1	16	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.832
L26 2.75-2.00	2.38	1	16	2.250	A	0.000	2.250	2.250	100.00	0.000	0.000
					B	0.000	2.250		100.00	0.000	0.000
					C	0.000	2.250		100.00	0.000	0.624
L27 2.00-1.00	1.50	1	16	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.832
L28 1.00-0.00	0.50	1	16	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.832

Tower Pressure - With Ice

G_H = 1.690

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 118.00-90.00	104.00	1.388	5	1.00	60.667	A	0.000	60.667	60.667	100.00	0.000	0.000
						B	0.000	60.667		100.00	0.000	0.000
						C	0.000	60.667		100.00	0.000	8.496
L2 90.00-76.50	83.25	1.303	5	1.00	29.250	A	0.000	29.250	29.250	100.00	0.000	0.000
						B	0.000	29.250		100.00	0.000	0.000
						C	0.000	29.250		100.00	0.000	10.941
L3 76.50-74.00	75.25	1.266	5	1.00	5.417	A	0.000	5.417	5.417	100.00	0.000	0.000
						B	0.000	5.417		100.00	0.000	0.000
						C	0.000	5.417		100.00	0.000	3.045
L4 74.00-68.88	71.44	1.247	5	1.00	11.104	A	0.000	11.104	11.104	100.00	0.000	0.000
						B	0.000	11.104		100.00	0.000	0.000
						C	0.000	11.104		100.00	0.000	7.372
L5 68.88-64.50	66.69	1.223	4	1.00	9.479	A	0.000	9.479	9.479	100.00	0.000	0.000
						B	0.000	9.479		100.00	0.000	0.000
						C	0.000	9.479		100.00	0.000	6.327
L6 64.50-63.00	63.75	1.207	4	1.00	3.250	A	0.000	3.250	3.250	100.00	0.000	0.000
						B	0.000	3.250		100.00	0.000	0.000
						C	0.000	3.250		100.00	0.000	2.169
L7 63.00-60.00	61.50	1.195	4	1.00	6.500	A	0.000	6.500	6.500	100.00	0.000	0.000
						B	0.000	6.500		100.00	0.000	0.000
						C	0.000	6.500		100.00	0.000	4.339
L8 60.00-49.08	54.54	1.154	4	1.00	29.120	A	0.000	29.120	29.120	100.00	0.000	0.000
						B	0.000	29.120		100.00	0.000	0.000
						C	0.000	29.120		100.00	0.000	16.248
L9 49.08-42.00	45.54	1.096	4	1.00	18.880	A	0.000	18.880	18.880	100.00	0.000	0.000
						B	0.000	18.880		100.00	0.000	0.000
						C	0.000	18.880		100.00	0.000	10.881
L10 42.00-34.50	38.25	1.043	4	1.00	20.000	A	0.000	20.000	20.000	100.00	0.000	0.000
						B	0.000	20.000		100.00	0.000	0.000
						C	0.000	20.000		100.00	0.000	13.763
L11 34.50-34.00	34.25	1.011	4	1.00	1.333	A	0.000	1.333	1.333	100.00	0.000	0.000
						B	0.000	1.333		100.00	0.000	0.000
						C	0.000	1.333		100.00	0.000	0.918
L12 34.00-30.00	32.00	1	4	1.00	10.667	A	0.000	10.667	10.667	100.00	0.000	0.000
						B	0.000	10.667		100.00	0.000	0.000
						C	0.000	10.667		100.00	0.000	6.299
L13 30.00-28.00	29.00	1	4	1.00	6.333	A	0.000	6.333	6.333	100.00	0.000	0.000
						B	0.000	6.333		100.00	0.000	0.000
						C	0.000	6.333		100.00	0.000	2.976
L14 28.00-	25.63	1	4	1.00	15.042	A	0.000	15.042	15.042	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
23.25						B	0.000	15.042		100.00	0.000	0.000
						C	0.000	15.042		100.00	0.000	7.748
L15 23.25-21.00	22.13	1	4	1.00	7.125	A	0.000	7.125	7.125	100.00	0.000	0.000
						B	0.000	7.125		100.00	0.000	0.000
						C	0.000	7.125		100.00	0.000	4.223
L16 21.00-19.00	20.00	1	4	1.00	6.333	A	0.000	6.333	6.333	100.00	0.000	0.000
						B	0.000	6.333		100.00	0.000	0.000
						C	0.000	6.333		100.00	0.000	3.754
L17 19.00-18.50	18.75	1	4	1.00	1.583	A	0.000	1.583	1.583	100.00	0.000	0.000
						B	0.000	1.583		100.00	0.000	0.000
						C	0.000	1.583		100.00	0.000	0.938
L18 18.50-12.70	15.60	1	4	1.00	18.367	A	0.000	18.367	18.367	100.00	0.000	0.000
						B	0.000	18.367		100.00	0.000	0.000
						C	0.000	18.367		100.00	0.000	10.885
L19 12.70-12.00	12.35	1	4	1.00	2.217	A	0.000	2.217	2.217	100.00	0.000	0.000
						B	0.000	2.217		100.00	0.000	0.000
						C	0.000	2.217		100.00	0.000	1.314
L20 12.00-10.50	11.25	1	4	1.00	4.750	A	0.000	4.750	4.750	100.00	0.000	0.000
						B	0.000	4.750		100.00	0.000	0.000
						C	0.000	4.750		100.00	0.000	2.815
L21 10.50-10.00	10.25	1	4	1.00	1.583	A	0.000	1.583	1.583	100.00	0.000	0.000
						B	0.000	1.583		100.00	0.000	0.000
						C	0.000	1.583		100.00	0.000	0.938
L22 10.00-7.50	8.75	1	4	1.00	7.917	A	0.000	7.917	7.917	100.00	0.000	0.000
						B	0.000	7.917		100.00	0.000	0.000
						C	0.000	7.917		100.00	0.000	4.692
L23 7.50-7.00	7.25	1	4	1.00	1.583	A	0.000	1.583	1.583	100.00	0.000	0.000
						B	0.000	1.583		100.00	0.000	0.000
						C	0.000	1.583		100.00	0.000	0.938
L24 7.00-3.75	5.38	1	4	1.00	10.292	A	0.000	10.292	10.292	100.00	0.000	0.000
						B	0.000	10.292		100.00	0.000	0.000
						C	0.000	10.292		100.00	0.000	6.099
L25 3.75-2.75	3.25	1	4	1.00	3.167	A	0.000	3.167	3.167	100.00	0.000	0.000
						B	0.000	3.167		100.00	0.000	0.000
						C	0.000	3.167		100.00	0.000	1.877
L26 2.75-2.00	2.38	1	4	1.00	2.375	A	0.000	2.375	2.375	100.00	0.000	0.000
						B	0.000	2.375		100.00	0.000	0.000
						C	0.000	2.375		100.00	0.000	1.408
L27 2.00-1.00	1.50	1	4	1.00	3.167	A	0.000	3.167	3.167	100.00	0.000	0.000
						B	0.000	3.167		100.00	0.000	0.000
						C	0.000	3.167		100.00	0.000	1.877
L28 1.00-0.00	0.50	1	4	1.00	3.167	A	0.000	3.167	3.167	100.00	0.000	0.000
						B	0.000	3.167		100.00	0.000	0.000
						C	0.000	3.167		100.00	0.000	1.877

Tower Pressure - Service

G_H = 1.690

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 118.00-90.00	104.00	1.388	9	56.000	A	0.000	56.000	56.000	100.00	0.000	0.000
					B	0.000	56.000		100.00	0.000	0.000
					C	0.000	56.000		100.00	0.000	3.696
L2 90.00-76.50	83.25	1.303	8	27.000	A	0.000	27.000	27.000	100.00	0.000	0.000
					B	0.000	27.000		100.00	0.000	0.000
					C	0.000	27.000		100.00	0.000	4.842
L3 76.50-74.00	75.25	1.266	8	5.000	A	0.000	5.000	5.000	100.00	0.000	0.000
					B	0.000	5.000		100.00	0.000	0.000
					C	0.000	5.000		100.00	0.000	1.323
L4 74.00-68.88	71.44	1.247	8	10.250	A	0.000	10.250	10.250	100.00	0.000	0.000
					B	0.000	10.250		100.00	0.000	0.000
					C	0.000	10.250		100.00	0.000	3.158
L5 68.88-	66.69	1.223	8	8.750	A	0.000	8.750	8.750	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
64.50					B	0.000	8.750		100.00	0.000	0.000
					C	0.000	8.750		100.00	0.000	2.730
L6 64.50-63.00	63.75	1.207	8	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.936
L7 63.00-60.00	61.50	1.195	8	6.000	A	0.000	6.000	6.000	100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	1.872
L8 60.00-49.08	54.54	1.154	7	27.300	A	0.000	27.300	27.300	100.00	0.000	0.000
					B	0.000	27.300		100.00	0.000	0.000
					C	0.000	27.300		100.00	0.000	7.269
L9 49.08-42.00	45.54	1.096	7	17.700	A	0.000	17.700	17.700	100.00	0.000	0.000
					B	0.000	17.700		100.00	0.000	0.000
					C	0.000	17.700		100.00	0.000	4.838
L10 42.00-34.50	38.25	1.043	7	18.750	A	0.000	18.750	18.750	100.00	0.000	0.000
					B	0.000	18.750		100.00	0.000	0.000
					C	0.000	18.750		100.00	0.000	5.930
L11 34.50-34.00	34.25	1.011	6	1.250	A	0.000	1.250	1.250	100.00	0.000	0.000
					B	0.000	1.250		100.00	0.000	0.000
					C	0.000	1.250		100.00	0.000	0.395
L12 34.00-30.00	32.00	1	6	10.000	A	0.000	10.000	10.000	100.00	0.000	0.000
					B	0.000	10.000		100.00	0.000	0.000
					C	0.000	10.000		100.00	0.000	2.788
L13 30.00-28.00	29.00	1	6	6.000	A	0.000	6.000	6.000	100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	1.331
L14 28.00-23.25	25.63	1	6	14.250	A	0.000	14.250	14.250	100.00	0.000	0.000
					B	0.000	14.250		100.00	0.000	0.000
					C	0.000	14.250		100.00	0.000	3.454
L15 23.25-21.00	22.13	1	6	6.750	A	0.000	6.750	6.750	100.00	0.000	0.000
					B	0.000	6.750		100.00	0.000	0.000
					C	0.000	6.750		100.00	0.000	1.873
L16 21.00-19.00	20.00	1	6	6.000	A	0.000	6.000	6.000	100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	1.665
L17 19.00-18.50	18.75	1	6	1.500	A	0.000	1.500	1.500	100.00	0.000	0.000
					B	0.000	1.500		100.00	0.000	0.000
					C	0.000	1.500		100.00	0.000	0.416
L18 18.50-12.70	15.60	1	6	17.400	A	0.000	17.400	17.400	100.00	0.000	0.000
					B	0.000	17.400		100.00	0.000	0.000
					C	0.000	17.400		100.00	0.000	4.828
L19 12.70-12.00	12.35	1	6	2.100	A	0.000	2.100	2.100	100.00	0.000	0.000
					B	0.000	2.100		100.00	0.000	0.000
					C	0.000	2.100		100.00	0.000	0.583
L20 12.00-10.50	11.25	1	6	4.500	A	0.000	4.500	4.500	100.00	0.000	0.000
					B	0.000	4.500		100.00	0.000	0.000
					C	0.000	4.500		100.00	0.000	1.249
L21 10.50-10.00	10.25	1	6	1.500	A	0.000	1.500	1.500	100.00	0.000	0.000
					B	0.000	1.500		100.00	0.000	0.000
					C	0.000	1.500		100.00	0.000	0.416
L22 10.00-7.50	8.75	1	6	7.500	A	0.000	7.500	7.500	100.00	0.000	0.000
					B	0.000	7.500		100.00	0.000	0.000
					C	0.000	7.500		100.00	0.000	2.081
L23 7.50-7.00	7.25	1	6	1.500	A	0.000	1.500	1.500	100.00	0.000	0.000
					B	0.000	1.500		100.00	0.000	0.000
					C	0.000	1.500		100.00	0.000	0.416
L24 7.00-3.75	5.38	1	6	9.750	A	0.000	9.750	9.750	100.00	0.000	0.000
					B	0.000	9.750		100.00	0.000	0.000
					C	0.000	9.750		100.00	0.000	2.705
L25 3.75-2.75	3.25	1	6	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.832
L26 2.75-2.00	2.38	1	6	2.250	A	0.000	2.250	2.250	100.00	0.000	0.000
					B	0.000	2.250		100.00	0.000	0.000
					C	0.000	2.250		100.00	0.000	0.624
L27 2.00-1.00	1.50	1	6	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.832

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L28 1.00-0.00	0.50	1	6	3.000	A	0.000	3.000	3.000	100.00	0.000	0.000
					B	0.000	3.000		100.00	0.000	0.000
					C	0.000	3.000		100.00	0.000	0.832

Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	118 - 90	Pole	Max Tension	2	0.00	0	0
			Max. Compression	14	-16.08	1	0
			Max. Mx	11	-7.85	223	-1
			Max. My	8	-7.84	1	-222
			Max. Vy	11	-13.60	223	-1
			Max. Vx	8	13.59	1	-222
			Max. Torque	2			1
L2	90 - 76.5	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-25.22	1	0
			Max. Mx	11	-12.92	462	-2
			Max. My	8	-12.88	2	-467
			Max. Vy	11	-19.57	462	-2
			Max. Vx	8	20.05	2	-467

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	2			1
L3	76.5 - 74	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-25.88	1	0
			Max. Mx	11	-13.39	511	-2
			Max. My	8	-13.35	2	-517
			Max. Vy	11	-19.72	511	-2
			Max. Vx	8	20.19	2	-517
			Max. Torque	2			1
L4	74 - 68.875	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-28.70	1	1
			Max. Mx	11	-15.11	617	-2
			Max. My	8	-15.07	2	-625
			Max. Vy	11	-21.02	617	-2
			Max. Vx	8	21.53	2	-625
			Max. Torque	2			1
L5	68.875 - 64.5	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-30.20	1	1
			Max. Mx	11	-16.19	709	-2
			Max. My	8	-16.15	3	-720
			Max. Vy	11	-21.28	709	-2
			Max. Vx	8	21.79	3	-720
			Max. Torque	2			1
L6	64.5 - 63	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-30.78	1	1
			Max. Mx	11	-16.62	741	-2
			Max. My	8	-16.58	3	-752
			Max. Vy	11	-21.37	741	-2
			Max. Vx	8	21.88	3	-752
			Max. Torque	2			1
L7	63 - 60	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-31.91	1	1
			Max. Mx	11	-17.46	806	-2
			Max. My	8	-17.42	3	-818
			Max. Vy	11	-21.53	806	-2
			Max. Vx	8	22.05	3	-818
			Max. Torque	2			1
L8	60 - 49.08	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-37.28	1	1
			Max. Mx	11	-21.35	1049	-2
			Max. My	8	-21.32	3	-1068
			Max. Vy	11	-22.65	1049	-2
			Max. Vx	8	23.16	3	-1068
			Max. Torque	2			1
L9	49.08 - 42	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-40.06	1	1
			Max. Mx	11	-23.38	1211	-2
			Max. My	8	-23.36	3	-1233
			Max. Vy	11	-23.05	1211	-2
			Max. Vx	8	23.56	3	-1233
			Max. Torque	2			1
L10	42 - 34.5	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-43.28	1	1
			Max. Mx	11	-25.82	1385	-2
			Max. My	8	-25.80	3	-1411
			Max. Vy	11	-23.46	1385	-2
			Max. Vx	8	23.97	3	-1411
			Max. Torque	2			1
L11	34.5 - 34	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-43.51	1	1
			Max. Mx	11	-26.00	1397	-2
			Max. My	8	-25.98	3	-1423
			Max. Vy	11	-23.49	1397	-2
			Max. Vx	8	24.00	3	-1423
			Max. Torque	2			1
L12	34 - 30	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-45.20	1	1
			Max. Mx	11	-27.29	1491	-2
			Max. My	8	-27.27	3	-1519

Section	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	11	-23.66	1491	-2
			Max. Vx	8	24.17	3	-1519
			Max. Torque	2			1
L13	30 - 28	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-47.62	1	1
			Max. Mx	11	-29.17	1540	-2
			Max. My	8	-29.16	3	-1569
			Max. Vy	11	-24.12	1540	-2
			Max. Vx	8	24.63	3	-1569
			Max. Torque	2			1
L14	28 - 23.25	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-49.84	1	1
			Max. Mx	11	-30.84	1655	-2
			Max. My	8	-30.83	4	-1686
			Max. Vy	11	-24.39	1655	-2
			Max. Vx	8	24.90	4	-1686
			Max. Torque	2			1
L15	23.25 - 21	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-50.98	1	1
			Max. Mx	11	-31.73	1710	-3
			Max. My	8	-31.72	4	-1742
			Max. Vy	11	-24.53	1710	-3
			Max. Vx	8	25.04	4	-1742
			Max. Torque	2			1
L16	21 - 19	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-51.89	1	1
			Max. Mx	11	-32.41	1759	-3
			Max. My	8	-32.40	4	-1792
			Max. Vy	11	-24.64	1759	-3
			Max. Vx	8	25.15	4	-1792
			Max. Torque	2			1
L17	19 - 18.5	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-52.15	1	1
			Max. Mx	11	-32.62	1771	-3
			Max. My	8	-32.61	4	-1805
			Max. Vy	11	-24.67	1771	-3
			Max. Vx	8	25.17	4	-1805
			Max. Torque	2			1
L18	18.5 - 12.7	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-54.89	1	1
			Max. Mx	11	-34.70	1915	-3
			Max. My	8	-34.69	4	-1952
			Max. Vy	11	-24.98	1915	-3
			Max. Vx	8	25.49	4	-1952
			Max. Torque	2			1
L19	12.7 - 12	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-55.22	1	1
			Max. Mx	11	-34.96	1933	-3
			Max. My	8	-34.95	4	-1970
			Max. Vy	11	-25.01	1933	-3
			Max. Vx	8	25.52	4	-1970
			Max. Torque	2			1
L20	12 - 10.5	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-56.03	1	1
			Max. Mx	11	-35.59	1970	-3
			Max. My	8	-35.58	4	-2008
			Max. Vy	11	-25.10	1970	-3
			Max. Vx	8	25.61	4	-2008
			Max. Torque	2			1
L21	10.5 - 10	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-56.33	1	1
			Max. Mx	11	-35.84	1983	-3
			Max. My	8	-35.84	4	-2021
			Max. Vy	11	-25.12	1983	-3
			Max. Vx	8	25.63	4	-2021
			Max. Torque	2			1
L22	10 - 7.5	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-57.58	1	1
			Max. Mx	11	-36.80	2046	-3

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	8	-36.80	4	-2085
			Max. Vy	11	-25.26	2046	-3
			Max. Vx	8	25.76	4	-2085
			Max. Torque	2			1
L23	7.5 - 7	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-57.84	1	1
			Max. Mx	11	-37.01	2058	-3
			Max. My	8	-37.01	4	-2098
			Max. Vy	11	-25.27	2058	-3
			Max. Vx	8	25.78	4	-2098
			Max. Torque	2			1
L24	7 - 3.75	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-59.60	1	1
			Max. Mx	11	-38.40	2141	-3
			Max. My	8	-38.40	4	-2182
			Max. Vy	11	-25.44	2141	-3
			Max. Vx	8	25.94	4	-2182
			Max. Torque	2			1
L25	3.75 - 2.75	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-60.34	1	1
			Max. Mx	11	-39.03	2166	-3
			Max. My	8	-39.03	4	-2208
			Max. Vy	11	-25.49	2166	-3
			Max. Vx	8	26.00	4	-2208
			Max. Torque	2			1
L26	2.75 - 2	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-60.86	1	1
			Max. Mx	11	-39.47	2185	-3
			Max. My	8	-39.47	4	-2227
			Max. Vy	11	-25.53	2185	-3
			Max. Vx	8	26.03	4	-2227
			Max. Torque	2			1
L27	2 - 1	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-61.50	1	1
			Max. Mx	11	-39.99	2211	-3
			Max. My	8	-39.99	4	-2253
			Max. Vy	11	-25.59	2211	-3
			Max. Vx	8	26.09	4	-2253
			Max. Torque	2			1
L28	1 - 0	Pole	Max Tension	1	0.00	0	0
			Max. Compression	14	-62.45	1	1
			Max. Mx	11	-40.83	2236	-3
			Max. My	8	-40.83	4	-2280
			Max. Vy	11	-25.64	2236	-3
			Max. Vx	8	26.14	4	-2280
			Max. Torque	2			1

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	14	62.45	-0.00	-0.00
	Max. H_x	11	40.83	25.64	-0.01
	Max. H_z	2	40.83	0.03	26.13
	Max. M_x	2	2279	0.03	26.13
	Max. M_z	5	2234	-25.62	0.01
	Max. Torsion	2	1	0.03	26.13
	Min. Vert	8	40.83	0.03	-26.14
	Min. H_x	5	40.83	-25.62	0.01
	Min. H_z	8	40.83	0.03	-26.14
	Min. M_x	8	-2280	0.03	-26.14
	Min. M_z	11	-2236	25.64	-0.01
	Min. Torsion	9	-1	12.85	-22.65

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	40.83	-0.00	0.00	0	1	0
Dead+Wind 0 deg - No Ice	40.83	-0.03	-26.13	-2279	1	-1
Dead+Wind 30 deg - No Ice	40.83	12.84	-22.61	-1973	-1120	-1
Dead+Wind 60 deg - No Ice	40.83	22.20	-13.06	-1140	-1936	0
Dead+Wind 90 deg - No Ice	40.83	25.62	-0.01	-3	-2234	0
Dead+Wind 120 deg - No Ice	40.83	22.20	13.05	1137	-1934	0
Dead+Wind 150 deg - No Ice	40.83	12.81	22.63	1973	-1115	0
Dead+Wind 180 deg - No Ice	40.83	-0.03	26.14	2280	4	1
Dead+Wind 210 deg - No Ice	40.83	-12.85	22.65	1976	1123	1
Dead+Wind 240 deg - No Ice	40.83	-22.26	13.06	1140	1942	0
Dead+Wind 270 deg - No Ice	40.83	-25.64	0.01	3	2236	0
Dead+Wind 300 deg - No Ice	40.83	-22.20	-13.03	-1135	1936	0
Dead+Wind 330 deg - No Ice	40.83	-12.83	-22.60	-1971	1118	0
Dead+Ice+Temp	62.45	0.00	0.00	-1	1	0
Dead+Wind 0 deg+Ice+Temp	62.45	-0.01	-7.65	-678	1	0
Dead+Wind 30 deg+Ice+Temp	62.45	3.77	-6.62	-587	-333	0
Dead+Wind 60 deg+Ice+Temp	62.45	6.52	-3.82	-340	-577	0
Dead+Wind 90 deg+Ice+Temp	62.45	7.53	-0.00	-1	-666	0
Dead+Wind 120 deg+Ice+Temp	62.45	6.52	3.82	337	-576	0
Dead+Wind 150 deg+Ice+Temp	62.45	3.76	6.62	586	-332	0
Dead+Wind 180 deg+Ice+Temp	62.45	-0.01	7.65	677	2	0
Dead+Wind 210 deg+Ice+Temp	62.45	-3.77	6.63	586	335	0
Dead+Wind 240 deg+Ice+Temp	62.45	-6.54	3.82	338	580	0
Dead+Wind 270 deg+Ice+Temp	62.45	-7.53	0.01	0	668	0
Dead+Wind 300 deg+Ice+Temp	62.45	-6.52	-3.81	-338	578	0
Dead+Wind 330 deg+Ice+Temp	62.45	-3.77	-6.62	-586	334	0
Dead+Wind 0 deg - Service	40.83	-0.01	-10.21	-891	1	0
Dead+Wind 30 deg - Service	40.83	5.01	-8.83	-771	-438	0
Dead+Wind 60 deg - Service	40.83	8.67	-5.10	-446	-756	0
Dead+Wind 90 deg - Service	40.83	10.01	-0.01	-1	-873	0
Dead+Wind 120 deg - Service	40.83	8.67	5.10	444	-756	0
Dead+Wind 150 deg - Service	40.83	5.00	8.84	771	-436	0
Dead+Wind 180 deg - Service	40.83	-0.01	10.21	891	2	0
Dead+Wind 210 deg - Service	40.83	-5.02	8.85	772	439	0
Dead+Wind 240 deg - Service	40.83	-8.69	5.10	446	759	0
Dead+Wind 270 deg - Service	40.83	-10.01	0.01	1	875	0
Dead+Wind 300 deg - Service	40.83	-8.67	-5.09	-444	757	0
Dead+Wind 330 deg - Service	40.83	-5.01	-8.83	-770	437	0

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-40.83	0.00	0.00	40.83	0.00	0.000%
2	-0.03	-40.83	-26.14	0.03	40.83	26.13	0.005%
3	12.84	-40.83	-22.61	-12.84	40.83	22.61	0.000%
4	22.20	-40.83	-13.06	-22.20	40.83	13.06	0.000%
5	25.62	-40.83	-0.01	-25.62	40.83	0.01	0.005%
6	22.20	-40.83	13.05	-22.20	40.83	-13.05	0.000%
7	12.81	-40.83	22.63	-12.81	40.83	-22.63	0.000%
8	-0.03	-40.83	26.14	0.03	40.83	-26.14	0.005%
9	-12.85	-40.83	22.65	12.85	40.83	-22.65	0.000%
10	-22.26	-40.83	13.06	22.26	40.83	-13.06	0.000%
11	-25.64	-40.83	0.01	25.64	40.83	-0.01	0.005%
12	-22.20	-40.83	-13.03	22.20	40.83	13.03	0.000%
13	-12.83	-40.83	-22.60	12.83	40.83	22.60	0.000%
14	0.00	-62.45	0.00	-0.00	62.45	-0.00	0.000%
15	-0.01	-62.45	-7.65	0.01	62.45	7.65	0.000%
16	3.77	-62.45	-6.62	-3.77	62.45	6.62	0.000%
17	6.52	-62.45	-3.82	-6.52	62.45	3.82	0.000%
18	7.53	-62.45	-0.00	-7.53	62.45	0.00	0.000%
19	6.52	-62.45	3.82	-6.52	62.45	-3.82	0.000%
20	3.76	-62.45	6.62	-3.76	62.45	-6.62	0.000%
21	-0.01	-62.45	7.65	0.01	62.45	-7.65	0.000%
22	-3.77	-62.45	6.63	3.77	62.45	-6.63	0.000%
23	-6.54	-62.45	3.82	6.54	62.45	-3.82	0.000%
24	-7.53	-62.45	0.00	7.53	62.45	-0.01	0.017%
25	-6.52	-62.45	-3.81	6.52	62.45	3.81	0.000%
26	-3.77	-62.45	-6.62	3.77	62.45	6.62	0.000%
27	-0.01	-40.83	-10.21	0.01	40.83	10.21	0.002%
28	5.01	-40.83	-8.83	-5.01	40.83	8.83	0.001%
29	8.67	-40.83	-5.10	-8.67	40.83	5.10	0.001%
30	10.01	-40.83	-0.01	-10.01	40.83	0.01	0.002%
31	8.67	-40.83	5.10	-8.67	40.83	-5.10	0.001%
32	5.00	-40.83	8.84	-5.00	40.83	-8.84	0.001%
33	-0.01	-40.83	10.21	0.01	40.83	-10.21	0.002%
34	-5.02	-40.83	8.85	5.02	40.83	-8.85	0.001%
35	-8.69	-40.83	5.10	8.69	40.83	-5.10	0.001%
36	-10.02	-40.83	0.01	10.01	40.83	-0.01	0.002%
37	-8.67	-40.83	-5.09	8.67	40.83	5.09	0.001%
38	-5.01	-40.83	-8.83	5.01	40.83	8.83	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	12	0.00006789	0.00013728
3	Yes	15	0.00000001	0.00012414
4	Yes	15	0.00000001	0.00012740
5	Yes	12	0.00006799	0.00009415
6	Yes	15	0.00000001	0.00012605
7	Yes	15	0.00000001	0.00012331
8	Yes	12	0.00006789	0.00014439
9	Yes	15	0.00000001	0.00012950
10	Yes	15	0.00000001	0.00012518
11	Yes	12	0.00006798	0.00009409
12	Yes	15	0.00000001	0.00012400
13	Yes	15	0.00000001	0.00012790
14	Yes	6	0.00000001	0.00001234
15	Yes	14	0.00000001	0.00010891
16	Yes	14	0.00000001	0.00011907
17	Yes	14	0.00000001	0.00011843
18	Yes	14	0.00000001	0.00010683
19	Yes	14	0.00000001	0.00011780
20	Yes	14	0.00000001	0.00011833
21	Yes	14	0.00000001	0.00010853
22	Yes	14	0.00000001	0.00011963
23	Yes	14	0.00000001	0.00011892
24	Yes	14	0.00000001	0.00010765

25	Yes	14	0.00000001	0.00011870
26	Yes	14	0.00000001	0.00011958
27	Yes	12	0.00000001	0.00005125
28	Yes	13	0.00000001	0.00006758
29	Yes	13	0.00000001	0.00007288
30	Yes	12	0.00000001	0.00004636
31	Yes	13	0.00000001	0.00007182
32	Yes	13	0.00000001	0.00006743
33	Yes	12	0.00000001	0.00005134
34	Yes	13	0.00000001	0.00007619
35	Yes	13	0.00000001	0.00006910
36	Yes	12	0.00000001	0.00004655
37	Yes	13	0.00000001	0.00006860
38	Yes	13	0.00000001	0.00007493

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 90	22.30	33	1.646	0.003
L2	90 - 76.5	12.90	33	1.469	0.002
L3	76.5 - 74	9.07	33	1.209	0.001
L4	74 - 68.875	8.45	33	1.162	0.001
L5	68.875 - 64.5	7.25	33	1.081	0.001
L6	64.5 - 63	6.29	33	0.999	0.001
L7	63 - 60	5.98	33	0.973	0.001
L8	60 - 49.08	5.39	33	0.915	0.001
L9	49.08 - 42	3.50	33	0.731	0.000
L10	42 - 34.5	2.50	33	0.611	0.000
L11	34.5 - 34	1.64	33	0.484	0.000
L12	34 - 30	1.59	33	0.476	0.000
L13	30 - 28	1.22	33	0.399	0.000
L14	28 - 23.25	1.06	33	0.370	0.000
L15	23.25 - 21	0.72	33	0.308	0.000
L16	21 - 19	0.59	33	0.281	0.000
L17	19 - 18.5	0.47	33	0.252	0.000
L18	18.5 - 12.7	0.45	33	0.246	0.000
L19	12.7 - 12	0.20	33	0.161	0.000
L20	12 - 10.5	0.18	33	0.151	0.000
L21	10.5 - 10	0.13	33	0.131	0.000
L22	10 - 7.5	0.12	33	0.126	0.000
L23	7.5 - 7	0.06	33	0.089	0.000
L24	7 - 3.75	0.05	33	0.081	0.000
L25	3.75 - 2.75	0.01	33	0.037	0.000
L26	2.75 - 2	0.01	33	0.027	0.000
L27	2 - 1	0.00	33	0.019	0.000
L28	1 - 0	0.00	33	0.008	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.00	PCS 1900MHz 4x45W-65MHz	33	21.60	1.643	0.003	22945
114.00	APXVSPP18-C-A20 w/ Mount Pipe	33	20.91	1.639	0.003	22945
108.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	33	18.83	1.624	0.003	11472
98.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	33	15.46	1.565	0.002	5736
90.00	Bridge Stiffener (84" x 14.5" x 1.25")	33	12.90	1.469	0.002	4027
85.00	BXA-70063-6CF-2 w/ Mount Pipe	33	11.40	1.380	0.001	3193
80.00	KS24019-L112A	33	9.99	1.279	0.001	2624
73.00	VHLP1-23	33	8.21	1.146	0.001	3346
72.00	A-ANT-18G-2-C	33	7.97	1.130	0.001	3445
60.00	Bridge Stiffener (84" x 14.5" x	33	5.39	0.915	0.001	3343

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
30.00	Bridge Stiffener (84" x 14.5" x 1.25")	33	1.22	0.399	0.000	3454

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 90	56.99	8	4.208	0.007
L2	90 - 76.5	32.99	8	3.755	0.004
L3	76.5 - 74	23.20	8	3.090	0.002
L4	74 - 68.875	21.62	8	2.971	0.002
L5	68.875 - 64.5	18.53	8	2.765	0.002
L6	64.5 - 63	16.10	8	2.554	0.001
L7	63 - 60	15.30	8	2.488	0.001
L8	60 - 49.08	13.79	8	2.341	0.001
L9	49.08 - 42	8.95	8	1.869	0.001
L10	42 - 34.5	6.40	8	1.563	0.001
L11	34.5 - 34	4.20	8	1.238	0.001
L12	34 - 30	4.07	8	1.217	0.001
L13	30 - 28	3.13	8	1.021	0.000
L14	28 - 23.25	2.72	8	0.946	0.000
L15	23.25 - 21	1.85	8	0.789	0.000
L16	21 - 19	1.50	8	0.720	0.000
L17	19 - 18.5	1.21	8	0.646	0.000
L18	18.5 - 12.7	1.15	8	0.630	0.000
L19	12.7 - 12	0.51	8	0.413	0.000
L20	12 - 10.5	0.45	8	0.385	0.000
L21	10.5 - 10	0.34	8	0.336	0.000
L22	10 - 7.5	0.31	8	0.322	0.000
L23	7.5 - 7	0.16	8	0.227	0.000
L24	7 - 3.75	0.14	8	0.208	0.000
L25	3.75 - 2.75	0.04	8	0.094	0.000
L26	2.75 - 2	0.02	8	0.069	0.000
L27	2 - 1	0.01	8	0.049	0.000
L28	1 - 0	0.00	8	0.019	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.00	PCS 1900MHz 4x45W-65MHz	8	55.21	4.200	0.007	9109
114.00	APXVSPP18-C-A20 w/ Mount Pipe	8	53.43	4.190	0.007	9109
108.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	8	48.12	4.150	0.007	4554
98.00	AM-X-CD-16-65-00T-RET w/ Mount Pipe	8	39.51	4.001	0.006	2275
90.00	Bridge Stiffener (84" x 14.5" x 1.25")	8	32.99	3.755	0.005	1596
85.00	BXA-70063-6CF-2 w/ Mount Pipe	8	29.15	3.528	0.004	1262
80.00	KS24019-L112A	8	25.55	3.271	0.003	1036
73.00	VHLP1-23	8	21.00	2.929	0.002	1317
72.00	A-ANT-18G-2-C	8	20.39	2.890	0.002	1355
60.00	Bridge Stiffener (84" x 14.5" x 1.25")	8	13.79	2.341	0.001	1311
30.00	Bridge Stiffener (84" x 14.5" x 1.25")	8	3.13	1.021	0.000	1351

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	118 - 90 (1)	P24x0.25	28.00	0.00	0.0	23.70	18.65	-7.84	442.00	0.018
L2	90 - 76.5 (2)	P24x0.375	13.50	0.00	0.0	25.20	27.83	-12.89	701.38	0.018
L3	76.5 - 74 (3)	RPS 24" x 0.58167"	2.50	0.00	0.0	25.01	42.79	-13.35	1070.19	0.012
L4	74 - 68.875 (4)	RPS 24" x 0.82296"	5.13	0.00	0.0	19.13	59.92	-15.07	1146.55	0.013
L5	68.875 - 64.5 (5)	RPS 24" x 0.81081"	4.38	0.00	0.0	18.84	59.07	-16.15	1112.85	0.015
L6	64.5 - 63 (6)	RPS 24" x 0.9855"	1.50	0.00	0.0	18.56	71.25	-16.58	1322.76	0.013
L7	63 - 60 (7)	RPS 24" x 0.94656"	3.00	0.00	0.0	18.65	68.55	-17.42	1278.81	0.014
L8	60 - 49.08 (8)	RPS 30" x 0.62249"	10.92	0.00	0.0	22.76	57.45	-21.32	1307.47	0.016
L9	49.08 - 42 (9)	RPS 30" x 0.77273"	7.08	0.00	0.0	22.41	70.95	-23.36	1590.04	0.015
L10	42 - 34.5 (10)	RPS 30" x 0.89547"	7.50	0.00	0.0	22.51	81.88	-25.80	1842.72	0.014
L11	34.5 - 34 (11)	RPS 30" x 1.00259"	0.50	0.00	0.0	22.51	91.33	-25.98	2055.56	0.013
L12	34 - 30 (12)	RPS 30" x 0.87892"	4.00	0.00	0.0	22.46	80.41	-27.27	1805.83	0.015
L13	30 - 28 (13)	RPS 36" x 0.67823"	2.00	0.00	0.0	21.50	75.26	-29.16	1617.96	0.018
L14	28 - 23.25 (14)	RPS 36" x 0.8198"	4.75	0.00	0.0	21.38	90.61	-30.83	1936.97	0.016
L15	23.25 - 21 (15)	RPS 36" x 0.93415"	2.25	0.00	0.0	20.78	102.91	-31.72	2138.85	0.015
L16	21 - 19 (16)	RPS 36" x 0.79024"	2.00	0.00	0.0	20.41	87.41	-32.40	1784.26	0.018
L17	19 - 18.5 (17)	RPS 36" x 0.9479"	0.50	0.00	0.0	20.58	104.38	-32.61	2148.19	0.015
L18	18.5 - 12.7 (18)	RPS 36" x 0.83577"	5.80	0.00	0.0	21.19	92.33	-34.69	1956.08	0.018
L19	12.7 - 12 (19)	RPS 36" x 0.84294"	0.70	0.00	0.0	20.71	93.10	-34.95	1927.77	0.018
L20	12 - 10.5 (20)	RPS 36" x 1.01524"	1.50	0.00	0.0	19.43	111.58	-35.58	2168.50	0.016
L21	10.5 - 10 (21)	RPS 36" x 1.22827"	0.50	0.00	0.0	20.36	134.18	-35.84	2731.52	0.013
L22	10 - 7.5 (22)	RPS 36" x 0.90812"	2.50	0.00	0.0	21.17	100.11	-36.80	2119.84	0.017
L23	7.5 - 7 (23)	RPS 36" x 0.94913"	0.50	0.00	0.0	20.14	104.51	-37.01	2105.12	0.018
L24	7 - 3.75 (24)	RPS 36" x 1.02583"	3.25	0.00	0.0	20.98	112.71	-38.40	2364.26	0.016
L25	3.75 - 2.75 (25)	RPS 36" x 1.59247"	1.00	0.00	0.0	19.60	172.14	-39.03	3374.23	0.012
L26	2.75 - 2 (26)	RPS 36" x 1.45929"	0.75	0.00	0.0	18.86	158.35	-39.47	2986.20	0.013
L27	2 - 1 (27)	RPS 36" x 1.29525"	1.00	0.00	0.0	18.98	141.22	-39.99	2680.90	0.015
L28	1 - 0 (28)	RPS 36" x 2.19555"	1.00	0.00	0.0	11.09	233.17	-40.83	2586.75	0.016

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	118 - 90 (1)	P24x0.25	223	24.46	23.70	1.032	0	0.00	23.70	0.000
L2	90 - 76.5 (2)	P24x0.375	467	34.62	27.72	1.249	0	0.00	27.72	0.000
L3	76.5 - 74 (3)	RPS 24" x 0.58167"	517	25.37	27.51	0.922	0	0.00	27.51	0.000
L4	74 - 68.875 (4)	RPS 24" x 0.82296"	625	22.34	21.05	1.061	0	0.00	21.05	0.000
L5	68.875 - 64.5 (5)	RPS 24" x 0.81081"	720	26.07	20.72	1.258	0	0.00	20.72	0.000
L6	64.5 - 63 (6)	RPS 24" x 0.9855"	752	22.93	20.42	1.123	0	0.00	20.42	0.000
L7	63 - 60 (7)	RPS 24" x 0.94656"	818	25.83	20.52	1.259	0	0.00	20.52	0.000
L8	60 - 49.08 (8)	RPS 30" x 0.62249"	1068	30.99	25.03	1.238	0	0.00	25.03	0.000
L9	49.08 - 42 (9)	RPS 30" x 0.77273"	1233	29.27	24.65	1.187	0	0.00	24.65	0.000
L10	42 - 34.5 (10)	RPS 30" x 0.89547"	1411	29.27	24.76	1.182	0	0.00	24.76	0.000
L11	34.5 - 34 (11)	RPS 30" x 1.00259"	1423	26.65	24.76	1.077	0	0.00	24.76	0.000
L12	34 - 30 (12)	RPS 30" x 0.87892"	1519	32.06	24.70	1.298	0	0.00	24.70	0.000
L13	30 - 28 (13)	RPS 36" x 0.67823"	1569	28.86	23.65	1.220	0	0.00	23.65	0.000
L14	28 - 23.25 (14)	RPS 36" x 0.8198"	1686	25.97	23.52	1.104	0	0.00	23.52	0.000
L15	23.25 - 21 (15)	RPS 36" x 0.93415"	1742	23.78	22.86	1.040	0	0.00	22.86	0.000
L16	21 - 19 (16)	RPS 36" x 0.79024"	1792	28.57	22.45	1.272	0	0.00	22.45	0.000
L17	19 - 18.5 (17)	RPS 36" x 0.9479"	1805	24.30	22.64	1.074	0	0.00	22.64	0.000
L18	18.5 - 12.7 (18)	RPS 36" x 0.83577"	1952	29.53	23.30	1.267	0	0.00	23.30	0.000
L19	12.7 - 12 (19)	RPS 36" x 0.84294"	1970	29.56	22.78	1.298	0	0.00	22.78	0.000
L20	12 - 10.5 (20)	RPS 36" x 1.01524"	2008	25.39	21.38	1.188	0	0.00	21.38	0.000
L21	10.5 - 10 (21)	RPS 36" x 1.22827"	2021	21.50	22.39	0.960	0	0.00	22.39	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L22	10 - 7.5 (22)	RPS 36" x 0.90812"	2085	29.21	23.29	1.254	0	0.00	23.29	0.000
L23	7.5 - 7 (23)	RPS 36" x 0.94913"	2098	28.21	22.16	1.273	0	0.00	22.16	0.000
L24	7 - 3.75 (24)	RPS 36" x 1.02583"	2182	27.32	23.07	1.184	0	0.00	23.07	0.000
L25	3.75 - 2.75 (25)	RPS 36" x 1.59247"	2208	18.68	21.56	0.866	0	0.00	21.56	0.000
L26	2.75 - 2 (26)	RPS 36" x 1.45929"	2227	20.34	20.74	0.980	0	0.00	20.74	0.000
L27	2 - 1 (27)	RPS 36" x 1.29525"	2253	22.86	20.88	1.095	0	0.00	20.88	0.000
L28	1 - 0 (28)	RPS 36" x 2.19555"	2280	14.72	12.20	1.206	0	0.00	12.20	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	118 - 90 (1)	P24x0.25	13.66	1.46	16.80	0.087	0	0.02	11.90	0.001
L2	90 - 76.5 (2)	P24x0.375	19.98	1.44	16.80	0.085	1	0.02	16.80	0.001
L3	76.5 - 74 (3)	RPS 24" x 0.58167"	20.13	0.94	16.67	0.056	1	0.01	16.67	0.001
L4	74 - 68.875 (4)	RPS 24" x 0.82296"	21.53	0.72	12.76	0.056	1	0.01	12.76	0.001
L5	68.875 - 64.5 (5)	RPS 24" x 0.81081"	21.79	0.74	12.56	0.059	1	0.01	12.56	0.001
L6	64.5 - 63 (6)	RPS 24" x 0.9855"	21.88	0.61	12.38	0.050	1	0.01	12.38	0.001
L7	63 - 60 (7)	RPS 24" x 0.94656"	22.05	0.64	12.44	0.052	1	0.01	12.44	0.001
L8	60 - 49.08 (8)	RPS 30" x 0.62249"	23.16	0.81	15.17	0.053	1	0.01	15.17	0.001
L9	49.08 - 42 (9)	RPS 30" x 0.77273"	23.56	0.66	14.94	0.044	1	0.01	14.94	0.000
L10	42 - 34.5 (10)	RPS 30" x 0.89547"	23.97	0.59	15.00	0.039	1	0.01	15.00	0.000
L11	34.5 - 34 (11)	RPS 30" x 1.00259"	24.00	0.53	15.00	0.035	1	0.01	15.00	0.000
L12	34 - 30 (12)	RPS 30" x 0.87892"	24.17	0.60	14.97	0.040	1	0.01	14.97	0.000
L13	30 - 28 (13)	RPS 36" x 0.67823"	24.63	0.65	14.33	0.046	1	0.01	14.33	0.000
L14	28 - 23.25 (14)	RPS 36" x 0.8198"	24.90	0.55	14.25	0.039	1	0.00	14.25	0.000
L15	23.25 - 21 (15)	RPS 36" x 0.93415"	25.04	0.49	13.86	0.035	1	0.00	13.86	0.000
L16	21 - 19 (16)	RPS 36" x 0.79024"	25.15	0.58	13.61	0.042	1	0.00	13.61	0.000
L17	19 - 18.5 (17)	RPS 36" x 0.9479"	25.17	0.48	13.72	0.035	1	0.00	13.72	0.000
L18	18.5 - 12.7 (18)	RPS 36" x 0.83577"	25.49	0.55	14.12	0.039	1	0.00	14.12	0.000
L19	12.7 - 12 (19)	RPS 36" x 0.84294"	25.52	0.55	13.80	0.040	1	0.00	13.80	0.000
L20	12 - 10.5 (20)	RPS 36" x 1.01524"	25.61	0.46	12.96	0.035	1	0.00	12.96	0.000
L21	10.5 - 10 (21)	RPS 36" x 1.22827"	25.63	0.38	13.57	0.028	1	0.00	13.57	0.000
L22	10 - 7.5 (22)	RPS 36" x 0.90812"	25.76	0.51	14.12	0.036	1	0.00	14.12	0.000
L23	7.5 - 7 (23)	RPS 36" x 0.94913"	25.78	0.49	13.43	0.037	1	0.00	13.43	0.000
L24	7 - 3.75 (24)	RPS 36" x 1.02583"	25.94	0.46	13.98	0.033	1	0.00	13.98	0.000
L25	3.75 - 2.75 (25)	RPS 36" x 1.59247"	26.00	0.30	13.07	0.023	1	0.00	13.07	0.000
L26	2.75 - 2 (26)	RPS 36" x 1.45929"	26.03	0.33	12.57	0.026	1	0.00	12.57	0.000
L27	2 - 1 (27)	RPS 36" x 1.29525"	26.09	0.37	12.66	0.029	1	0.00	12.66	0.000
L28	1 - 0 (28)	RPS 36" x 2.19555"	26.14	0.22	7.40	0.030	1	0.00	7.40	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	118 - 90 (1)	0.018	1.032	0.000	0.087	0.001	1.058 ✔	1.333	H1-3+VT ✔
L2	90 - 76.5 (2)	0.018	1.249	0.000	0.085	0.001	1.275 ✔	1.333	H1-3+VT ✔
L3	76.5 - 74 (3)	0.012	0.922	0.000	0.056	0.001	0.938 ✔	1.333	H1-3+VT ✔
L4	74 - 68.875 (4)	0.013	1.061	0.000	0.056	0.001	1.078 ✔	1.333	H1-3+VT ✔

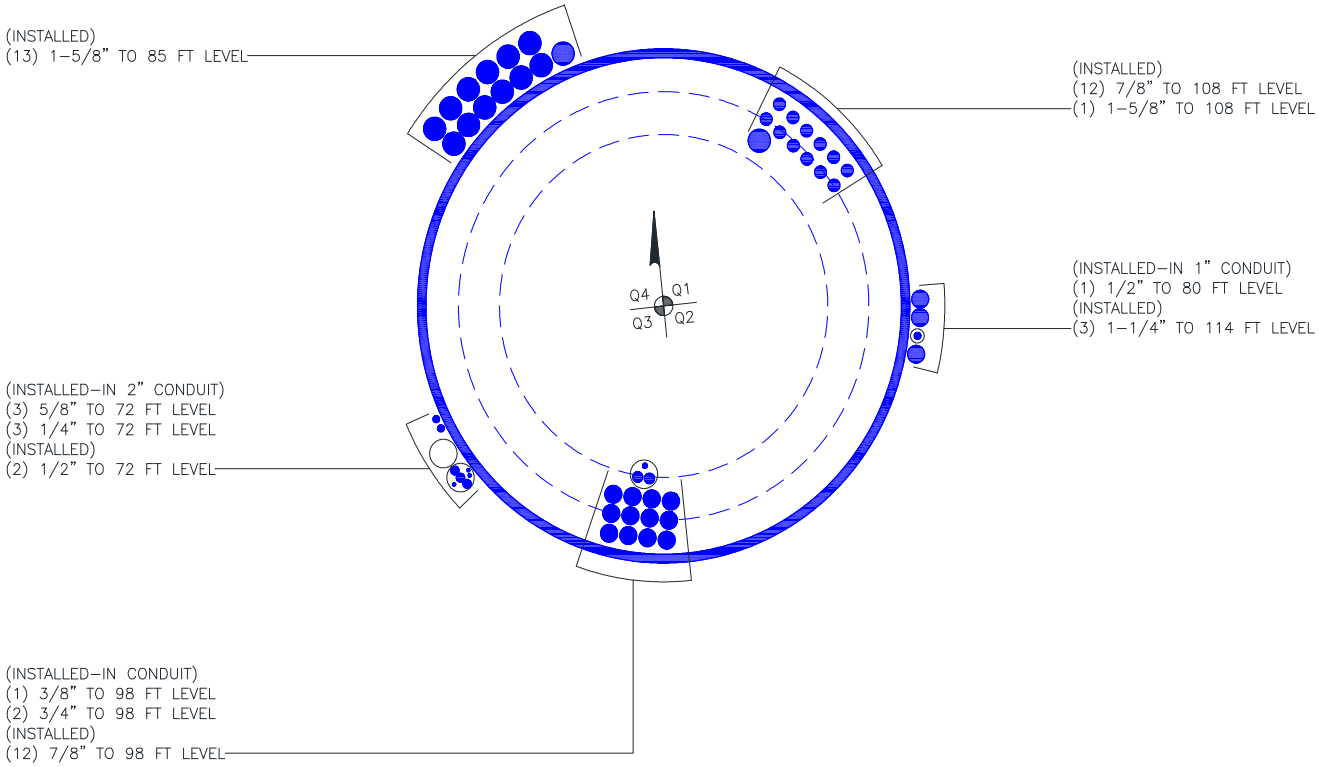
Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L5	68.875 - 64.5 (5)	0.015	1.258	0.000	0.059	0.001	1.276 ✔	1.333	H1-3+VT ✔
L6	64.5 - 63 (6)	0.013	1.123	0.000	0.050	0.001	1.138 ✔	1.333	H1-3+VT ✔
L7	63 - 60 (7)	0.014	1.259	0.000	0.052	0.001	1.275 ✔	1.333	H1-3+VT ✔
L8	60 - 49.08 (8)	0.016	1.238	0.000	0.053	0.001	1.257 ✔	1.333	H1-3+VT ✔
L9	49.08 - 42 (9)	0.015	1.187	0.000	0.044	0.000	1.204 ✔	1.333	H1-3+VT ✔
L10	42 - 34.5 (10)	0.014	1.182	0.000	0.039	0.000	1.198 ✔	1.333	H1-3+VT ✔
L11	34.5 - 34 (11)	0.013	1.077	0.000	0.035	0.000	1.090 ✔	1.333	H1-3+VT ✔
L12	34 - 30 (12)	0.015	1.298	0.000	0.040	0.000	1.314 ✔	1.333	H1-3+VT ✔
L13	30 - 28 (13)	0.018	1.220	0.000	0.046	0.000	1.240 ✔	1.333	H1-3+VT ✔
L14	28 - 23.25 (14)	0.016	1.104	0.000	0.039	0.000	1.122 ✔	1.333	H1-3+VT ✔
L15	23.25 - 21 (15)	0.015	1.040	0.000	0.035	0.000	1.056 ✔	1.333	H1-3+VT ✔
L16	21 - 19 (16)	0.018	1.272	0.000	0.042	0.000	1.292 ✔	1.333	H1-3+VT ✔
L17	19 - 18.5 (17)	0.015	1.074	0.000	0.035	0.000	1.090 ✔	1.333	H1-3+VT ✔
L18	18.5 - 12.7 (18)	0.018	1.267	0.000	0.039	0.000	1.286 ✔	1.333	H1-3+VT ✔
L19	12.7 - 12 (19)	0.018	1.298	0.000	0.040	0.000	1.318 ✔	1.333	H1-3+VT ✔
L20	12 - 10.5 (20)	0.016	1.188	0.000	0.035	0.000	1.205 ✔	1.333	H1-3+VT ✔
L21	10.5 - 10 (21)	0.013	0.960	0.000	0.028	0.000	0.974 ✔	1.333	H1-3+VT ✔
L22	10 - 7.5 (22)	0.017	1.254	0.000	0.036	0.000	1.273 ✔	1.333	H1-3+VT ✔
L23	7.5 - 7 (23)	0.018	1.273	0.000	0.037	0.000	1.292 ✔	1.333	H1-3+VT ✔
L24	7 - 3.75 (24)	0.016	1.184	0.000	0.033	0.000	1.202 ✔	1.333	H1-3+VT ✔
L25	3.75 - 2.75 (25)	0.012	0.866	0.000	0.023	0.000	0.879 ✔	1.333	H1-3+VT ✔
L26	2.75 - 2 (26)	0.013	0.980	0.000	0.026	0.000	0.994 ✔	1.333	H1-3+VT ✔
L27	2 - 1 (27)	0.015	1.095	0.000	0.029	0.000	1.111 ✔	1.333	H1-3+VT ✔
L28	1 - 0 (28)	0.016	1.206	0.000	0.030	0.000	1.223 ✔	1.333	H1-3+VT ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	118 - 90	Pole	P24x0.25	1	-7.84	589.19	79.4	Pass
L2	90 - 76.5	Pole	P24x0.375	2	-12.89	934.94	95.6	Pass
L3	76.5 - 74	Pole	RPS 24" x 0.58167"	3	-13.35	1426.56	70.4	Pass
L4	74 - 68.875	Pole	RPS 24" x 0.82296"	4	-15.07	1528.35	80.9	Pass
L5	68.875 - 64.5	Pole	RPS 24" x 0.81081"	5	-16.15	1483.43	95.7	Pass
L6	64.5 - 63	Pole	RPS 24" x 0.9855"	6	-16.58	1763.24	85.4	Pass
L7	63 - 60	Pole	RPS 24" x 0.94656"	7	-17.42	1704.65	95.7	Pass
L8	60 - 49.08	Pole	RPS 30" x 0.62249"	8	-21.32	1742.86	94.3	Pass
L9	49.08 - 42	Pole	RPS 30" x 0.77273"	9	-23.36	2119.52	90.3	Pass
L10	42 - 34.5	Pole	RPS 30" x 0.89547"	10	-25.80	2456.35	89.9	Pass
L11	34.5 - 34	Pole	RPS 30" x 1.00259"	11	-25.98	2740.06	81.8	Pass
L12	34 - 30	Pole	RPS 30" x 0.87892"	12	-27.27	2407.17	98.6	Pass
L13	30 - 28	Pole	RPS 36" x 0.67823"	13	-29.16	2156.74	93.1	Pass
L14	28 - 23.25	Pole	RPS 36" x 0.8198"	14	-30.83	2581.98	84.2	Pass
L15	23.25 - 21	Pole	RPS 36" x 0.93415"	15	-31.72	2851.09	79.2	Pass
L16	21 - 19	Pole	RPS 36" x 0.79024"	16	-32.40	2378.42	96.9	Pass
L17	19 - 18.5	Pole	RPS 36" x 0.9479"	17	-32.61	2863.54	81.8	Pass
L18	18.5 - 12.7	Pole	RPS 36" x 0.83577"	18	-34.69	2607.45	96.5	Pass
L19	12.7 - 12	Pole	RPS 36" x 0.84294"	19	-34.95	2569.72	98.8	Pass
L20	12 - 10.5	Pole	RPS 36" x 1.01524"	20	-35.58	2890.61	90.4	Pass
L21	10.5 - 10	Pole	RPS 36" x 1.22827"	21	-35.84	3641.12	73.1	Pass
L22	10 - 7.5	Pole	RPS 36" x 0.90812"	22	-36.80	2825.75	95.5	Pass
L23	7.5 - 7	Pole	RPS 36" x 0.94913"	23	-37.01	2806.12	96.9	Pass
L24	7 - 3.75	Pole	RPS 36" x 1.02583"	24	-38.40	3151.56	90.1	Pass
L25	3.75 - 2.75	Pole	RPS 36" x 1.59247"	25	-39.03	4497.85	65.9	Pass
L26	2.75 - 2	Pole	RPS 36" x 1.45929"	26	-39.47	3980.60	74.6	Pass
L27	2 - 1	Pole	RPS 36" x 1.29525"	27	-39.99	3573.64	83.3	Pass
L28	1 - 0	Pole	RPS 36" x 2.19555"	28	-40.83	3448.14	91.8	Pass
							Summary	
						Pole (L19)	98.8	Pass
						RATING =	**98.8**	**Pass**

APPENDIX B

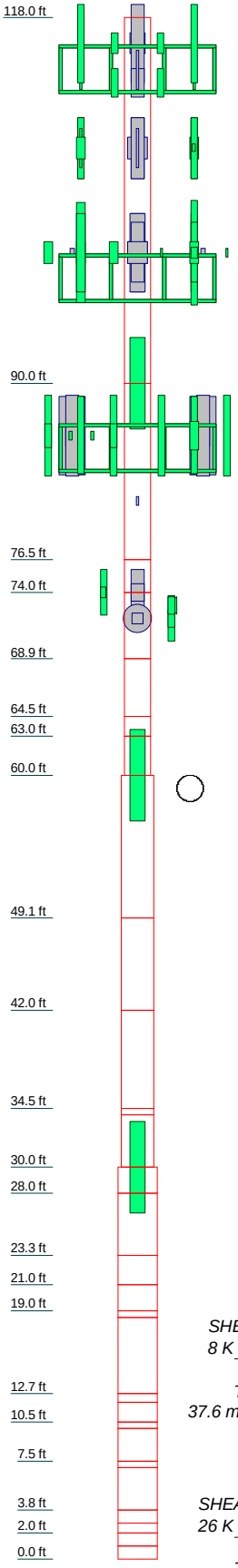
BASE LEVEL DRAWING

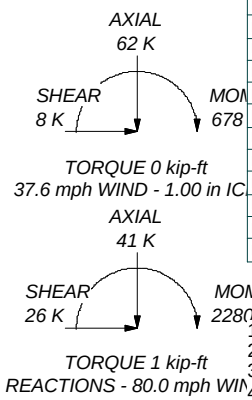


APPENDIX C

ADDITIONAL CALCULATIONS

Section	Size	Length (ft)	Grade	Weight (K)
1	P24x0.25	28.00	A572-42	1.8
2	P24x0.375	13.50		1.3
3	0.5816"	2.50		0.4
4		5.13		1.0
5		4.38		0.9
6		1.50		0.4
7		3.00		0.7
8	RPS 30" x 0.6224"	10.92	Reinf 37.93 ksi	2.1
9	RPS 30" x 0.7727"	7.08	Reinf 37.35 ksi	1.7
10	RPS 30" x 0.8958"	7.50	Reinf 37.51 ksi	2.1
11		0.50		0.2
12		4.00		1.1
13		2.00		0.5
14		4.75		1.5
15		2.25		0.8
16		2.00		0.6
17		0.50		0.2
18		5.80		1.8
19		2.00		0.6
20		0.50		0.2
21		2.50		0.9
22		2.50		0.9
23		2.50		0.9
24		3.250		1.2
25		1.500		0.6
26		1.000		0.4
27		1.000		0.4
28		1.000		0.4
		24.5		8.9





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
PCS 1900MHz 4x45W-65MHz	116	(2) LGP13519	98
PCS 1900MHz 4x45W-65MHz	116	(2) LGP13519	98
PCS 1900MHz 4x45W-65MHz	116	DTMABP7819VG12A	98
800MHz 2X50W RRH W/FILTER	116	DTMABP7819VG12A	98
800MHz 2X50W RRH W/FILTER	116	DTMABP7819VG12A	98
800MHz 2X50W RRH W/FILTER	116	DC6-48-60-18-8F	98
Pipe Mount [PM 601-3]	116	Platform Mount [LP 712-1]	98
APXVSPP18-C-A20 w/ Mount Pipe	114	HPA-65R-BUU-H6 w/ Mount Pipe	98
APXVSPP18-C-A20 w/ Mount Pipe	114	HPA-65R-BUU-H8 w/ Mount Pipe	98
APXV9ERR18-C-A20 w/ Mount Pipe	114	HPA-65R-BUU-H6 w/ Mount Pipe	98
(3) 2.375" OD x 3' Mount Pipe	114	RRUS11 A2	98
(3) 2.375" OD x 3' Mount Pipe	114	(2) RRUS11 A2	98
(3) 2.375" OD x 3' Mount Pipe	114	Bridge Stiffener (84" x 14.5" x 1.25")	90
Platform Mount [LP 501-1]	114	Bridge Stiffener (84" x 14.5" x 1.25")	90
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	108	Bridge Stiffener (84" x 14.5" x 1.25")	90
		(4) CBC721-DF	85
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	108	(2) HBXX-6517DS-A2M w/ Mount Pipe	85
		(2) HBXX-6517DS-A2M w/ Mount Pipe	85
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	108	(2) HBXX-6517DS-A2M w/ Mount Pipe	85
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	108	(2) BXA-70040-6CF-EDIN-2 w/ Mount Pipe	85
		BXA-70063-6CF-2 w/ Mount Pipe	85
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	108	BXA-70063-6CF-2 w/ Mount Pipe	85
		(2) RRH2X60-AWS	85
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	108	RRH2X60-AWS	85
KRY 112 144/1	108	RRH2X60-PCS	85
KRY 112 144/1	108	(2) RRH2X60-PCS	85
KRY 112 144/1	108	DB-B1-6C-12AB-0Z	85
2.375" OD x 3' Mount Pipe	108	Platform Mount [LP 303-1]	85
2.375" OD x 3' Mount Pipe	108	BXA-70063-6CF-2 w/ Mount Pipe	85
2.375" OD x 3' Mount Pipe	108	BXA-70063-6CF-2 w/ Mount Pipe	85
Sector Mount [SM 802-3]	108	(2) CBC721-DF	85
LNX-6515DS-VTM w/ Mount Pipe	108	KS24019-L112A	80
LNX-6515DS-VTM w/ Mount Pipe	108	Side Arm Mount [SO 701-1]	80
LNX-6515DS-VTM w/ Mount Pipe	108	WIMAX DAP HEAD	72
RRUS 11 B12	108	WIMAX DAP HEAD	72
RRUS 11 B12	108	WIMAX DAP HEAD	72
RRUS 11 B12	108	HORIZON COMPACT	72
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	HORIZON COMPACT	72
		Side Arm Mount [SO 101-3]	72
AM-X-CD-16-65-00T-RET w/ Mount Pipe	98	LLPX310R w/ Mount Pipe	72
		LLPX310R w/ Mount Pipe	72
SBNH-1D6565C w/ Mount Pipe	98	LLPX310R w/ Mount Pipe	72
7770.00 w/ Mount Pipe	98	A-ANT-18G-2-C	72
7770.00 w/ Mount Pipe	98	VHLP1-23	72
7770.00 w/ Mount Pipe	98	Bridge Stiffener (84" x 14.5" x 1.25")	60
RRUS 11 B12	98	Bridge Stiffener (84" x 14.5" x 1.25")	60
RRUS 11 B12	98	Bridge Stiffener (84" x 14.5" x 1.25")	60
RRUS 11 B12	98	Bridge Stiffener (84" x 14.5" x 1.25")	30
(2) LGP13519	98	Bridge Stiffener (84" x 14.5" x 1.25")	30
		Bridge Stiffener (84" x 14.5" x 1.25")	30

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-42	42 ksi	60 ksi	Reinf 34.02 ksi	34 ksi	43 ksi
Reinf 41.68 ksi	42 ksi	53 ksi	Reinf 34.30 ksi	34 ksi	43 ksi
Reinf 31.89 ksi	32 ksi	40 ksi	Reinf 35.31 ksi	35 ksi	45 ksi
Reinf 31.40 ksi	31 ksi	40 ksi	Reinf 34.51 ksi	35 ksi	44 ksi
Reinf 30.94 ksi	31 ksi	39 ksi	Reinf 32.39 ksi	32 ksi	41 ksi
Reinf 31.09 ksi	31 ksi	39 ksi	Reinf 33.93 ksi	34 ksi	43 ksi
Reinf 37.93 ksi	38 ksi	48 ksi	Reinf 35.29 ksi	35 ksi	45 ksi
Reinf 37.35 ksi	37 ksi	47 ksi	Reinf 33.57 ksi	34 ksi	42 ksi
Reinf 37.51 ksi	38 ksi	47 ksi	Reinf 34.96 ksi	35 ksi	44 ksi
Reinf 37.43 ksi	37 ksi	47 ksi	Reinf 32.67 ksi	33 ksi	41 ksi
Reinf 35.83 ksi	36 ksi	45 ksi	Reinf 31.43 ksi	31 ksi	40 ksi
Reinf 35.63 ksi	36 ksi	45 ksi	Reinf 31.64 ksi	32 ksi	40 ksi
Reinf 34.64 ksi	35 ksi	44 ksi	Reinf 18.49 ksi	18 ksi	24 ksi

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80.0 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 37.6 mph basic wind with 1.00 in ice.
4. Deflections are based upon a 50.0 mph wind.
5. TOWER RATING: 98.8%

Paul J. Ford and Company
250 East Broad St., Suite 600
Columbus, Ohio
Phone: 614.221.6679
FAX:

Job:	***118 ft Monopole / New Gravel Pit***		
Project:	***PJF 37516-2325 / BU 876331***		
Client: CCI	Drawn by: jjohnson		App'd:
Code: TIA/EIA-222-F	Date: 07/07/16		Scale: NTS
Path:			Dwg No. E-1

PAUL J. FORD & COMPANY
250 E Broad St, Ste 600 • Columbus, OH 43215
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v2.0, Effective Date: 1-12-12

Date: 7/7/2016
Project No: 37516-2325.001.7805
Site Name: New Britain Gravel Pit
Site Number/BUN: 876331
Description:
Owner:
Engineer:

Welded Bridge Stiffener Analysis per TIA/EIA-222-F & AISC 9th Ed. (Green)

General Parameters and Loading:

Flange Elevation:	90.00	ft
TIA Reference Standard:	TIA/EIA-222-F	
AISC Manual:	9th Ed. (Green)	
Method:	ASD	
ASD Stress Increase, ASIF:	1.333333333	
Moment, Mf:	223.0	k-ft
Axial, Pf:	7.8	kips
Shear, Vf:	13.7	kips

Pole Parameters:

	Upper Pole	Lower Pole	
Pole Diameter, Dp:	24.00	24.00	in
Pole Thickness, tp:	0.2500	0.3750	in
Pole Fy:	42	42	ksi
Pole Fu:	60	60	ksi
Flange Diameter, Df:	32.00	32.00	in

Bridge Stiffener Parameters:

	Stiffener Type 1	Stiffener Type 2	
Qty. Stiffeners:	3	0	
Upper Weld Length, L1:	39.00	0.00	in
Lower Weld Length, L2:	39.00	0.00	in
Weld Size, w:	0.3750	0.0000	in
Electrode:	E70	E70	
Effective Stiffener Width, Ws:	4.50	0.00	in
Stiffener Thickness, ts:	1.25	0.00	in
Notch, n:	0.50	0.00	in
Stiffener Fy:	65	0	ksi
Stiffener Fu:	80	0	ksi
Unbraced Length, L:	4.63	0.00	in
K:	0.80	0.00	
Stiffener Spacing:	Symmetric	Symmetric	
Start Angle, for Symmetric:	0	0	degrees
Stiffener Circle:	37.50	32.00	in = Df + 2 n + Ws
Upper Eccentricity, e1:	6.75	4.00	in = (Df - Dp) / 2 + n + Ws / 2
Lower Eccentricity, e2:	6.75	4.00	in = (Df - Dp) / 2 + n + Ws / 2

Flange Bolt Parameters:

Number of Bolt Circles: (1) Bolt Circle

	Bolt Circle 1	Bolt Circle 2	
Qty. Bolts:	0	0	
Bolt Diameter:	1.00	0.00	in
Bolt Circle:	29.00	0.00	in
Bolt Spacing:	Symmetric	Symmetric	
Start Angle, for Symmetric:	0	0	degrees
Bolt Area, Ag:	0.0000	0.0000	in
Max. Tension:	0.00	0.00	kips
Max. Net Tension:	0.00	0.00	kips
Max. Net Compression:	0.00	0.00	kips
Moment to Bolt Circle:	0.00	0.00	k-ft
Axial to Bolt Circle:	0.00	0.00	kips
Shear to Bolt Circle:	0.00	0.00	kips
Equivalent Bolt Circle:	0.00	0.00	in

Weld Analysis per AISC Table XIX & pg. 4-72:

Upper Pole	Stiffener Type 1	Stiffener Type 2	
D:	6	0	Num. of Sixteenths in Weld
a:	0.1731	0.0000	= e1 / L1
k:	0	0	
C:	1.4546	0.0000	Tabulated Cofficient
C1:	1.0000	1.0000	Coefficient for Electrode
ASIF:	1.3333	1.3333	
Stiffener Axial, Ps:	98.1	0.0	kips
Allowable Axial, Pa:	453.8	0.0	kips = ASIF C C1 D L
Ratio:	21.6%	0.0%	

Lower Pole	Stiffener Type 1	Stiffener Type 2	
D:	6	0	Num. of Sixteenths in Weld
a:	0.1731	0.0000	= e2 / L2
k:	0	0	
C:	1.4546	0.0000	Tabulated Cofficient
C1:	1.0000	1.0000	Coefficient for Electrode
ASIF:	1.3333	1.3333	
Stiffener Axial, Ps:	98.1	0.0	kips
Allowable Axial, Pa:	453.8	0.0	kips = ASIF C C1 D L
Ratio:	21.6%	0.0%	

Pole Analysis per AISC Sect. F4:

Upper Pole	Stiffener Type 1	Stiffener Type 2	
Stiffener Axial, P:	98.1	0.0	kips
Effective Throat, te:	0.2651	0.0000	in = 0.707 w
Shear Stress, fv:	1.3	0.0	kips/in= P / (2 L1)
Section Modulus, S:	507.0	0.0	in^2 = $L1^2$ / 3
Bending Stress, fb:	1.3	0.0	kips/in = P e1 / S
Combined Stress, f:	1.8	0.0	kips/in = $(fv^2 + fb^2)^{1/2}$
ASIF:	1.3333	0.0000	
Allowable Stress, F:	5.6	0.0	kips/in = ASIF (0.4 Fy) tp
Ratio:	32.4%	0.0%	

Lower Pole	Stiffener Type 1	Stiffener Type 2	
Stiffener Axial, P:	98.1	0.0	kips
Effective Throat, te:	0.2651	0.0000	in = 0.707 w
Shear Stress, fv:	1.3	0.0	ksi = P / (2 L2)
Section Modulus, S:	507.0	0.0	in^2 = $L2^2$ / 3
Bending Stress, fb:	1.3	0.0	ksi = P e2 / S
Combined Stress, f:	1.8	0.0	kips/in = $(fv^2 + fb^2)^{1/2}$
ASIF:	1.3333	0.0000	
Allowable Stress, F:	8.4	0.0	kips/in = ASIF (0.4 Fy) tp
Ratio:	21.6%	0.0%	

Stiffener 1 Analysis per AISC Sect. D1, E2, F1.2 & App. B

Stiffener Type 1		
Gross Area, Ag:	5.6250	in^2
Net Area, An:	5.6250	in^2
Stiffener Axial, P:	98.1	kips
Stiffener Stress, f:	17.4	ksi = P / Ag
b:	9.0000	in = (Df - Dp) / 2 + n + Ws, Upper Pole
b / ts:	7.2000	in
Q, Where Qa = 1.0:	1.0000	
r:	0.3608	in^3
K L / r:	10.2537	
ASIF:	1.3333	
Allowable Axial, Fa:	50.45	ksi = ASIF [1 - (K L / r) / 2 Cc^2] Fy / [5/3 + 3(K L / r) / 8 Cc - (K L / r)^3 / 8 Cc^3]
ASIF:	1.3333	
Allowable Bending, Fb:	52.00	ksi = ASIF 0.6 Fy
ASIF:	1.3333	
Allowable Net Tension, Ft:	53.33	ksi = ASIF 0.5 Fu
Ratio:	34.6%	

Stiffener 2 Analysis per AISC Sect. D1, E2, F1.2 & App. B

Stiffener Type 2		
Gross Area, Ag:	0.0000	in^2
Net Area, An:	0.0000	in^2
Stiffener Axial, P:	0.0	kips
Stiffener Stress, f:	0.0	ksi = P / Ag
b:	0.0000	in = (Df - Dp) / 2 + n + Ws, Upper Pole
b / ts:	0.0000	in
Q, Where Qa = 1.0:	0.0000	
r:	0.0000	in^3
K L / r:	0.0000	
ASIF:	0.0000	
Allowable Axial, Fa:	0.00	ksi = ASIF [1 - (K L / r) / 2 Cc^2] Fy / [5/3 + 3(K L / r) / 8 Cc - (K L / r)^3 / 8 Cc^3]
ASIF:	0.0000	
Allowable Bending, Fb:	0.00	ksi = ASIF 0.6 Fy
ASIF:	0.0000	
Allowable Net Tension, Ft:	0.00	ksi = ASIF 0.5 Fu
Ratio:	0.0%	

Analysis Summary:

Bridge Stiffener Type 1	Bridge Stiffener Type 2
Weld Analysis Ratio: 21.6% PASS	Weld Analysis Ratio: 0.0% PASS
Pole Analysis Ratio: 32.4% PASS	Pole Analysis Ratio: 0.0% PASS
Stiffener Analysis Ratio: 34.6% PASS	Stiffener Analysis Ratio: 0.0% PASS

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v2.0, Effective Date: 1-12-12

Date: 7/7/2016
Project No: 37516-2325.001.7805
Site Name: New Britain Gravel Pit
Site Number/BUN: 876331
Description:
Owner:
Engineer:

Welded Bridge Stiffener Analysis per TIA/EIA-222-F & AISC 9th Ed. (Green)

General Parameters and Loading:

Flange Elevation:	60.00	ft
TIA Reference Standard:	TIA/EIA-222-F	
AISC Manual:	9th Ed. (Green)	
Method:	ASD	
ASD Stress Increase, ASIF:	1.333333333	
Moment, Mf:	818.0	k-ft
Axial, Pf:	17.4	kips
Shear, Vf:	22.1	kips

Pole Parameters:

	Upper Pole	Lower Pole	
Pole Diameter, Dp:	24.00	30.00	in
Pole Thickness, tp:	0.3750	0.3750	in
Pole Fy:	42	42	ksi
Pole Fu:	60	60	ksi
Flange Diameter, Df:	41.00	41.00	in

Bridge Stiffener Parameters:

	Stiffener Type 1	Stiffener Type 2	
Qty. Stiffeners:	3	3	
Upper Weld Length, L1:	39.00	23.25	in
Lower Weld Length, L2:	39.00	20.00	in
Weld Size, w:	0.3750	0.3750	in
Electrode:	E70	E70	
Effective Stiffener Width, Ws:	4.50	3.00	in
Stiffener Thickness, ts:	1.25	1.00	in
Notch, n:	0.50	0.50	in
Stiffener Fy:	65	65	ksi
Stiffener Fu:	80	80	ksi
Unbraced Length, L:	5.63	5.63	in
K:	0.80	0.80	
Stiffener Spacing:	Symmetric	Symmetric	
Start Angle, for Symmetric:	0	0	degrees
Stiffener Circle:	46.50	45.00	in = Df + 2 n + Ws
Upper Eccentricity, e1:	11.25	10.50	in = (Df - Dp) / 2 + n + Ws / 2
Lower Eccentricity, e2:	8.25	7.50	in = (Df - Dp) / 2 + n + Ws / 2

Flange Bolt Parameters:

Number of Bolt Circles: (1) Bolt Circle

	Bolt Circle 1	Bolt Circle 2	
Qty. Bolts:	0	0	
Bolt Diameter:	1.50	0.00	in
Bolt Circle:	35.00	0.00	in
Bolt Spacing:	Symmetric	Symmetric	
Start Angle, for Symmetric:	0	0	degrees
Bolt Area, Ag:	0.0000	0.0000	in
Max. Tension:	0.00	0.00	kips
Max. Net Tension:	0.00	0.00	kips
Max. Net Compression:	0.00	0.00	kips
Moment to Bolt Circle:	0.00	0.00	k-ft
Axial to Bolt Circle:	0.00	0.00	kips
Shear to Bolt Circle:	0.00	0.00	kips
Equivalent Bolt Circle:	0.00	0.00	in

Weld Analysis per AISC Table XIX & pg. 4-72:

Upper Pole	Stiffener Type 1	Stiffener Type 2	
D:	6	6	Num. of Sixteenths in Weld
a:	0.2885	0.4516	= e1 / L1
k:	0	0	
C:	1.1677	0.8605	Tabulated Cofficient
C1:	1.0000	1.0000	Coefficient for Electrode
ASIF:	1.3333	1.3333	
Stiffener Axial, Ps:	191.7	99.0	kips
Allowable Axial, Pa:	364.3	160.1	kips = ASIF C C1 D L
Ratio:	52.6%	61.9%	
Lower Pole			
D:	6	6	Num. of Sixteenths in Weld
a:	0.2115	0.3750	= e2 / L2
k:	0	0	
C:	1.3600	0.9893	Tabulated Cofficient
C1:	1.0000	1.0000	Coefficient for Electrode
ASIF:	1.3333	1.3333	
Stiffener Axial, Ps:	191.7	99.0	kips
Allowable Axial, Pa:	424.3	158.3	kips = ASIF C C1 D L
Ratio:	45.2%	62.5%	

Pole Analysis per AISC Sect. F4:

Upper Pole	Stiffener Type 1	Stiffener Type 2	
Stiffener Axial, P:	191.7	99.0	kips
Effective Throat, te:	0.2651	0.2651	in = 0.707 w
Shear Stress, fv:	2.5	2.1	kips/in= P / (2 L1)
Section Modulus, S:	507.0	180.2	in^2 = $L1^2$ / 3
Bending Stress, fb:	4.3	5.8	kips/in = P e1 / S
Combined Stress, f:	4.9	6.1	kips/in = $(fv^2 + fb^2)^{1/2}$
ASIF:	1.3333	1.3333	
Allowable Stress, F:	8.4	8.4	kips/in = ASIF (0.4 Fy) tp
Ratio:	58.5%	73.2%	
Lower Pole			
Stiffener Axial, P:	191.7	99.0	kips
Effective Throat, te:	0.2651	0.2651	in = 0.707 w
Shear Stress, fv:	2.5	2.5	ksi = P / (2 L2)
Section Modulus, S:	507.0	133.3	in^2 = $L2^2$ / 3
Bending Stress, fb:	3.1	5.6	ksi = P e2 / S
Combined Stress, f:	4.0	6.1	kips/in = $(fv^2 + fb^2)^{1/2}$
ASIF:	1.3333	1.3333	
Allowable Stress, F:	8.4	8.4	kips/in = ASIF (0.4 Fy) tp
Ratio:	47.3%	72.5%	

Stiffener 1 Analysis per AISC Sect. D1, E2, F1.2 & App. B

	Stiffener Type 1	
Gross Area, Ag:	5.6250	in^2
Net Area, An:	5.6250	in^2
Stiffener Axial, P:	191.7	kips
Stiffener Stress, f:	34.1	ksi = P / Ag
b:	13.5000	in = (Df - Dp) / 2 + n + Ws, Upper Pole
b / ts:	10.8000	in
Q, Where Qa = 1.0:	0.9508	= Qa 1.340 - 0.00447 (b / ts) $Fy^{1/2}$
r:	0.3608	in^3
K L / r:	12.4708	
ASIF:	1.3333	
Allowable Axial, Fa:	47.64	ksi = ASIF Q [1 - (K L / r) / 2 Cc'^2] Fy / [5/3 + 3(K L / r) / 8 Cc' - (K L / r)^3 / 8 Cc'^3]
ASIF:	1.3333	
Allowable Bending, Fb:	49.44	ksi = ASIF 0.6 Fy Q
ASIF:	1.3333	
Allowable Net Tension, Ft:	53.33	ksi = ASIF 0.5 Fu
Ratio:	71.5%	

Stiffener 2 Analysis per AISC Sect. D1, E2, F1.2 & App. B

	Stiffener Type 2	
Gross Area, Ag:	3.0000	in^2
Net Area, An:	3.0000	in^2
Stiffener Axial, P:	99.0	kips
Stiffener Stress, f:	33.0	ksi = P / Ag
b:	12.0000	in = (Df - Dp) / 2 + n + Ws, Upper Pole
b / ts:	12.0000	in
Q, Where Qa = 1.0:	0.9075	= Qa 1.340 - 0.00447 (b / ts) $Fy^{1/2}$
r:	0.2887	in^3
K L / r:	15.5885	
ASIF:	1.3333	
Allowable Axial, Fa:	45.01	ksi = ASIF Q [1 - (K L / r) / 2 Cc'^2] Fy / [5/3 + 3(K L / r) / 8 Cc' - (K L / r)^3 / 8 Cc'^3]
ASIF:	1.3333	
Allowable Bending, Fb:	47.19	ksi = ASIF 0.6 Fy Q
ASIF:	1.3333	
Allowable Net Tension, Ft:	53.33	ksi = ASIF 0.5 Fu
Ratio:	73.3%	

Analysis Summary:

Bridge Stiffener Type 1	Bridge Stiffener Type 2
Weld Analysis Ratio: 52.6% PASS	Weld Analysis Ratio: 62.5% PASS
Pole Analysis Ratio: 58.5% PASS	Pole Analysis Ratio: 73.2% PASS
Stiffener Analysis Ratio: 71.5% PASS	Stiffener Analysis Ratio: 73.3% PASS

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v2.0, Effective Date: 1-12-12

Date: 7/7/2016
Project No: 37516-2325.001.7805
Site Name: New Britain Gravel Pit
Site Number/BUN: 876331
Description:
Owner:
Engineer:

Welded Bridge Stiffener Analysis per TIA/EIA-222-F & AISC 9th Ed. (Green)

General Parameters and Loading:

Flange Elevation:	30.00	ft
TIA Reference Standard:	TIA/EIA-222-F	
AISC Manual:	9th Ed. (Green)	
Method:	ASD	
ASD Stress Increase, ASIF:	1.333333333	
Moment, Mf:	1519.0	k-ft
Axial, Pf:	27.3	kips
Shear, Vf:	24.2	kips

Pole Parameters:

	Upper Pole	Lower Pole	
Pole Diameter, Dp:	30.00	36.00	in
Pole Thickness, tp:	0.3750	0.3750	in
Pole Fy:	42	42	ksi
Pole Fu:	60	60	ksi
Flange Diameter, Df:	47.00	47.00	in

Bridge Stiffener Parameters:

	Stiffener Type 1	Stiffener Type 2	
Qty. Stiffeners:	3	3	
Upper Weld Length, L1:	39.00	32.25	in
Lower Weld Length, L2:	39.00	28.25	in
Weld Size, w:	0.3750	0.3750	in
Electrode:	E70	E70	
Effective Stiffener Width, Ws:	7.20	5.50	in
Stiffener Thickness, ts:	1.47	1.00	in
Notch, n:	0.50	0.50	in
Stiffener Fy:	65	65	ksi
Stiffener Fu:	80	80	ksi
Unbraced Length, L:	5.63	5.63	in
K:	0.80	0.80	
Stiffener Spacing:	Symmetric	Symmetric	
Start Angle, for Symmetric:	0	0	degrees
Stiffener Circle:	55.20	53.50	in = Df + 2 n + Ws
Upper Eccentricity, e1:	12.60	11.75	in = (Df - Dp) / 2 + n + Ws / 2
Lower Eccentricity, e2:	9.60	8.75	in = (Df - Dp) / 2 + n + Ws / 2

Flange Bolt Parameters:

Number of Bolt Circles: (1) Bolt Circle

	Bolt Circle 1	Bolt Circle 2	
Qty. Bolts:	0	0	
Bolt Diameter:	1.50	0.00	in
Bolt Circle:	41.00	0.00	in
Bolt Spacing:	Symmetric	Symmetric	
Start Angle, for Symmetric:	0	0	degrees
Bolt Area, Ag:	0.0000	0.0000	in
Max. Tension:	0.00	0.00	kips
Max. Net Tension:	0.00	0.00	kips
Max. Net Compression:	0.00	0.00	kips
Moment to Bolt Circle:	0.00	0.00	k-ft
Axial to Bolt Circle:	0.00	0.00	kips
Shear to Bolt Circle:	0.00	0.00	kips
Equivalent Bolt Circle:	0.00	0.00	in

Weld Analysis per AISC Table XIX & pg. 4-72:

Upper Pole	Stiffener Type 1	Stiffener Type 2	
D:	6	6	Num. of Sixteenths in Weld
a:	0.3231	0.3643	= e1 / L1
k:	0	0	
C:	1.0936	1.0107	Tabulated Cofficient
C1:	1.0000	1.0000	Coefficient for Electrode
ASIF:	1.3333	1.3333	
Stiffener Axial, Ps:	302.0	152.2	kips
Allowable Axial, Pa:	341.2	260.8	kips = ASIF C C1 D L
Ratio:	88.5%	58.4%	

Lower Pole			
D:	6	6	Num. of Sixteenths in Weld
a:	0.2462	0.3097	= e2 / L2
k:	0	0	
C:	1.2700	1.1204	Tabulated Cofficient
C1:	1.0000	1.0000	Coefficient for Electrode
ASIF:	1.3333	1.3333	
Stiffener Axial, Ps:	302.0	152.2	kips
Allowable Axial, Pa:	396.2	253.2	kips = ASIF C C1 D L
Ratio:	76.2%	60.1%	

Pole Analysis per AISC Sect. F4:

Upper Pole	Stiffener Type 1	Stiffener Type 2	
Stiffener Axial, P:	302.0	152.2	kips
Effective Throat, te:	0.2651	0.2651	in = 0.707 w
Shear Stress, fv:	3.9	2.4	kips/in= P / (2 L1)
Section Modulus, S:	507.0	346.7	in^2 = $L1^2$ / 3
Bending Stress, fb:	7.5	5.2	kips/in = P e1 / S
Combined Stress, f:	8.4	5.7	kips/in = $(fv^2 + fb^2)^{1/2}$
ASIF:	1.3333	1.3333	
Allowable Stress, F:	8.4	8.4	kips/in = ASIF (0.4 Fy) tp
Ratio:	100.5%	67.5%	

Lower Pole			
Stiffener Axial, P:	302.0	152.2	kips
Effective Throat, te:	0.2651	0.2651	in = 0.707 w
Shear Stress, fv:	3.9	2.7	ksi = P / (2 L2)
Section Modulus, S:	507.0	266.0	in^2 = $L2^2$ / 3
Bending Stress, fb:	5.7	5.0	ksi = P e2 / S
Combined Stress, f:	6.9	5.7	kips/in = $(fv^2 + fb^2)^{1/2}$
ASIF:	1.3333	1.3333	
Allowable Stress, F:	8.4	8.4	kips/in = ASIF (0.4 Fy) tp
Ratio:	82.2%	67.7%	

Stiffener 1 Analysis per AISC Sect. D1, E2, F1.2 & App. B

	Stiffener Type 1	
Gross Area, Ag:	10.5840	in^2
Net Area, An:	10.5840	in^2
Stiffener Axial, P:	302.0	kips
Stiffener Stress, f:	28.5	ksi = P / Ag
b:	16.2000	in = (Df - Dp) / 2 + n + Ws, Upper Pole
b / ts:	11.0204	in
Q, Where Qa = 1.0:	0.9428	= Qa 1.340 - 0.00447 (b / ts) $Fy^{1/2}$
r:	0.4244	in^3
K L / r:	10.6044	
ASIF:	1.3333	
Allowable Axial, Fa:	47.56	ksi = ASIF Q [1 - (K L / r) / 2 Cc'^2] Fy / [5/3 + 3(K L / r) / 8 Cc' - (K L / r)^3 / 8 Cc'^3]
ASIF:	1.3333	
Allowable Bending, Fb:	49.03	ksi = ASIF 0.6 Fy Q
ASIF:	1.3333	
Allowable Net Tension, Ft:	53.33	ksi = ASIF 0.5 Fu
Ratio:	60.0%	

Stiffener 2 Analysis per AISC Sect. D1, E2, F1.2 & App. B

	Stiffener Type 2	
Gross Area, Ag:	5.5000	in^2
Net Area, An:	5.5000	in^2
Stiffener Axial, P:	152.2	kips
Stiffener Stress, f:	27.7	ksi = P / Ag
b:	14.5000	in = (Df - Dp) / 2 + n + Ws, Upper Pole
b / ts:	14.5000	in
Q, Where Qa = 1.0:	0.8174	= Qa 1.340 - 0.00447 (b / ts) $Fy^{1/2}$
r:	0.2887	in^3
K L / r:	15.5885	
ASIF:	1.3333	
Allowable Axial, Fa:	40.66	ksi = ASIF Q [1 - (K L / r) / 2 Cc'^2] Fy / [5/3 + 3(K L / r) / 8 Cc' - (K L / r)^3 / 8 Cc'^3]
ASIF:	1.3333	
Allowable Bending, Fb:	42.51	ksi = ASIF 0.6 Fy Q
ASIF:	1.3333	
Allowable Net Tension, Ft:	53.33	ksi = ASIF 0.5 Fu
Ratio:	68.1%	

Analysis Summary:

Bridge Stiffener Type 1

Weld Analysis Ratio: 88.5% PASS

See next page for calculations

Stiffener Analysis Ratio: 60.0% PASS

Bridge Stiffener Type 2

Weld Analysis Ratio: 60.1% PASS

Pole Analysis Ratio: 67.7% PASS

Stiffener Analysis Ratio: 68.1% PASS

3/8" Fillet Weld → 0.265"

For E70 weld → % Cap = 88.5 %

Shaft thickness = 3/8" Shaft F_u = 60 ksi

Min Shaft thickness Req'd for 100% cap

$$= \frac{F_u \text{ weld}}{F_u \text{ shaft}} \times \%\text{ cap of weld} \times \text{Eff. throat of weld}$$

$$= \frac{70}{60} \times 0.885 \times 0.265 = 0.274$$

$$\%\text{ cap of shaft} = \frac{0.274}{0.375} = \boxed{73.0\%}$$

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v4.4 - Effective 7-12-13

Date: 7/7/2016
PJF Project: 37516-2325.001.7805
Client Ref. # 876331
Site Name: Great Britain Gravel Pit
Description: 118' Pole
Owner: CCI
Engineer: JRJ

Asymmetric Anchor Rod Analysis

Moment =	2280	k-ft	TIA Ref.	F	Location =	Base Plate		
Axial =	41.0	kips	ASIF =	1.3333	η =	N/A	for BP, Rev. G Sect. 4.9.9	
Shear =	26.0	kips	Max Ratio =	100.0%	Threads =	N/A	for FP, Rev. G	
Anchor Qty =	23							

**** For Post Installed Anchors: Check anchors for embedment, epoxy/grout bond, and capacity based on proof load. ****

Item	Nominal Anchor Dia, in	Spec	Fy, ksi	Fu, ksi	Location, degrees	Anchor Circle, in	Area Override, in^2	Area, in^2	Max Net Compression, kips	Max Net Tension, kips	Load for Capacity Calc, kips	Capacity Override, kips	Capacity, kips	Capacity Ratio
1	1.500	A354 Gr BC	109	125	0.0	41.00	0.00	1.77	71.79	68.80	68.80	0.00	97.19	70.8%
2	1.500	A354 Gr BC	109	125	22.5	41.00	0.00	1.77	75.24	72.25	72.25	0.00	97.19	74.3%
3	1.500	A354 Gr BC	109	125	45.0	41.00	0.00	1.77	78.86	75.87	75.87	0.00	97.19	78.1%
4	1.500	A354 Gr BC	109	125	67.5	41.00	0.00	1.77	80.00	77.01	77.01	0.00	97.19	79.2%
5	1.500	A354 Gr BC	109	125	90.0	41.00	0.00	1.77	77.52	74.53	74.53	0.00	97.19	76.7%
6	1.500	A354 Gr BC	109	125	112.5	41.00	0.00	1.77	72.20	69.21	69.21	0.00	97.19	71.2%
7	1.500	A354 Gr BC	109	125	135.0	41.00	0.00	1.77	66.69	63.69	63.69	0.00	97.19	65.5%
8	1.500	A354 Gr BC	109	125	157.5	41.00	0.00	1.77	64.61	61.62	61.62	0.00	97.19	63.4%
9	1.500	A354 Gr BC	109	125	180.0	41.00	0.00	1.77	67.87	64.88	64.88	0.00	97.19	66.7%
10	1.500	A354 Gr BC	109	125	202.5	41.00	0.00	1.77	74.61	71.62	71.62	0.00	97.19	73.7%
11	1.500	A354 Gr BC	109	125	225.0	41.00	0.00	1.77	81.19	78.20	78.20	0.00	97.19	80.5%
12	1.500	A354 Gr BC	109	125	247.5	41.00	0.00	1.77	84.75	81.76	81.76	0.00	97.19	84.1%
13	1.500	A354 Gr BC	109	125	270.0	41.00	0.00	1.77	84.16	81.17	81.17	0.00	97.19	83.5%
14	1.500	A354 Gr BC	109	125	292.5	41.00	0.00	1.77	80.10	77.10	77.10	0.00	97.19	79.3%
15	1.500	A354 Gr BC	109	125	315.0	41.00	0.00	1.77	74.81	71.81	71.81	0.00	97.19	73.9%
16	1.500	A354 Gr BC	109	125	337.5	41.00	0.00	1.77	71.37	68.38	68.38	0.00	97.19	70.4%
17	1.750	Dywidag (150 ksi)	127.7	150	60.0	51.50	0.00	2.71	154.37	149.78	149.78	0.00	178.99	83.7%
18	1.750	Dywidag (150 ksi)	127.7	150	146.0	51.50	0.00	2.71	126.29	121.70	121.70	0.00	178.99	68.0%
19	1.750	Dywidag (150 ksi)	127.7	150	244.0	51.50	0.00	2.71	161.32	156.72	156.72	0.00	178.99	87.6%
20	1.750	Dywidag (150 ksi)	127.7	150	326.0	51.50	0.00	2.71	138.07	133.48	133.48	0.00	178.99	74.6%
21	2.250	A193 Gr B7	105	125	191.3	51.50	0.00	3.98	200.42	193.69	193.69	0.00	218.68	88.6%
22	1.750	Williams R71	127.7	150	350.0	64.50	0.00	2.66	164.90	160.39	160.39	0.00	175.76	91.3%
23	1.750	Williams R71	127.7	150	106.0	64.50	0.00	2.66	177.18	172.67	172.67	0.00	175.76	98.2%
								48.42						

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data

BU#: *876331*
Site Name: *Great Britain Gravel Pit*
App #:
Pole Manufacturer: *Other*

Reactions		
Moment:	1137.8	ft-kips
Axial:	23.9	kips
Shear:	15.2	kips

Reactions adjusted to account for additional anchor rods.

Anchor Rod Data		
Qty:	16	
Diam:	1.5	in
Rod Material:	Other	
Strength (Fu):	125	ksi
Yield (Fy):	109	ksi
Bolt Circle:	41	in

Plate Data		
Diam:	47	in
Thick:	2	in
Grade:	36	ksi
Single-Rod B-eff:	7.07	in

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data		
Diam:	36	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	

If No stiffeners, Criteria: AISC ASD <-Only Applcable to Unstiffened Cases

Anchor Rod Results

Maximum Rod Tension:	81.8	Kips	Rigid
Allowable Tension:	97.2	Kips	Service, ASD
Anchor Rod Stress Ratio:	84.1%	**Pass**	Fty*ASIF

Base Plate Results Flexural Check

Base Plate Stress:	27.5	ksi	Rigid
Allowable Plate Stress:	36.0	ksi	Service ASD
Base Plate Stress Ratio:	76.3%	**Pass**	0.75*Fy*ASIF
			Y.L. Length: 19.62

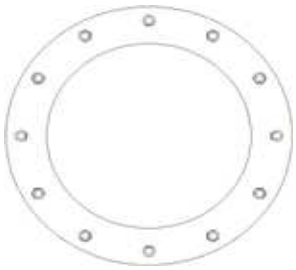
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Current moment = 2280 k-ft

By comparison the capacities are:

$\left(\frac{2280\ k\text{-}ft}{2024\ k\text{-}ft}\right)$ 0.661 = **74.5%** $\left(\frac{2280\ k\text{-}ft}{2024\ k\text{-}ft}\right)$ 0.747 = **84.1%**

Foundation Analysis

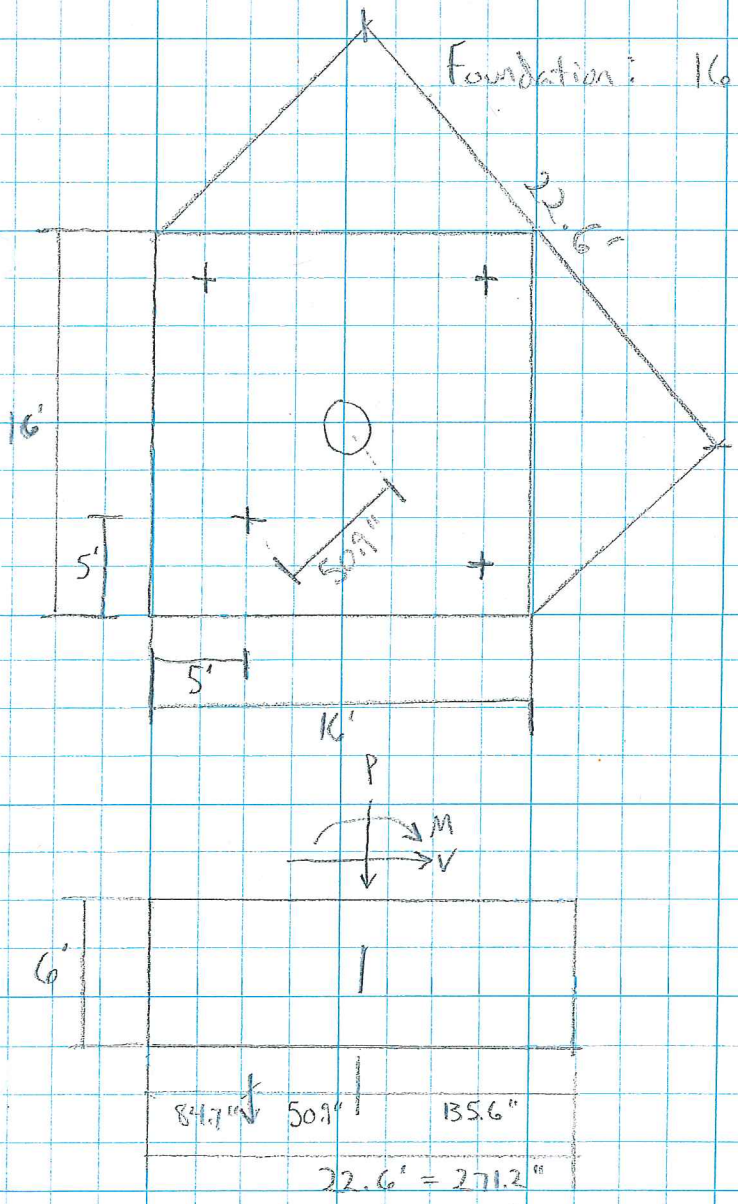
Base Reactions: M = 2024 k-ft
V = 23 k
P = 33 k

Foundation: 16' x 16' x 6' Mat w/ (4) Soil anchors

wt. Mat = (16)(16)(6)(0.145) =
= 222.7 k

Allow Soil = 130 k
Anchor

Allow Soil = 10 ksf
Brg Pressure



M_{OT} = 2,024 + 23(6) =
= 2,162 k-ft = 25,944 k-in

Foundation Analysis Cont.

$M_{resist\ wt.} = (33 + 222.7)(135.6) = 34672.92$ k-in

$M_{resist\ soil\ Anchor} = (130)(135.6+50.9) = 24245$ k-in

$M_{resist\ tot} = 34672.92 + 24245 = 58917.92$ k-in

$$F.S. = \frac{58917.92}{25944} = 2.27$$

F.S. Req.d = 1.5

$$\text{Stress Ratio} = \frac{1.5}{2.27} = 66.1\%\ \text{ok}$$

Note: F.S. w/o Soil Anchor $= \frac{34672.92}{25944} = 1.34$ - Not Ok

Check overturning Across major axis (x,y):

$M_{resist\ wt} = (33 + 222.7)\left(\frac{(16)(12)}{2}\right) = 24547.2$ k-in

$M_{resist\ Soil\ Anchor} = [(130)(16-5) + (130(16-2)](12) = 39000$ k-in

$M_{resist\ tot} = 24547.2 + 39000 = 63547.2$ k-in

$$F.S. = \frac{63547.2}{25944} = 2.45$$

$$\text{Stress Ratio} = \frac{1.5}{2.45} = 61.2\%$$

Foundation Analysis Cont.

Check Reinf. Stl in Mat'l:

BRG Pressure from Weight = $\left(\frac{33+2221}{16^2}\right)$ = 1 ksf

That leaves 3 9 ksf Allow BRG Pressure Remaining

Area of Soil Req'd to support (2) soil Anchors*:
* Assumes soil Anchors fully effective

$\frac{260\text{ k}}{9\text{ ksf}}$ = 28.89 ft²

Length = $\frac{28.89}{16}$ = 1.806'

M_{Mat}:

1. Anch'l Load doesn't contribute too much moment to mat so it was not considered
2. Conservatively considers soil Anchors to be fully effective
3. Conservatively takes moment about ℄ of monopole

$M_u = (1.3)(260)\left(\frac{16}{2} - \frac{1.806}{2}\right)$ = 3009 k-ft = 36115 k-in

Foundation Analysis Cont.

Check Reinf. STL in Mat Cont:

Mat has (11) #8 Bars

$A_s = 13.43 \text{ in}^2$

$b = (16)(12) = 192 \text{ in}$

$d = (6)(12) - 3 - (1.5)(1) = 67.5 \text{ in}$

$f'_c = 3 \text{ ksi}$

$$a = \frac{A_s f_y}{(0.85)(f'_c)(b)} = \frac{(13.43)(60)}{(0.85)(3)(192)} = 1.646 \text{ in}$$

$$z = d - \frac{a}{2} = 67.5 - \frac{1.646}{2} = 66.677 \text{ in}$$

$$\phi M_n = (0.9)(13.43)(60)(66.677) = 48355 \text{ k-in}$$

or

$$(0.9)(0.85)(3)(1.646)(192)(66.677) = 48360 \text{ k-in}$$

$$\text{Stress Ratio} = \frac{36110}{48355} = 74.7\%$$

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

AT&T Existing Facility

Site ID: CT1024

New Britain - Loon Lake
10 Loon Lake Road
New Britain, CT 06062

July 6, 2016

EBI Project Number: 6216003129

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	19.79 %

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

EBI Consulting
environmental | engineering | due diligence

July 6, 2016

AT&T Mobility – New England
Attn: Cameron Syme, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT1024 – New Britain - Loon Lake**

EBI Consulting was directed to analyze the proposed AT&T facility located at **10 Loon Lake Road, New Britain, CT**, for the purpose of determining whether the emissions from the Proposed AT&T 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 (μW/cm2). 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 public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

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 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) 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 AT&T Wireless antenna facility located at **10 Loon Lake Road, New Britain, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, 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 (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

2) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

3) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

6) 2 GSM channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

7) 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.

8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antennas used in this modeling are the **CCI HPA-65R-BUU-H6, CCI HPA-65R-BUU-H8, Powerwave 7770, Commscope SBNH-1D6565C and the KMW AM-X-CD-16-65-00T-RET** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, 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.

10) The antenna mounting height centerlines of the proposed antennas are **100 feet** above ground level (AGL) for **Sector A**, **100 feet** above ground level (AGL) for **Sector B** and **100 feet** above ground level (AGL) for Sector C.

11) 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.

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H6
Gain:	11.95 / 14.75 dBd	Gain:	11.95 / 14.75 dBd	Gain:	11.95 / 14.75 dBd
Height (AGL):	**100 feet**	Height (AGL):	**100 feet**	Height (AGL):	**100 feet**
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	5,462.56	ERP (W):	6,229.75	ERP (W):	5,462.56
Antenna A1 MPE%	**3.10 %**	Antenna B1 MPE%	**3.69 %**	Antenna C1 MPE%	**3.10 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	**100 feet**	Height (AGL):	**100 feet**	Height (AGL):	**100 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A2 MPE%	**1.13 %**	Antenna B2 MPE%	**1.13 %**	Antenna C2 MPE%	**1.13 %**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope SBNH-1D6565C	Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	KMW AM-X-CD-16-65-00T-RET
Gain:	14.45 / 15.85 dBd	Gain:	14.45 / 15.85 dBd	Gain:	14.45 / 15.85 dBd
Height (AGL):	**100 feet**	Height (AGL):	**100 feet**	Height (AGL):	**100 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	3,979.22	ERP (W):	3,465.76	ERP (W):	3,465.76
Antenna A3 MPE%	**2.14 %**	Antenna B3 MPE%	**1.86 %**	Antenna C3 MPE%	**1.86 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**6.68 %**
Clearwire	0.43 %
Sprint	1.27 %
T-Mobile	2.65 %
Verizon Wireless	8.76 %
Site Total MPE %:	**19.79 %**

AT&T Sector A Total:	6.36 %
AT&T Sector B Total:	6.68 %
AT&T Sector C Total:	6.09 %
Site Total:	19.79 %

AT&T _ Max Values Per Sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 700 MHz LTE	2	1,239.23	100	10.08	700 MHz	467	2.16 %
AT&T 1900 MHz (PCS) LTE	2	1,875.65	100	15.26	1900 MHz (PCS)	1000	1.53 %
AT&T 850 MHz UMTS	2	414.12	100	3.37	850 MHz	567	0.59 %
AT&T 1900 MHz (PCS) UMTS	2	656.33	100	5.34	1900 MHz (PCS)	1000	0.53 %
AT&T 850 MHz GSM	2	727.98	100	5.92	850 MHz	567	1.04 %
AT&T 1900 MHz (PCS) GSM	2	1,004.90	100	8.18	1900 MHz (PCS)	1000	0.82 %
						Total:	6.68 %

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	6.36 %
Sector B:	6.68 %
Sector C:	6.09 %
AT&T Maximum Total (per sector):	6.68 %
Site Total:	19.79 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **19.79 %** of the allowable FCC established general public 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.