Robinson+Cole

KENNETH C. BALDWIN

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Also admitted in Massachusetts

June 30, 2014

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

Re: **EM-VER-126-130128 – Cellco Partnership d/b/a Verizon Wireless**
Oliver Road (a/k/a Platt Road), Shelton, Connecticut

Dear Ms. Bachman:

On February 22, 2013, the Siting Council acknowledged receipt of Cellco's notice of intent to modify its telecommunications facility off Oliver Road in Shelton. The modification involved the replacement of certain antennas and the installation of remote radio heads and a fiber optic cable.

As a condition of the acknowledgement, Cellco was required to provide the Council with a letter stating that the recommendations specified in the structural report were implemented. Attached is a Tower Modification Certification Letter verifying that these conditions have been satisfied. All construction associated with these modifications has now been completed.

If you have any questions please do not hesitate to contact me.

Sincerely,

Kenneth C. Baldwin

Attachment
Copy to:
Sandy M. Carter
Brian Ragozzine
Mark Gauger

13002863-v1

CENTEK engineering
Centered on Solutions℠

June 30, 2014

Mr. Mark Gauger
Verizon Wireless
99 East River Drive
East Hartford, Connecticut 06108

Re: Tower Modification Certification

Project:	**Verizon Shelton 2** 30 Oliver Terrace (70 Platt Road), Shelton, CT
Tower Owner:	**AT&T Towers** 5405 Windward Parkway, Alpharetta, GA
Engineer:	**B&T Group** 1717 S. Boulder Street, Suite 300, Tulsa, OK

Centek Project No.: 13008.032

Dear Mr. Gauger,

We are providing this "Tower Modification Certification" with regard to the structural components at the above referenced project.

The following are the basis for substantiating compliance with the tower modification documents prepared by B&T Group (B&T Project Number: 84720.002.01):

- Review of the B&T Group Structural Analysis dated 12/28/2012.
- Review of the B&T Group Modification Drawings S-1 thru S-3 and D1 dated 12/28/2012 Rev-0.
- Review of the B&T Group Modification Inspection Report dated 05/30/2013.
- Field observations by Centek Engineering personnel on 06/25/2014 of the completed modifications.

The modification design prepared by B&T Group demonstrates the tower will not exceed 100 percent of the post construction structural rating. The work under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be completed in general compliance with the documents referenced above. This certification is not a review of the adequacy or effectiveness of the modification/reinforcement solution.

Sincerely,

Carlo F. Centore, PE
Senior Project Manager

Cc: Jim Smith, Tim Parks, Rachel Mayo

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

February 22, 2013

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

RE: **EM-VER-126-130128** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at Oliver Terrace (aka Platt Road), Shelton, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Prior to antenna installation, the modifications identified in Appendix C of the Structural Modification Report prepared by B+T GRP dated December 28, 2012, and stamped by Chad Tuttle shall be implemented;
- Within 45 days following completion of the antenna installation, a signed letter from a Professional Engineer duly licensed in the State of Connecticut shall be submitted to the Council to certify that the recommended modifications have been completed and the structure and foundation do not exceed 100 percent of the post-construction structural rating;
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated January 25, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

CSC
CONNECTICUT SITING COUNCIL

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/CDM/jb

c: The Honorable Mark A. Lauretti, Mayor, City of Shelton
Richard Schultz, Planning Administrator, City of Shelton
Christopher, B. Fisher, Esq., AT&T

ROBINSON & COLE LLP

EM-VER-126-130128

KENNETH C. BALDWIN

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Also admitted in Massachusetts

January 25, 2013

ORIGINAL

RECEIVED
JAN 28 2013
CONNECTICUT
SITING COUNCIL

Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap**
Oliver Terrace (aka Platt Road), Shelton, Connecticut

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the top of an existing 140-foot tower at the above-referenced address. The tower is owned by AT&T. The Council approved Cellco's shared use of this tower in 2005. Cellco now intends to replace all of its antennas with six (6) model DB846F65ZAXY cellular antennas; three (3) model BXA-171063-8BF PCS antennas; and three (3) BXA-70063-6CF LTE antennas, all at the same level on the tower. Cellco also intends to install six (6) coax cable diplexers behind its antennas. Attached behind Tab 1 are the specifications for the replacement antennas and cable diplexers.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mark A. Lauretti, Mayor for the City of Shelton. A copy of this letter is being sent to Brennan Realty LLC, the owner of the property on which the tower is located.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and diplexers will be located at the 140-foot level on the 140-foot tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

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

4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative power density table for Cellco's modified facility is included behind Tab 2.

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

6. The tower and its foundation, with certain modifications, can support Cellco's proposed modifications. (*See* Structural Modification Report attached behind Tab 3).

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Mark A. Lauretti, Shelton Mayor
Brennan Realty LLC
Sandy M. Carter

Product Specifications

COMMSCOPE®

on the go

Andrew Solutions

DB846F65ZAXY

Directed Dipole™ Antenna, 806–960 MHz, 65° horizontal beamwidth, fixed electrical tilt

- Excellent azimuth roll-off, reducing soft hand-offs and improving capacity
- Deep null filling below the horizon for improved signal intensity
- Rugged, reliable design, light weight for low tower loading
- Air dielectric feed system

Electrical Specifications

Frequency Band, MHz	**806–896**	**870–960**
Gain, dBi	16.6	16.9
Beamwidth, Horizontal, degrees	65	60
Beamwidth, Vertical, degrees	11.0	10.5
Beam Tilt, degrees	0	0
USLS, typical, dB	15	15
Front-to-Back Ratio at 180°, dB	40	40
VSWR | Return Loss, dB	1.33:1 | 17.0	1.33:1 | 17.0
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150
Input Power per Port, maximum, watts	500	500
Polarization	Vertical	Vertical
Impedance	50 ohm	50 ohm
Lightning Protection	dc Ground	dc Ground

Mechanical Specifications

Color | Radome Material	Light gray | ABS, UV resistant
Connector Interface | Location | Quantity	7-16 DIN Female | Back | 1
Wind Loading, maximum	387.0 N @ 100 mph 87.0 lbf @ 100 mph
Wind Speed, maximum	241.4 km/h | 150.0 mph

Dimensions

Depth	216.0 mm | 8.5 in
Length	1829.00 mm | 72.01 in
Width	254.00 mm | 10.00 in
Net Weight	9.50 kg | 20.94 lb

Regulatory Compliance/Certifications

Agency	**Classification**
RoHS 2002/95/EC	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Product Specifications

DB846F65ZAXY

Included Products

DB380 — Pipe Mounting Kit for 2.4"-4.5" (60-115mm) OD round members on wide panel antennas. Includes 2 clamp sets.

DB382NS — Side Offset Bracket for 4.5 in (114.3 mm) OD round members

DB5083 — Downtilt Mounting Kit for 2.4"-4.5" (60 - 115 mm) OD round members. Includes a heavy-duty, galvanized steel downtilt mounting bracket assembly and associated hardware. This kit is compatible with the DB380 pipe mount kit for panel antennas that are equipped with two mounting brackets.

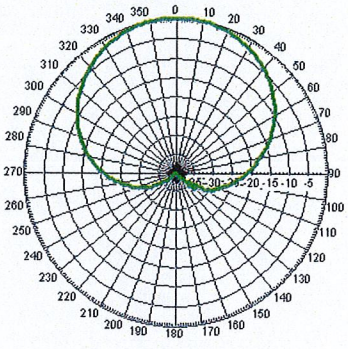
Product Specifications

COMMSCOPE®

DB846F65ZAXY

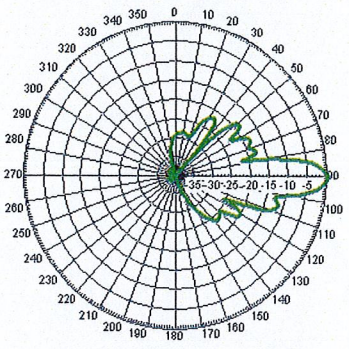
on the go

Horizontal Pattern

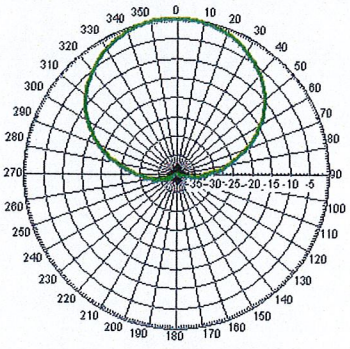


Freq: 850 MHz, Tilt: 0

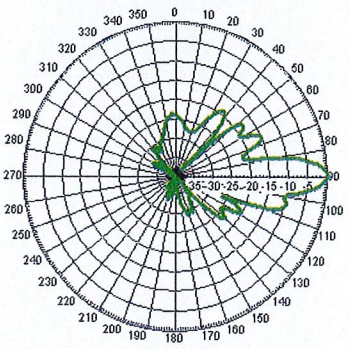
Vertical Pattern



Freq: 850 MHz, Tilt: 0



Freq: 940 MHz, Tilt: 0



Freq: 940 MHz, Tilt: 0

Amphenol ANTENNA SOLUTIONS

BXA-171063-8BF-EDIN-X

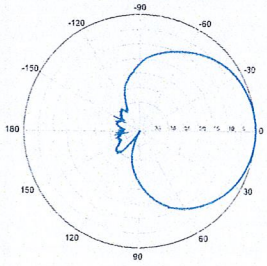
Replace "X" with desired electrical downtilt.

X-Pol | FET Panel | 63° | 17.4 dBi

Electrical Characteristics	1710-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	68°	65°	60°
Vertical beamwidth	7°	7°	7°
Gain	14.5 dBd / 16.6 dBi	14.9 dBd / 17.0 dBi	15.3 dBd / 17.4 dBi
Electrical downtilt (X)	0, 2, 4, 8		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back isolation	> 30 dB		
In-band isolation	> 28 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN / Female / Bottom		
Operating temperature	-40° to +60° C / -40° to +140° F		
Mechanical Characteristics			
Dimensions Length x Width x Depth	1232 x 154 x 105 mm		48.5 x 6.1 x 4.1 in
Depth with t-brackets	133 mm		5.2 in
Weight without mounting brackets	4.8 kg		10.5 lbs
Survival wind speed	296 km/hr		184 mph
Wind area	Front: 0.19 m² Side: 0.14 m²		Front: 2.0 ft² Side: 1.5 ft²
Wind load @ 161 km/hr (100 mph)	Front: 281 N Side: 223 N		Front: 63 lbf Side: 50 lbf

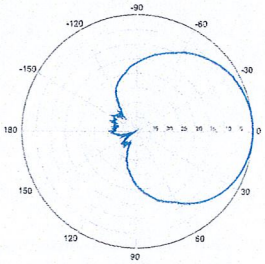
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-8BF-EDIN-X-FP		

BXA-171063-8BF-EDIN-X



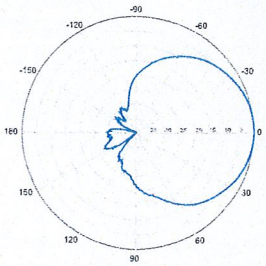
Horizontal | 1710-1880 MHz

BXA-171063-8BF-EDIN-X



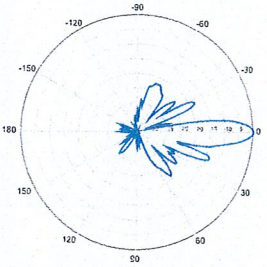
Horizontal | 1850-1990 MHz

BXA-171063-8BF-EDIN-X



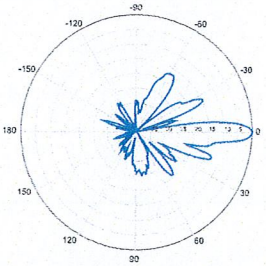
Horizontal | 1920-2170 MHz

BXA-171063-8BF-EDIN-0



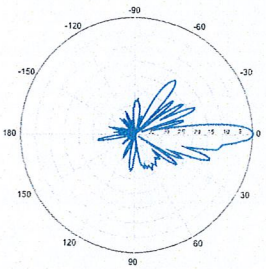
0° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-0



0° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-0

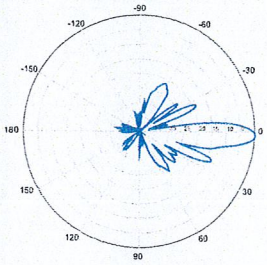


0° | Vertical | 1920-2170 MHz

BXA-171063-8BF-EDIN-X

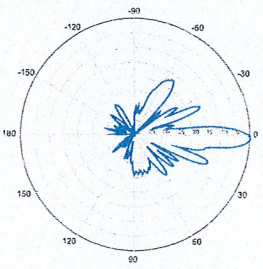
X-Pol | FET Panel | 63° | 17.4 dBi

BXA-171063-8BF-EDIN-2



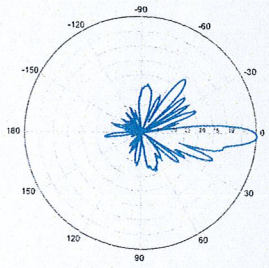
2° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-2



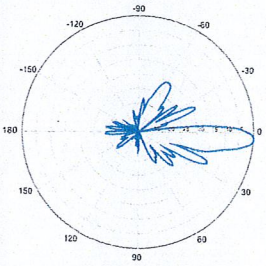
2° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-2



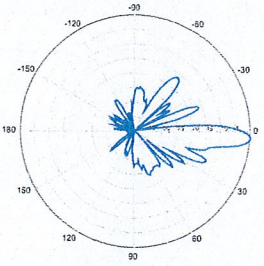
2° | Vertical | 1920-2170 MHz

BXA-171063-8BF-EDIN-4



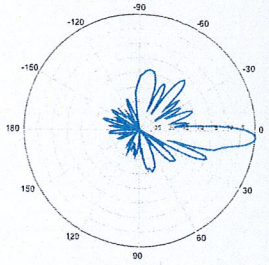
4° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-4



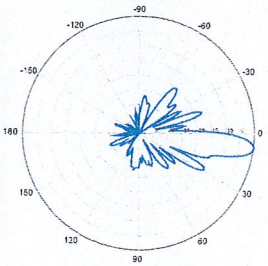
4° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-4



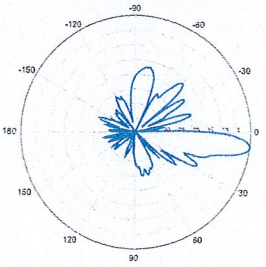
4° | Vertical | 1920-2170 MHz

BXA-171063-8BF-EDIN-8



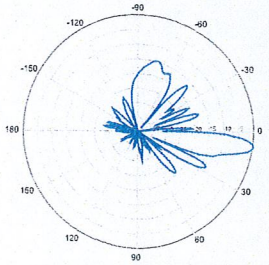
8° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-8



8° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-8



8° | Vertical | 1920-2170 MHz

Amphenol ANTENNA SOLUTIONS

BXA-70063-6CF-EDIN-X

X-Pol | FET Panel | 63° | 14.5 dBd

Replace "X" with desired electrical downtilt.

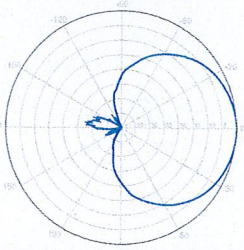
Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

Electrical Characteristics	696-900 MHz	
Frequency bands	696-806 MHz	806-900 MHz
Polarization	±45°	
Horizontal beamwidth	65°	63°
Vertical beamwidth	13°	11°
Gain	14.0 dBd (16.1 dBi)	14.5 dBd (16.6 dBi)
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 8, 10	
Impedance	50Ω	
VSWR	≤1.35:1	
Upper sidelobe suppression (0°)	-18.3 dB	-18.2 dB
Front-to-back ratio (+/-30°)	-33.4 dB	-36.3 dB
Null fill	5% (-26.02 dB)	
Isolation between ports	< -25 dB	
Input power with EDIN connectors	500 W	
Input power with NE connectors	300 W	
Lightning protection	Direct Ground	
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)	

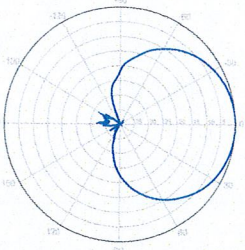
Mechanical Characteristics		
Dimensions Length x Width x Depth	1804 x 285 x 132 mm	71.0 x 11.2 x 5.2 in
Depth with z-brackets	172 mm	6.8 in
Weight without mounting brackets	7.9 kg	17 lbs
Survival wind speed	> 201 km/hr	> 125 mph
Wind area	Front: 0.51 m² Side: 0.24 m²	Front: 5.5 ft² Side: 2.6 ft²
Wind load @ 161 km/hr (100 mph)	Front: 759 N Side: 391 N	Front: 169 lbf Side: 89 lbf

Mounting Options	Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit	36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations	For concealment configurations, order BXA-70063-6CF-EDIN-X-FP		

BXA-70063-6CF-EDIN-X

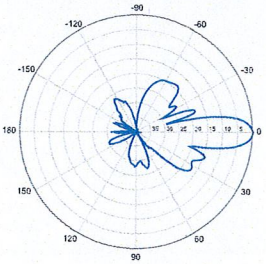


Horizontal | 750 MHz

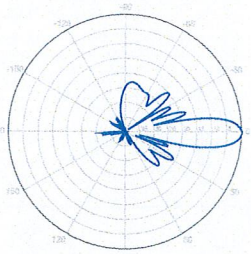


Horizontal | 850 MHz

BXA-70063-6CF-EDIN-0

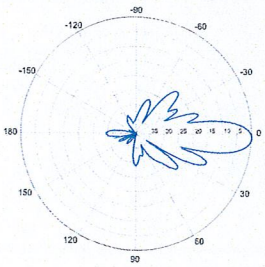


0° | Vertical | 750 MHz

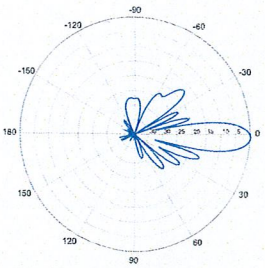


0° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-2



2° | Vertical | 750 MHz



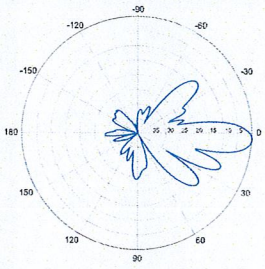
2° | Vertical | 850 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

BXA-70063-6CF-EDIN-X

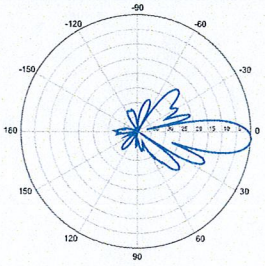
X-Pol | FET Panel | 63° | 14.5 dBd

BXA-70063-6CF-EDIN-3



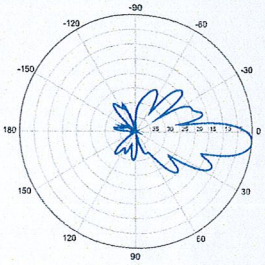
3° | Vertical | 750 MHz

BXA-70063-6CF-EDIN-4

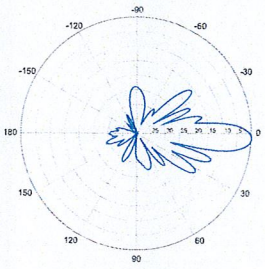


4° | Vertical | 750 MHz

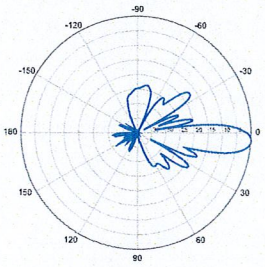
BXA-70063-6CF-EDIN-5



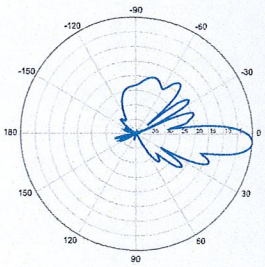
5° | Vertical | 750 MHz



3° | Vertical | 850 MHz

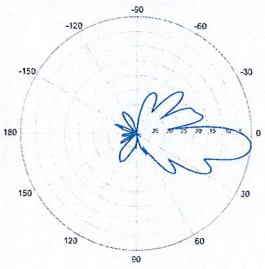


4° | Vertical | 850 MHz



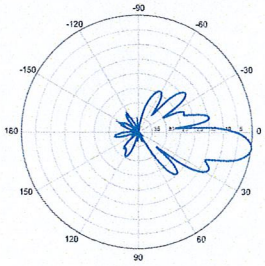
5° | Vertical | 850 MHz

BXA-70063-6CF-EDIN-6



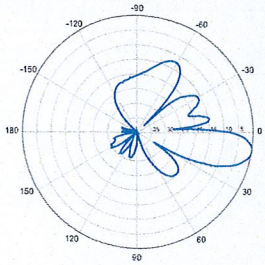
6° | Vertical | 750 MHz

BXA-70063-6CF-EDIN-8

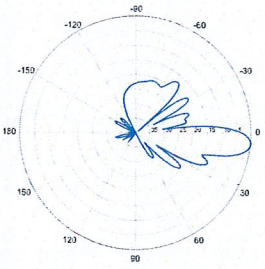


8° | Vertical | 750 MHz

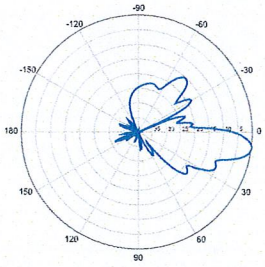
BXA-70063-6CF-EDIN-10



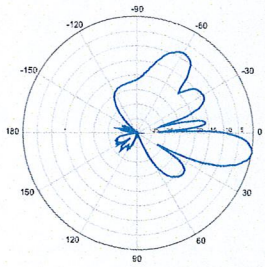
10° | Vertical | 750 MHz



6° | Vertical | 850 MHz



8° | Vertical | 850 MHz



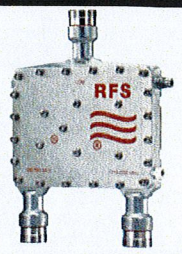
10° | Vertical | 850 MHz

Product Data Sheet **FD9R6004/2C-3L**

ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Product Description

The ShareLite FD9R6004 Series of diplexers are designed to enable feeder sharing between systems in the 698-960 MHz range and in the 1710-2200 MHz range. The diplexer is equipped with in-line connector placement so it can be installed in the BTS cabinet or at the tower top. This is especially valuable in crowded sites or when the feeders are not easily accessible. Due to its wideband design, the FD9R6004 Series can accommodate many combining solutions between 698-960 MHz and 1710-2200 MHz systems such as LTE 700 MHz, Cellular 800 MHz with PCS, GSM900 with GSM1800, or GSM900 with UMTS. This diplexer features a highly selective filter. It provides a high level of isolation between ports, while keeping the insertion loss on both paths at an extremely low level. The FD9R6004 diplexers are available with various DC pass options, helpful in configurations with or without the Tower Mount Amplifiers installed.



Features/Benefits

- **LTE ready design**
- **Extremely Low Insertion Loss**
- **High level of Rejection between bands – Protection against interferences**
- **Extremely High Power Handling Capability**
- **Integrated DC block/bypass versions available**
- **Very compact & small size design – Easy installation and reduced tower load**
- **In-line long-neck connectors for easy connection & waterproofing**
- **Exceptional reliability & environmental protection (IP 67)**
- **Equipped with 1 * Breathable Vent – Prevent any humidity inside the product**
- **Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)**
- **Grounding already provided through the mounting bracket**
- **Kit available for easy dual mount**

Technical Specifications

Product Type	Diplexer/Cross Band Coupler
Application	LTE700, GSM900, UMTS, GSM1800, Cellular 800, PCS
Frequency Range 1, MHz	698-960
Frequency Range 2, MHz	1710-2200
Configuration	Sharelite Single diplexer, outdoor, DC pass in the 1710-2170MHz path, with mounting hardware SEM2-1A
Mounting	Wall Mounting: With 4 screws (maximum 6mm diameter); Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
Return Loss All Ports Min/Typ, dB	19/23
Power Handling Continuous, Max, W	1250 at common port; 750 in low frequency path & 500 in high frequency path
Power Handling Peak, Max, W	15000 in low frequency path & 8000 in high frequency path
Impedance, Ohms	50
Insertion Loss, Path 1, dB	0.07 typ.
Insertion Loss, Path 2, dB	0.13 typ.
Rejection Between Bands Min/Typ, dB	58/64@698-960MHz; 57/70@1710-2200MHz
IMP Level at the COM Port, Typ, dBm	-112 @ 2x43
DC Pass in Low Frequency Path	No
DC Pass in High Frequency Path	Yes
Temperature Range, °C (°F)	-40 to +60 (-40 to +140)
Environmental	ETSI 300-019-2-4 Class 4.1E
Ingress Protection	IP 67
Lightning Protection	EN/IEC61000-4-5 Level 4
Connectors	In-line long-neck 7-16-Female
Weight, kg (lb)	1.2 (2.6)
Shipping Weight, kg (lb)	3.2 (7) for 2 * single units in 1 * box, 9.8 (21.6) for 6 * units = 3 * Boxes in 1 * overwrap
Dimensions, H x W x D, mm (in)	147 x 164 x 37 (5.8 x 6.5 x 1.5)
Shipping Dimensions, H x W x D, mm (in)	254 x 406 x 82 (10 x 16 x 3.2) for 2 * Single Units in 1 * box, 280 x 406 x 241 (11 x 16 x 9.5) for 6 * units = 3 * Boxes in 1 * overwrap
Volume, L	0.43
Housing	Aluminum

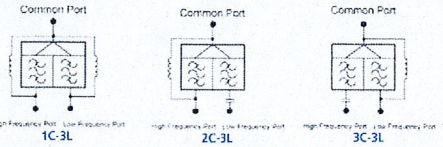
Notes

ShareLite Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, DC pass in high frequency path

Other Documentation

FD9R6004/2C-3L Installation Instructions: Wideband_Diplexer_Installation_Rev5.pdf

Selection Guide Diplexer 698-960 / 1710-2200MHz					
	Model Number	Full DC Pass	DC Pass High Band	DC Pass Low Band	Mounting Hardware Included
Single	FD9R6004/1C-3L				X
	FD9R6004/2C-3L				X
	FD9R6004/3C-3L				X
Dual	KIT-FD9R6004/1C-DL				X
	KIT-FD9R6004/2C-DL				X
	KIT-FD9R6004/3C-DL				X



1C-3L 2C-3L 3C-3L

The FD9R6004 Series is upgradeable to a Dual Diplexer kit by means of 2 diplexers and mounting hardware kits SEM2-1A and SEM2-3

Mounting Hardware and Ground Cable Ordering Information		
Model Number	**Description**	
SEM2-1A	Mounting Hardware, Pole mount ø40-110mm (Included with the Single and Dual Diplexer) Wall Screws M6 (Not included with the product)	
SEM2-3	Assembly kit for 2 pcs of FD9R6004/xC-3L (Can be ordered separately but included with the Dual Diplexer Kit)	
CA020-2	Ground Cable, 2m, includes lugs (Optional)	
CA030-2	Ground Cable, 2m, includes lugs (Optional)	
SEM6	Mounting Hardware for 6 Diplexers, Tower Base (Optional)	

	General	Power	Density					
Site Name: Shelton 2								
Tower Height: Verizon @ 140ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*AT&T	RF calculated by taking field measurements of all existing antennas and adding LTE calculation							
*MetroPCS	3	443.61	110	0.0395	2140	1.0000	3.95%	
*T-Mobile	8	162	120	0.0324	1945	1.0000	3.24%	
*J. Brennan Constrcn	2	500	96.5	0.0386	31	0.2000	19.31%	
*Nextel	9	100	84.5	0.0453	851	0.5673	7.99%	
*Clearwire	2	153	75	0.0196	2496	1.0000	1.96%	
*Clearwire	1	211	75	0.0135	18 GHz	1.0000	1.35%	
*Sprint	11	333.8	74.5	0.2379	1955	1.0000	23.79%	
Verizon PCS	**7**	**274**	**140**	**0.0352**	**1970**	**1.0000**	**3.52%**	
Verizon Cellular	**9**	**379**	**140**	**0.0626**	**869**	**0.5793**	**10.80%**	
Verizon AWS	**1**	**1104**	**140**	**0.0203**	**2145**	**1.0000**	**2.03%**	
Verizon 700	**1**	**790**	**140**	**0.0145**	**698**	**0.4653**	**3.11%**	
								81.04%
* Source: Siting Council								

AT&T Towers
5405 Windward Parkway
Alpharetta, GA 30004

December 28, 2012

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119

B+T No.: 84720.002.01

Structural Modification Report
140' Monopole

AT&T DESIGNATION:	Site ID:	24519
	Site FA:	10071231
	Site Name:	Shelton NE
	AT&T Project:	Verizon Modification 7-26-2012 (1st in line)
ANALYSIS CRITERIA:	Codes:	TIA/EIA-222-F (85 mph fastest mile) IBC 2003 2005 Connecticut Building Code
SITE DATA:		Oliver Terrace, Shelton , CT, Fairfield County Latitude 41.29379°, Longitude -73.1073° Market MA/RI/VT/NH/ME/CT

Mr. Marty Jelleme,

B+T Group is pleased to submit this Structural Modification Report to determine the structural integrity of the aformentioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

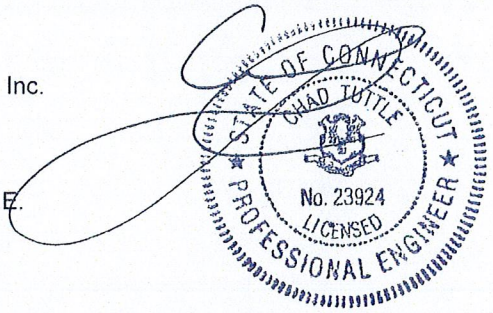
Tower Stress Level with Proposed Equipment:	**98.0%**	**Pass**
Foundation Ratio with Proposed Equipment:	**66.5%**	**Pass**

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and AT&T Towers. If you have any questions or need further assistance on this or any other project please give us a call.

Respectfully Submitted by: B+T Engineering, Inc.

Analysis Prepared by: Ali Abbaszadeh

Analysis Reviewed by: Chad E. Tuttle, P.E.



ANALYSIS RESULTS:

Table 1 - Section Capacity (Summary) - Modified Tower

Component (Tower Section)	% Capacity	Pass / Fail
TP21.882x13.161x0.188	98.0	Pass
TP29.055x21.882x0.313	96.3	Pass
TP31.55x29.055x0.523	82.4	Pass
TP33.913x31.55x0.456	90.9	Pass
TP37.4x31.997x0.594	81.7	Pass
TP44.317x37.4x0.597	85.9	Pass

Table 2 - Tower Component Stresses vs. Capacity - Modified Tower

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Bolts	101.58	72.3	**Pass**
1	Flange Plate	101.58	51.9	**Pass**
1	Anchor Rods	Base	77.0	**Pass**
1	Base Plate	Base	71.8	**Pass**
1	Base Foundation (Steel)	Base	66.5	**Pass**
1	Base Foundation (Soil Interaction)	Base	60.6	**Pass**

Structure Rating (max from all components) =	98.0%

Notes:

1) See additional documentation in "Appendix B - Calculations" for calculation supporting the % capacity consumed.
2) Capacities up to 100% are considered acceptable based on analysis methods used.
3) The percent capacities shown above (excluding foundations) include the 1/3 increase in allowable stresses as allowed by TIA/EIA-222-F.

Recommendations:

1) All modifications proposed in this report shall be installed in accordance with the attached drawings (Appendix C) for the determined available structural capacity to be effective.

ANALYSIS PROCEDURE:

Table 4 - Documents Provided

Document	Description	Date	Source
Tower Data	FWT, Inc Job# J030219001	1/24/2003	Siterra
Foundation Information	SA Report by B+T Project 84720.002a	11/27/2012	On File
Geotech Report	Clarence Welti Assoc., Inc	12/13/2002	Siterra
Loading	Site Lease Application	7/26/2012	Siterra
Previous Structural Analysis	B+T Project 84720.002a	11/27/2012	On File
	B+T Project 84720.001	7/19/2012	On File
	Centek project # 11021.C045	4/13/2011	Siterra
Modification Drawings	GPD Associates GPD#2010266.16	9/17/2010	Siterra

ANALYSIS METHOD:

tnxTower, 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 B.

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 specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Appendix A of this report.
4. Mount areas and weights are assumed based on photographs provided.
5. Refer to the base level drawing for transmission line distribution.
6. Verified existing Verizon loading with Verizon Lease

If any of these assumptions have been made in error, B+T Group should be notified to determine the effect on the structural integrity of the tower.

APPENDIX A

TOWER ANALYSIS LOADING

TOWER ANALYSIS LOADING:

Existing / Reserved Loading

Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
Unknown	138	144.5	1	Unknown	9ft Omni			1	7/8"
Verizon	138	140	6*	Andrew	D844H80E	1	LP Platform	12	7/8"
Verizon	138	140	6*	Andrew	DB948F85T2E				
T-Mobile	120	120	6	RFS	APX16PV-16PVL-E	3	T-Arm	18	1-5/8"
T-Mobile	120	120	6	CCI	DTMA-1819-DD-12				
MetroPCS	110	110	3	Kathrein	800-10504	3	T-Arm	12	1-5/8"
MetroPCS	110	110	3	Kathrein	742-351				
MetroPCS	110	110	6	Kathrein	860-10025 RET				
AT&T	95	95	3	Powerwave	7770	1	Platform w/ rails	6	7/8"
AT&T	95	95	3	Powerwave	P65-16-XLH-RR				
AT&T	95	95	6	Powerwave	LGP21401				
AT&T	99	99	6	Ericsson	RRUS-11	1	Uni-Tri Bracket	2	DC
AT&T	99	99	1	Raycap	DC6-48-60-18-8F			1	Fiber
Clearwire	73	75	3	Argus	LLPX310R	1	LP Platform	6	5/16"
Clearwire	73	75	3	Samsung	FDD R6 RRH				
Clearwire	73	75	2	Dragonwave	Horizon DUO				
Clearwire	73	75	2	Dragonwave	A-Ant-23G-2-C			2	1/2"
Sprint/Nextel	73	75	4	EMS	RV65-18-04DPL2			12	1 1/4"
Sprint/Nextel	73	75	2	EMS	RV90-17-04DPL2				

*Equipment to be Removed

Proposed Loading

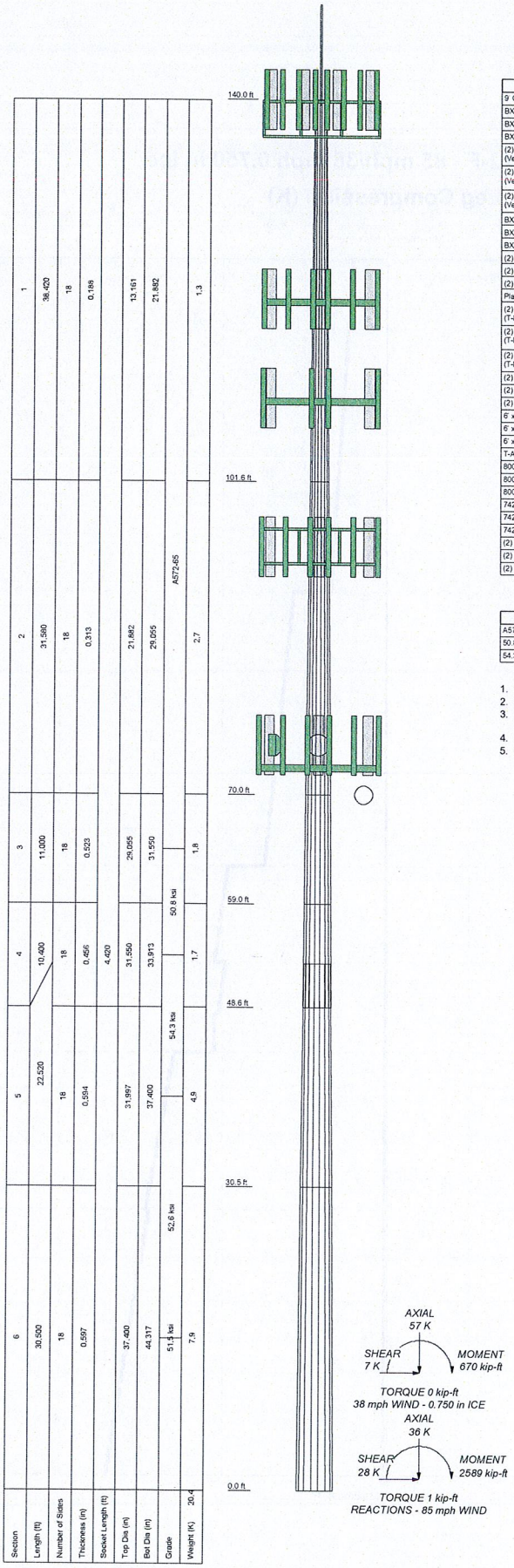
Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
Verizon	138	140	3	Antel	BXA-70063-6CF		On Existing		
Verizon	138	140	6	Andrew	DB846F65ZAXY				
Verizon	138	140	3	Antel	BXA-171063-8BF				
Verizon	138	140	6	RFS	FD9R6004/2C-3L				

Future Loading

Antenna						Mount		Transmission Line	
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Manufacturer	Model	Quantity	Type	Quantity	Size (in)
AT&T	95	95	3	Powerwave	P65-16-XLH-RR			6	1-5/8"

APPENDIX B

CALCULATIONS



Section	1	2	3	4	5	6
Length (ft)	38.420	31.580	11.000	10.400	22.520	30.500
Number of Sides	18	18	18	18	18	18
Thickness (in)	0.189	0.313	0.523	0.456	0.594	0.597
Socket Length (ft)				4.420		
Top Dia (in)	13.161	21.882	29.055	31.950	31.957	37.400
Bot Dia (in)	21.882	29.055	31.950	33.913	37.400	44.317
Grade	A572-65					
Weight (K)	1.3	2.7	1.8	1.7	4.9	7.9

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
9' Omni (E)	138	T-Arm Mount [TA 702-3] (MetroPCS-E)	110
BXA-70063/6CF w/ Mount Pipe (Verizon-P)	138	(2) RRUS-11 (ATI-E)	99
BXA-70063/6CF w/ Mount Pipe (Verizon-P)	138	(2) RRUS-11 (ATI-E)	99
BXA-70063/6CF w/ Mount Pipe (Verizon-P)	138	(2) RRUS-11 (ATI-E)	99
(2) DB846F65ZAXY w/ Mount Pipe (Verizon-P)	138	DC6-48-60-18-8F (ATI-E)	99
(2) DB846F65ZAXY w/ Mount Pipe (Verizon-P)	138	Valmont Uni-Tri Bracket (ATI-E)	99
(2) DB846F65ZAXY w/ Mount Pipe (Verizon-P)	138	7770.00 w/ Mount Pipe (ATI-E)	95
BXA 171063/8BF w/Mount Pipe (Verizon-P)	138	7770.00 w/ Mount Pipe (ATI-E)	95
BXA 171063/8BF w/Mount Pipe (Verizon-P)	138	7770.00 w/ Mount Pipe (ATI-E)	95
BXA 171063/8BF w/Mount Pipe (Verizon-P)	138	P65-16-XLH-RR w/Mount Pipe (ATI-E)	95
(2) FD9R6004/2C-3L (Verizon-P)	138	P65-16-XLH-RR w/Mount Pipe (ATI-E)	95
(2) FD9R6004/2C-3L (Verizon-P)	138	P65-16-XLH-RR w/Mount Pipe (ATI-E)	95
(2) FD9R6004/2C-3L (Verizon-P)	138	(2) LGP21401 (ATI-E)	95
Platform Mount [LP 712-1] (Verizon-E)	138	(2) LGP21401 (ATI-E)	95
(2) APX16PV-16PVL-E w/ Mount Pipe (T-Mobile-E)	120	(2) LGP21401 (ATI-E)	95
(2) APX16PV-16PVL-E w/ Mount Pipe (T-Mobile-E)	120	P65-16-XLH-RR w/Mount Pipe (ATI-Future)	95
(2) APX16PV-16PVL-E w/ Mount Pipe (T-Mobile-E)	120	P65-16-XLH-RR w/Mount Pipe (ATI-Future)	95
(2) DTMA-1819-DD-12 (T-Mobile-E)	120	P65-16-XLH-RR w/Mount Pipe (ATI-Future)	95
(2) DTMA-1819-DD-12 (T-Mobile-E)	120	6' x 2" Mount Pipe (ATI-E)	95
(2) DTMA-1819-DD-12 (T-Mobile-E)	120	6' x 2" Mount Pipe (ATI-E)	95
6' x 2" Mount Pipe (T-Mobile-E)	120	6' x 2" Mount Pipe (ATI-E)	95
6' x 2" Mount Pipe (T-Mobile-E)	120	Platform Mount [LP 602-1] (ATI-E)	95
6' x 2" Mount Pipe (T-Mobile-E)	120	LLPX310R w/ Mount Pipe (Clearwire-E)	73
T-Arm Mount [TA 602-3] (T-Mobile-E)	120	LLPX310R w/ Mount Pipe (Clearwire-E)	73
800 10504 w/ Mount Pipe (MetroPCS-E)	110	LLPX310R w/ Mount Pipe (Clearwire-E)	73
800 10504 w/ Mount Pipe (MetroPCS-E)	110	FDD_R6_RRH (Clearwire-E)	73
800 10504 w/ Mount Pipe (MetroPCS-E)	110	FDD_R6_RRH (Clearwire-E)	73
742 351 w/ Mount Pipe (MetroPCS-E)	110	FDD_R6_RRH (Clearwire-E)	73
742 351 w/ Mount Pipe (MetroPCS-E)	110	HORIZON DUO (Clearwire-E)	73
742 351 w/ Mount Pipe (MetroPCS-E)	110	HORIZON DUO (Clearwire-E)	73
(2) 860 10025 (MetroPCS-E)	110	(2) RV65-18-04DPL2 w/ Mount Pipe (Sprint/Nextel-E)	73
(2) 860 10025 (MetroPCS-E)	110	(2) RV65-18-04DPL2 w/ Mount Pipe (Sprint/Nextel-E)	73
(2) 860 10025 (MetroPCS-E)	110	(2) RV90-17-04DPL2 w/ Mount Pipe (Sprint/Nextel-E)	73
		Platform Mount [LP 712-1] (E)	73
		A-ANT-23G-2-C (Nextel-E)	73
		A-ANT-23G-2-C (Nextel-E)	73

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	52.6 ksi	53 ksi	80 ksi
50.8 ksi	51 ksi	80 ksi	51.5 ksi	52 ksi	65 ksi
54.3 ksi	54 ksi	65 ksi			

TOWER DESIGN NOTES

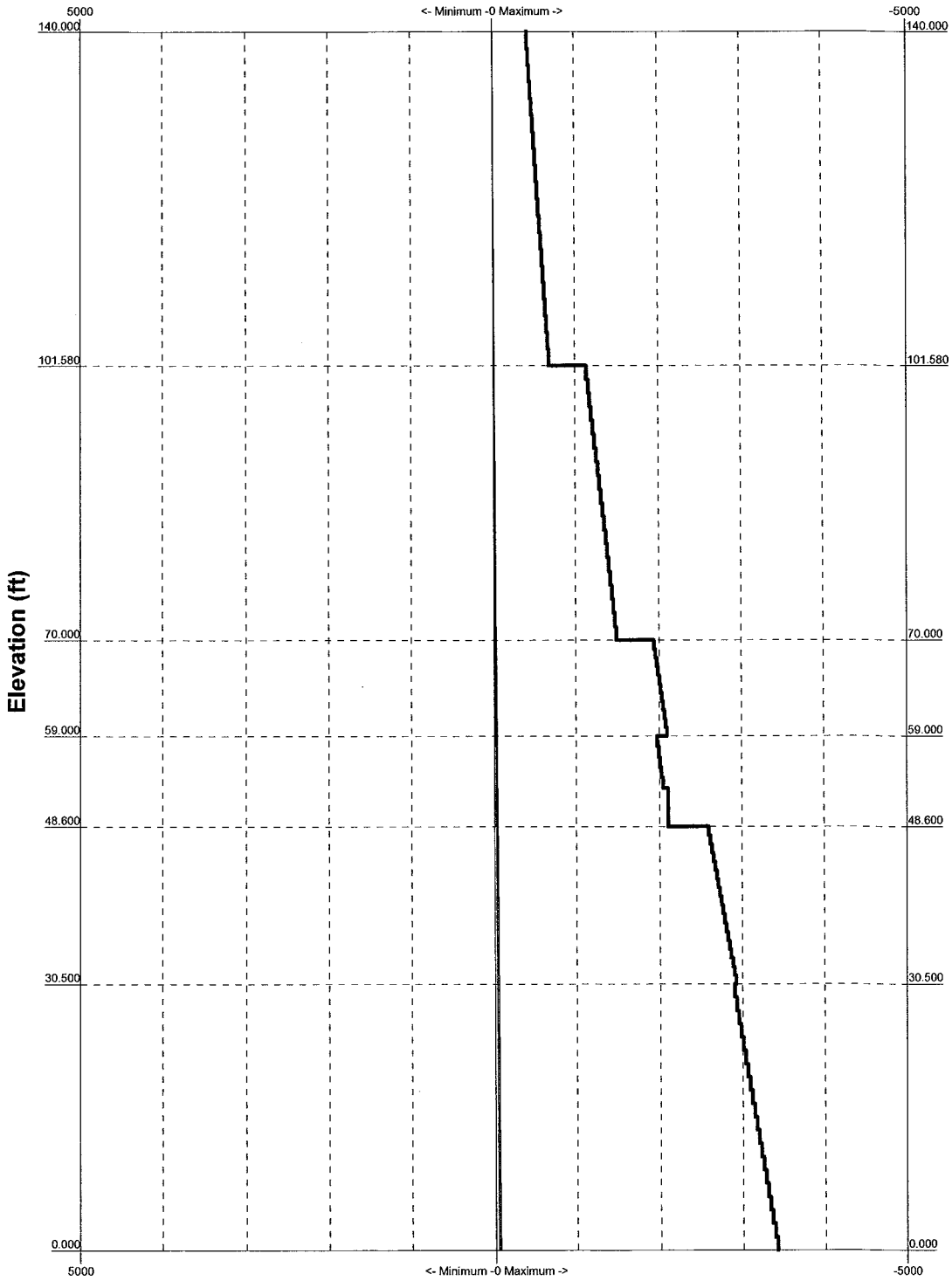
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 98%

BT Engineering
1717 S. Boulder, Suite 300
Tulsa, OK 74145
Phone: (918) 587 - 4630
FAX: (918) 295 - 0265

Job:	84720.002.01- Shelton NE, CT (Site# 24515
Project:	140' FWT Monopole / Fairfield County
Client: AT&T Towers	Drawn by: A. Abbaszadeh — App'd:
Code: TIA/EIA-222-F	Date: 12/28/12 — Scale: NTS
Path:	Dwg No: E-1

TIA/EIA-222-F - 85 mph/38 mph 0.750 in Ice

Leg Capacity ——— **Leg Compression (K)**



BT Engineering
1717 S. Boulder, Suite 300
Tulsa, OK 74145
Phone: (918) 587 - 4630
FAX: (918) 295 - 0265

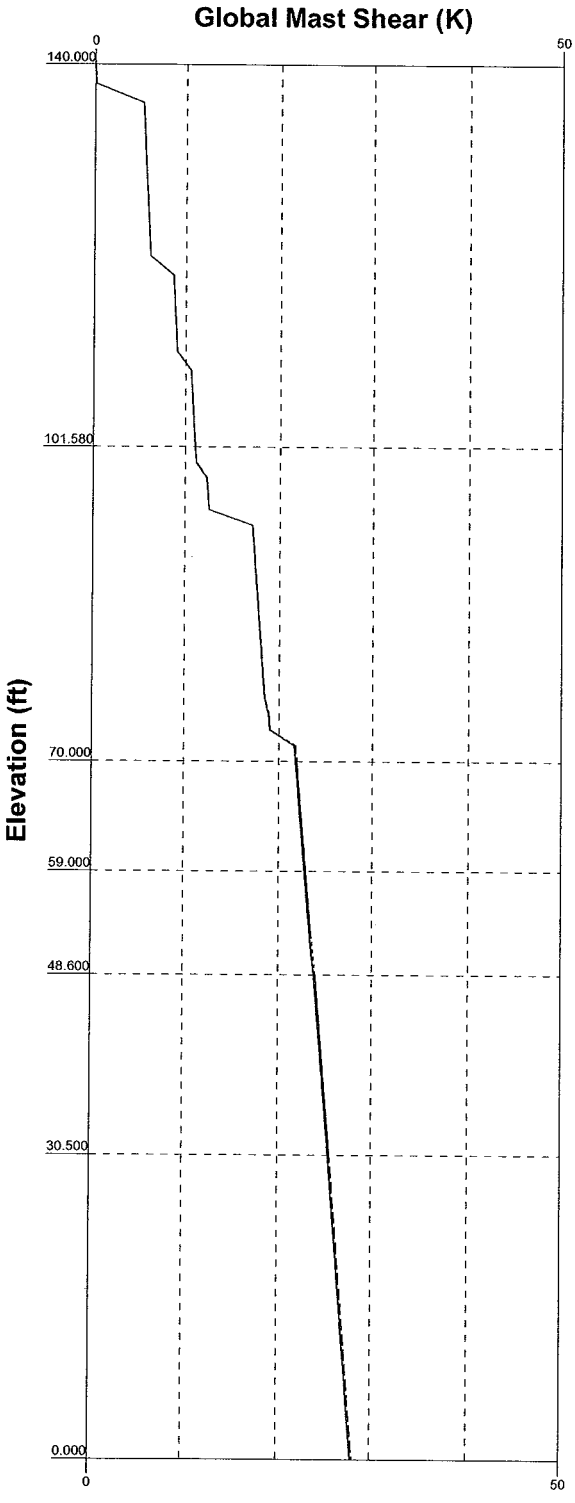
Job: ***84720.002.01- Shelton NE, CT (Site# 24519***			
Project: ***140' FWT Monopole / Fairfield County***			
Client: AT&T Towers	Drawn by: A. Abbaszadeh	App'd:	
Code: TIA/EIA-222-F	Date: 12/28/12	Scale: NTS	
Path: S:\Projects\AT&T Towers\84720_Shelton NE_24519\Engineering\Tower\84720_001\01_Shelton NE_CT_Monopole		Dwg No. E-3	

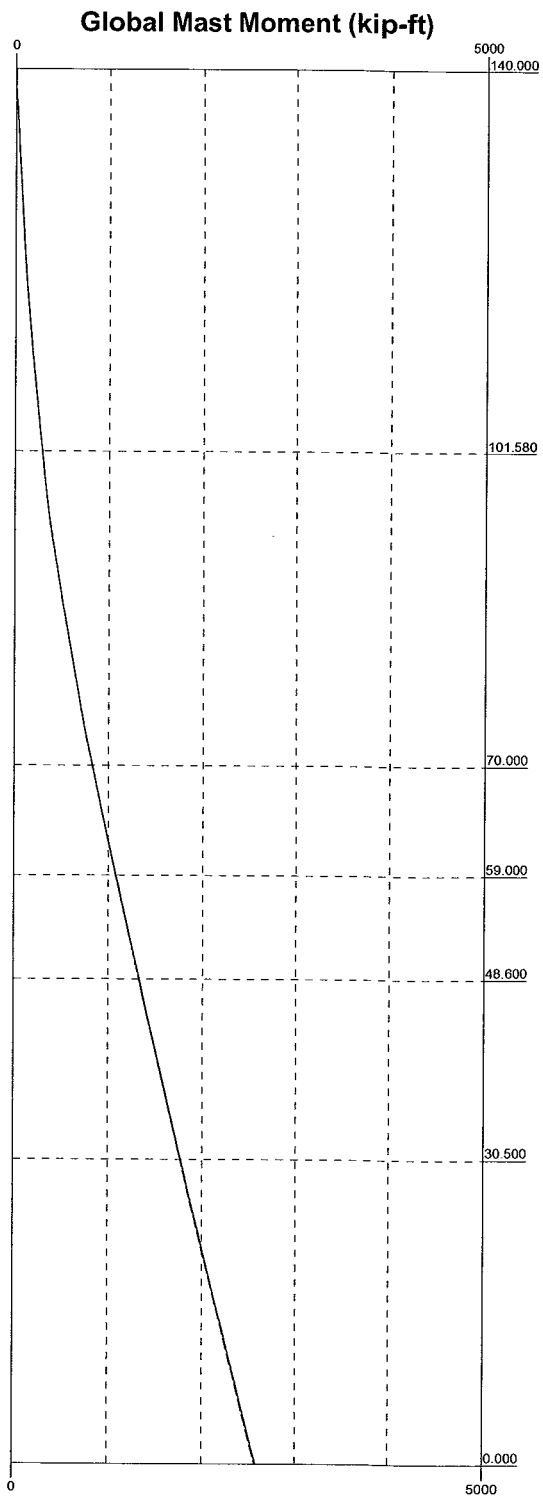
TIA/EIA-222-F - 85 mph/38 mph 0.750 in Ice

Vx ---------- Vz

Maximum Values

Mx ---------- Mz





BT Engineering
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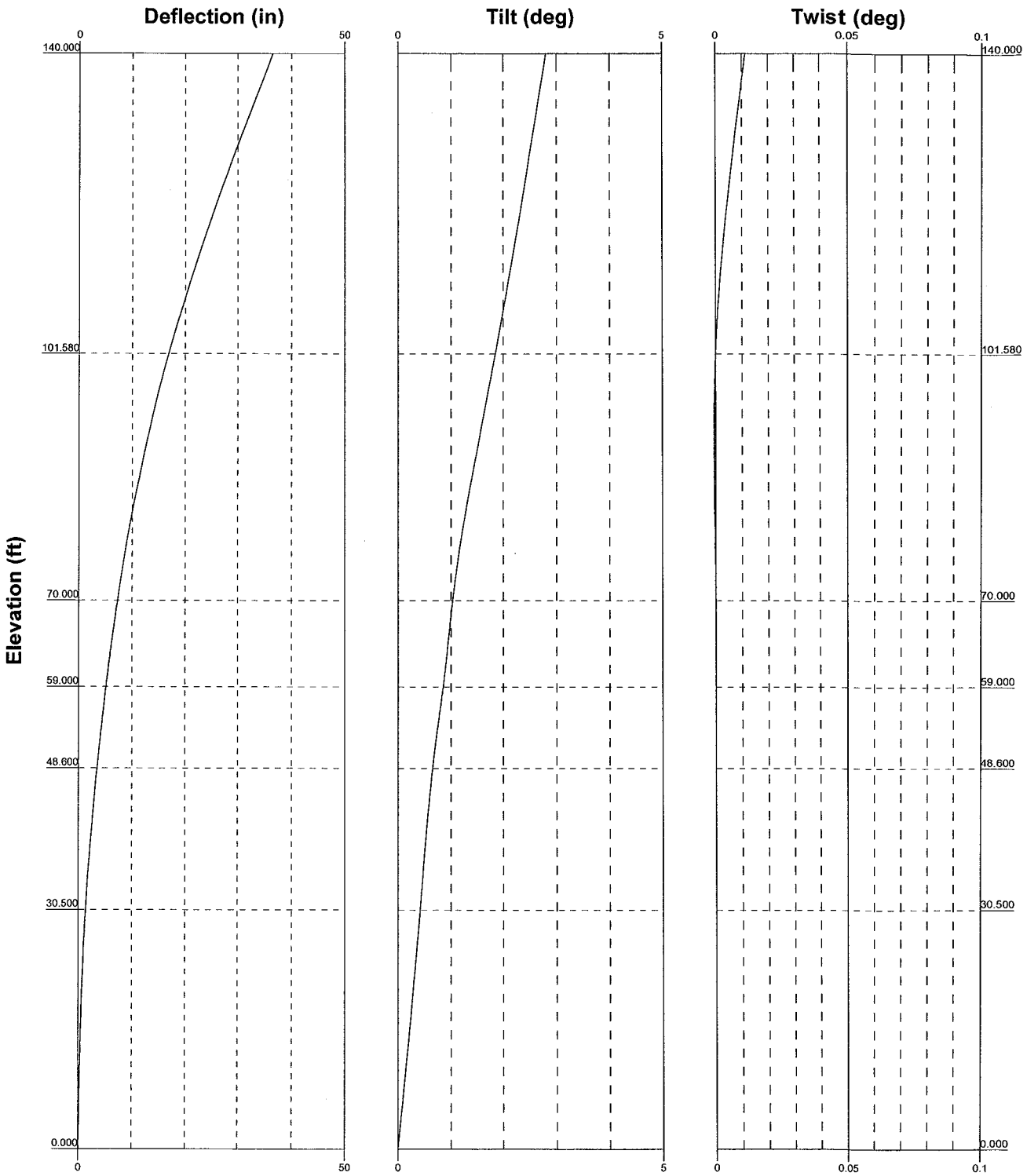
Tulsa, OK 74145
Phone: (918) 587 - 4630
FAX: (918) 295 - 0265

Job: 84720.002.01- Shelton NE, CT (Site# 24519			
Project: 140' FWT Monopole / Fairfield County			
Client: AT&T Towers	Drawn by: A. Abbaszadeh	App'd:	
Code: TIA/EIA-222-F	Date: 12/28/12	Scale: NTS	
Path: S:\Projects\AT&T Towers\84720_Shelton NE_24519\Engineering\Tower\84720_002.01_Shelton NE_CT_Model.eri		Dwg No. E-4	

TIA/EIA-222-F - Service - 50 mph **Maximum Values**



BT Engineering
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Tulsa, OK 74145
Phone: (918) 587 - 4630
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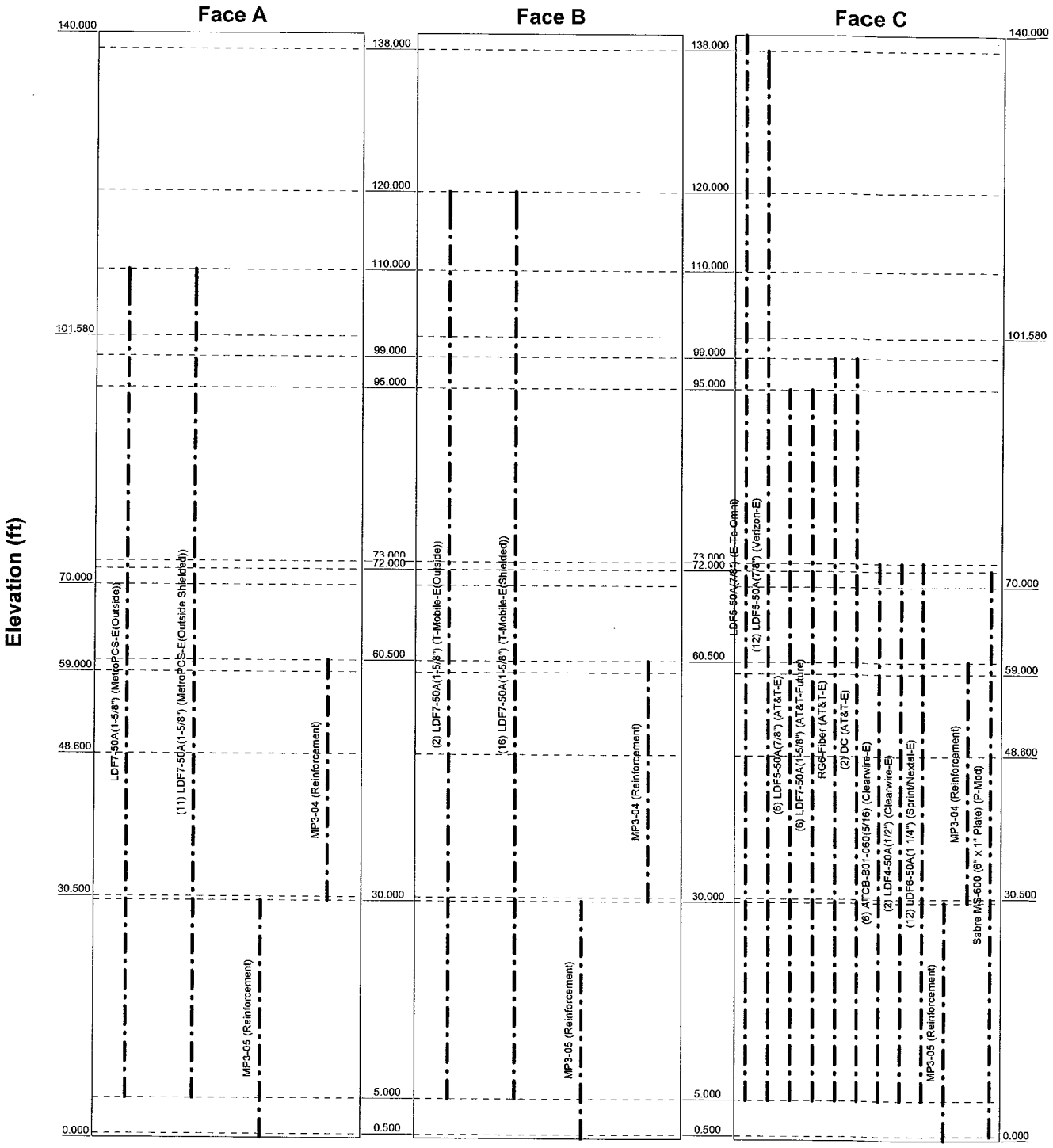
Job: ***84720.002.01- Shelton NE, CT (Site# 24519***			
Project: ***140' FWT Monopole / Fairfield County***			
Client: AT&T Towers	Drawn by: A. Abbaszadeh	App'd:	
Code: TIA/EIA-222-F	Date: 12/28/12	Scale: NTS	
Path: S:\Projects\AT&T Towers\84720_Shelton NE_24519\Engineering\Towers\84720.002.01_Shelton NE_CT_Monopole.eri		Dwg No. E-5	

Feedline Distribution Chart
0' - 140'

Round — Flat — App In Face — App Out Face — Truss Leg



BT Engineering
1717 S. Boulder, Suite 300
Tulsa, OK 74145
Phone: (918) 587 - 4630
FAX: (918) 295 - 0265

Job: 84720.002.01- Shelton NE, CT (Site# 24519			
Project: 140' FWT Monopole / Fairfield County			
Client: AT&T Towers	Drawn by: A. Abbaszadeh	App'd:	
Code: TIA/EIA-222-F	Date: 12/28/12	Scale: NTS	
Path: S:\Projects\AT&T Towers\84720_Shelton NE_2451\Engineering\Tower\84720.002.01_Shelton NE_CT_Modified.tnx		Dwg No. E-7	

tnxTower	Job	Page
	84720.002.01- Shelton NE, CT (Site# 24519)	1 of 28
BT Engineering 1717 S. Boulder, Suite 300 Tulsa, OK 74145 Phone: (918) 587 - 4630 FAX: (918) 295 - 0265	**Project** 140' FWT Monopole / Fairfield County	**Date** 16:30:47 12/28/12
	Client AT&T Towers	**Designed by** A. Abbaszadeh

Tower Input Data

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

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.750 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 38 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Treat Feedline Bundles As Cylinder
	Consider Moments - Horizontals		Assume Legs Pinned		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Calculate Redundant Bracing Forces
	Use Moment Magnification	√	Use Clear Spans For Wind Area		Ignore Redundant Members in FEA
√	Use Code Stress Ratios		Use Clear Spans For KL/r		SR Leg Bolts Resist Compression
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		All Leg Panels Have Same Allowable
√	Escalate Ice	√	Bypass Mast Stability Checks		Offset Girt At Foundation
	Always Use Max Kz	√	Use Azimuth Dish Coefficients	√	Consider Feedline Torque
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Include Angle Block Shear Check
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Poles
	Leg Bolts Are At Top Of Section		SR Members Have Cut Ends	√	Include Shear-Torsion Interaction
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	Add IBC .6D+W Combination				

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	140.000-101.580	38.420	0.000	18	13.161	21.882	0.188	0.750	A572-65 (65 ksi)
L2	101.580-70.000	31.580	0.000	18	21.882	29.055	0.313	1.250	A572-65 (65 ksi)
L3	70.000-59.000	11.000	0.000	18	29.055	31.550	0.523	2.091	50.8 ksi (51 ksi)
L4	59.000-48.600	10.400	4.420	18	31.550	33.913	0.456	1.824	54.3 ksi (54 ksi)
L5	48.600-30.500	22.520	0.000	18	31.997	37.400	0.594	2.375	52.6 ksi (53 ksi)
L6	30.500-0.000	30.500		18	37.400	44.317	0.597	2.389	51.5 ksi (52 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	13.364	7.721	164.179	4.606	6.686	24.556	328.574	3.861	1.986	10.594
	22.220	12.911	767.705	7.702	11.116	69.063	1536.421	6.457	3.521	18.78
L2	22.220	21.394	1257.519	7.657	11.116	113.126	2516.693	10.699	3.301	10.564
	29.503	28.509	2975.555	10.204	14.760	201.597	5955.026	14.257	4.564	14.604
L3	29.503	47.345	4869.515	10.129	14.760	329.914	9745.438	23.677	4.194	8.021
	32.037	51.486	6261.923	11.015	16.027	390.701	12532.085	25.748	4.633	8.861
L4	32.037	45.004	5497.168	11.038	16.027	342.986	11001.569	22.506	4.750	10.417
	34.436	48.424	6848.102	11.877	17.228	397.503	13705.214	24.216	5.166	11.329
L5	33.567	59.176	7372.688	11.148	16.254	453.583	14755.078	29.594	4.587	7.725
	37.977	69.358	11870.743	13.066	18.999	624.802	23757.106	34.686	5.537	9.327
L6	37.977	69.760	11937.318	13.065	18.999	628.306	23890.343	34.887	5.531	9.262
	45.001	82.871	20012.377	15.521	22.513	888.924	40051.086	41.444	6.749	11.301

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
L1 140.000-101.580				1	1	1		
L2 101.580-70.000				1	1	1		
L3 70.000-59.000				1	1	1		
L4 59.000-48.600				1	1	1		
L5 48.600-30.500				1	1	1		
L6 30.500-0.000				1	1	1		

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 klf
LDF5-50A(7/8") (E-To Omni)	C	No	Inside Pole	140.000 - 5.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LDF5-50A(7/8") (Verizon-E)	C	No	Inside Pole	138.000 - 5.000	12	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
#								
LDF7-50A(1-5/8") (T-Mobile-E(Outside))	B	No	CaAa (Out Of Face)	120.000 - 5.000	2	No Ice	0.198	0.001
						1/2" Ice	0.298	0.002
						1" Ice	0.398	0.004
						2" Ice	0.598	0.011
						4" Ice	0.998	0.030
LDF7-50A(1-5/8") (T-Mobile-E(Shielded))	B	No	CaAa (Out Of Face)	120.000 - 5.000	16	No Ice	0.000	0.001
						1/2" Ice	0.000	0.002
						1" Ice	0.000	0.004
						2" Ice	0.000	0.011
						4" Ice	0.000	0.030
#								
LDF7-50A(1-5/8") (MetroPCS-E(Outside))	A	No	CaAa (Out Of Face)	110.000 - 5.000	1	No Ice	0.198	0.001
						1/2" Ice	0.298	0.002
						1" Ice	0.398	0.004
						2" Ice	0.598	0.011
						4" Ice	0.998	0.030
LDF7-50A(1-5/8") (MetroPCS-E(Outside Shielded))	A	No	CaAa (Out Of Face)	110.000 - 5.000	11	No Ice	0.000	0.001
						1/2" Ice	0.000	0.002
						1" Ice	0.000	0.004
						2" Ice	0.000	0.011
						4" Ice	0.000	0.030
#								
LDF5-50A(7/8") (AT&T-E)	C	No	Inside Pole	95.000 - 5.000	6	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LDF7-50A(1-5/8") (AT&T-Future)	C	No	Inside Pole	95.000 - 5.000	6	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
RG6-Fiber (AT&T-E)	C	No	Inside Pole	99.000 - 5.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
DC (AT&T-E)	C	No	Inside Pole	99.000 - 5.000	2	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
#								
ATCB-B01-060(5/16) (Clearwire-E)	C	No	Inside Pole	73.000 - 5.000	6	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LDF4-50A(1/2") (Clearwire-E)	C	No	Inside Pole	73.000 - 5.000	2	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
LDF6-50A(1 1/4") (Sprint/Nextel-E)	C	No	Inside Pole	73.000 - 5.000	12	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
#								
MP3-05 (Reinforcement)	C	No	CaAa (Out Of Face)	30.000 - 0.000	1	No Ice	0.348	0.019
						1/2" Ice	0.432	0.021
						1" Ice	0.515	0.023
						2" Ice	0.682	0.029
						4" Ice	1.015	0.044
MP3-05 (Reinforcement)	B	No	CaAa (Out Of Face)	30.000 - 0.000	1	No Ice	0.000	0.019
						1/2" Ice	0.000	0.021
						1" Ice	0.000	0.023
						2" Ice	0.000	0.029
						4" Ice	0.000	0.044
MP3-05 (Reinforcement)	A	No	CaAa (Out Of Face)	30.000 - 0.000	1	No Ice	0.000	0.019
						1/2" Ice	0.000	0.021
						1" Ice	0.000	0.023
						2" Ice	0.000	0.029
						4" Ice	0.000	0.044
MP3-04 (Reinforcement)	C	No	CaAa (Out Of Face)	60.500 - 30.000	1	No Ice	0.268	0.014
						1/2" Ice	0.352	0.016
						1" Ice	0.435	0.018
						2" Ice	0.602	0.022
						4" Ice	0.935	0.036
MP3-04 (Reinforcement)	B	No	CaAa (Out Of Face)	60.500 - 30.000	1	No Ice	0.000	0.014
						1/2" Ice	0.000	0.016
						1" Ice	0.000	0.018
						2" Ice	0.000	0.022
						4" Ice	0.000	0.036
MP3-04 (Reinforcement)	A	No	CaAa (Out Of Face)	60.500 - 30.000	1	No Ice	0.000	0.014
						1/2" Ice	0.000	0.016
						1" Ice	0.000	0.018
						2" Ice	0.000	0.022
						4" Ice	0.000	0.036
#								
Sabre MS-600 (6" x 1" Plate) (P-Mod)	C	No	CaAa (Out Of Face)	72.000 - 0.500	1	No Ice	0.167	0.000
						1/2" Ice	0.250	0.000
						1" Ice	0.333	0.000
						2" Ice	0.500	0.000
						4" Ice	0.833	0.000

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	140.000-101.580	A	0.000	0.000	0.000	1.667	0.083
		B	0.000	0.000	0.000	7.294	0.272

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
		C	0.000	0.000	0.000	0.000	0.157
L2	101.580-70.000	A	0.000	0.000	0.000	6.253	0.311
		B	0.000	0.000	0.000	12.506	0.466
		C	0.000	0.000	0.000	0.333	0.347
L3	70.000-59.000	A	0.000	0.000	0.000	2.178	0.129
		B	0.000	0.000	0.000	4.356	0.184
		C	0.000	0.000	0.000	2.236	0.245
L4	59.000-48.600	A	0.000	0.000	0.000	2.059	0.249
		B	0.000	0.000	0.000	4.118	0.300
		C	0.000	0.000	0.000	4.524	0.358
L5	48.600-30.500	A	0.000	0.000	0.000	3.584	0.433
		B	0.000	0.000	0.000	7.168	0.522
		C	0.000	0.000	0.000	7.873	0.623
L6	30.500-0.000	A	0.000	0.000	0.000	5.049	0.835
		B	0.000	0.000	0.000	10.098	0.960
		C	0.000	0.000	0.000	15.584	1.102

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	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	140.000-101.580	A	0.875	0.000	0.000	0.000	3.141	0.397
		B		0.000	0.000	0.000	13.742	1.303
		C		0.000	0.000	0.000	0.000	0.157
L2	101.580-70.000	A	0.840	0.000	0.000	0.000	11.561	1.433
		B		0.000	0.000	0.000	23.123	2.150
		C		0.000	0.000	0.000	0.613	0.347
L3	70.000-59.000	A	0.813	0.000	0.000	0.000	3.966	0.509
		B		0.000	0.000	0.000	7.932	0.751
		C		0.000	0.000	0.000	3.929	0.249
L4	59.000-48.600	A	0.795	0.000	0.000	0.000	3.713	0.623
		B		0.000	0.000	0.000	7.426	0.847
		C		0.000	0.000	0.000	7.281	0.386
L5	48.600-30.500	A	0.766	0.000	0.000	0.000	6.462	1.084
		B		0.000	0.000	0.000	12.925	1.474
		C		0.000	0.000	0.000	12.671	0.672
L6	30.500-0.000	A	0.750	0.000	0.000	0.000	8.874	1.715
		B		0.000	0.000	0.000	17.748	2.234
		C		0.000	0.000	0.000	23.147	1.193

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	140.000-101.580	0.240	0.072	0.375	0.112
L2	101.580-70.000	0.388	0.007	0.579	0.010
L3	70.000-59.000	0.189	0.117	0.290	0.166
L4	59.000-48.600	-0.037	0.237	0.011	0.309
L5	48.600-30.500	-0.038	0.242	0.011	0.319
L6	30.500-0.000	-0.185	0.296	-0.158	0.375

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
9' Omni (E)	A	From Leg	4.000 0.000 6.500	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.250 3.180 4.110 5.970 9.690	2.250 3.180 4.110 5.970 9.690	0.030 0.050 0.070 0.110 0.190
BXA-70063/6CF w/ Mount Pipe (Verizon-P)	C	From Leg	3.000 0.000 2.000	-20.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.979 8.621 9.228 10.473 13.082	5.407 6.558 7.422 9.198 12.952	0.042 0.098 0.166 0.328 0.788
BXA-70063/6CF w/ Mount Pipe (Verizon-P)	B	From Leg	3.000 0.000 2.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.979 8.621 9.228 10.473 13.082	5.407 6.558 7.422 9.198 12.952	0.042 0.098 0.166 0.328 0.788
BXA-70063/6CF w/ Mount Pipe (Verizon-P)	A	From Leg	3.000 0.000 2.000	30.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.979 8.621 9.228 10.473 13.082	5.407 6.558 7.422 9.198 12.952	0.042 0.098 0.166 0.328 0.788
(2) DB846F65ZAXY w/ Mount Pipe (Verizon-P)	C	From Leg	3.000 0.000 2.000	-20.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.271 7.877 8.484 9.724 12.325	7.821 9.010 9.912 11.812 15.978	0.047 0.111 0.188 0.367 0.867
(2) DB846F65ZAXY w/ Mount Pipe (Verizon-P)	B	From Leg	3.000 0.000 2.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.271 7.877 8.484 9.724 12.325	7.821 9.010 9.912 11.812 15.978	0.047 0.111 0.188 0.367 0.867
(2) DB846F65ZAXY w/ Mount Pipe (Verizon-P)	A	From Leg	3.000 0.000 2.000	30.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.271 7.877 8.484 9.724 12.325	7.821 9.010 9.912 11.812 15.978	0.047 0.111 0.188 0.367 0.867
BXA 171063/8BF w/Mount Pipe (Verizon-P)	C	From Leg	3.000 0.000 2.000	-20.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.367 3.843 4.302 5.310 7.466	3.541 4.343 5.022 6.429 9.587	0.023 0.055 0.096 0.197 0.509
BXA 171063/8BF w/Mount Pipe (Verizon-P)	B	From Leg	3.000 0.000 2.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.367 3.843 4.302 5.310 7.466	3.541 4.343 5.022 6.429 9.587	0.023 0.055 0.096 0.197 0.509
BXA 171063/8BF w/Mount Pipe (Verizon-P)	A	From Leg	3.000 0.000 2.000	30.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.367 3.843 4.302 5.310 7.466	3.541 4.343 5.022 6.429 9.587	0.023 0.055 0.096 0.197 0.509
(2) FD9R6004/2C-3L (Verizon-P)	C	From Leg	4.000 0.000 2.000	30.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.367 0.451 0.543 0.755	0.085 0.136 0.196 0.343	0.003 0.005 0.009 0.020

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						4" Ice	1.281	0.740	0.063
(2) FD9R6004/2C-3L (Verizon-P)	B	From Leg	4.000 0.000 2.000	30.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.367 0.451 0.543 0.755 1.281	0.085 0.136 0.196 0.343 0.740	0.003 0.005 0.009 0.020 0.063
(2) FD9R6004/2C-3L (Verizon-P)	A	From Leg	4.000 0.000 2.000	30.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.367 0.451 0.543 0.755 1.281	0.085 0.136 0.196 0.343 0.740	0.003 0.005 0.009 0.020 0.063
Platform Mount [LP 712-1] (Verizon-E)	C	None		0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	24.530 29.940 35.350 46.170 67.810	24.530 29.940 35.350 46.170 67.810	1.335 1.646 1.956 2.577 3.820
#									
(2) APX16PV-16PVL-E w/ Mount Pipe (T-Mobile-E)	C	From Leg	3.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.075 7.639 8.177 9.286 11.638	3.428 4.251 4.951 6.400 9.513	0.062 0.106 0.161 0.292 0.671
(2) APX16PV-16PVL-E w/ Mount Pipe (T-Mobile-E)	B	From Leg	3.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.075 7.639 8.177 9.286 11.638	3.428 4.251 4.951 6.400 9.513	0.062 0.106 0.161 0.292 0.671
(2) APX16PV-16PVL-E w/ Mount Pipe (T-Mobile-E)	A	From Leg	3.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.075 7.639 8.177 9.286 11.638	3.428 4.251 4.951 6.400 9.513	0.062 0.106 0.161 0.292 0.671
(2) DTMA-1819-DD-12 (T-Mobile-E)	C	From Leg	4.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.706 0.831 0.966 1.260 1.952	0.411 0.521 0.641 0.905 1.538	0.014 0.019 0.026 0.045 0.111
(2) DTMA-1819-DD-12 (T-Mobile-E)	B	From Leg	4.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.706 0.831 0.966 1.260 1.952	0.411 0.521 0.641 0.905 1.538	0.014 0.019 0.026 0.045 0.111
(2) DTMA-1819-DD-12 (T-Mobile-E)	A	From Leg	4.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.706 0.831 0.966 1.260 1.952	0.411 0.521 0.641 0.905 1.538	0.014 0.019 0.026 0.045 0.111
6' x 2" Mount Pipe (T-Mobile-E)	C	From Leg	3.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.425 1.925 2.294 3.060 4.702	1.425 1.925 2.294 3.060 4.702	0.022 0.033 0.048 0.090 0.231
6' x 2" Mount Pipe (T-Mobile-E)	B	From Leg	3.000 0.000 0.000	0.000	120.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.425 1.925 2.294 3.060 4.702	1.425 1.925 2.294 3.060 4.702	0.022 0.033 0.048 0.090 0.231

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
6' x 2" Mount Pipe (T-Mobile-E)	A	From Leg	3.000	0.000	0.000	0.000	120.000	No Ice	1.425	1.425	0.022
			0.000					1/2" Ice	1.925	1.925	0.033
			0.000					1" Ice	2.294	2.294	0.048
								2" Ice	3.060	3.060	0.090
								4" Ice	4.702	4.702	0.231
T-Arm Mount [TA 602-3] (T-Mobile-E)	C	None				0.000	120.000	No Ice	11.590	11.590	0.774
								1/2" Ice	15.440	15.440	0.990
								1" Ice	19.290	19.290	1.206
								2" Ice	26.990	26.990	1.639
								4" Ice	42.390	42.390	2.503
#											
800 10504 w/ Mount Pipe (MetroPCS-E)	C	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	3.589	3.178	0.038
			0.000					1/2" Ice	4.007	3.905	0.068
			0.000					1" Ice	4.422	4.581	0.108
								2" Ice	5.339	5.982	0.207
								4" Ice	7.385	8.983	0.513
800 10504 w/ Mount Pipe (MetroPCS-E)	B	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	3.589	3.178	0.038
			0.000					1/2" Ice	4.007	3.905	0.068
			0.000					1" Ice	4.422	4.581	0.108
								2" Ice	5.339	5.982	0.207
								4" Ice	7.385	8.983	0.513
800 10504 w/ Mount Pipe (MetroPCS-E)	A	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	3.589	3.178	0.038
			0.000					1/2" Ice	4.007	3.905	0.068
			0.000					1" Ice	4.422	4.581	0.108
								2" Ice	5.339	5.982	0.207
								4" Ice	7.385	8.983	0.513
742 351 w/ Mount Pipe (MetroPCS-E)	C	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	6.123	2.984	0.049
			0.000					1/2" Ice	6.604	3.652	0.088
			0.000					1" Ice	7.088	4.298	0.136
								2" Ice	8.087	5.640	0.253
								4" Ice	10.213	8.538	0.596
742 351 w/ Mount Pipe (MetroPCS-E)	B	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	6.123	2.984	0.049
			0.000					1/2" Ice	6.604	3.652	0.088
			0.000					1" Ice	7.088	4.298	0.136
								2" Ice	8.087	5.640	0.253
								4" Ice	10.213	8.538	0.596
742 351 w/ Mount Pipe (MetroPCS-E)	A	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	6.123	2.984	0.049
			0.000					1/2" Ice	6.604	3.652	0.088
			0.000					1" Ice	7.088	4.298	0.136
								2" Ice	8.087	5.640	0.253
								4" Ice	10.213	8.538	0.596
(2) 860 10025 (MetroPCS-E)	C	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	0.163	0.136	0.001
			0.000					1/2" Ice	0.229	0.199	0.003
			0.000					1" Ice	0.302	0.270	0.005
								2" Ice	0.476	0.439	0.014
								4" Ice	0.927	0.879	0.051
(2) 860 10025 (MetroPCS-E)	B	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	0.163	0.136	0.001
			0.000					1/2" Ice	0.229	0.199	0.003
			0.000					1" Ice	0.302	0.270	0.005
								2" Ice	0.476	0.439	0.014
								4" Ice	0.927	0.879	0.051
(2) 860 10025 (MetroPCS-E)	A	From Leg	3.000	0.000	0.000	0.000	110.000	No Ice	0.163	0.136	0.001
			0.000					1/2" Ice	0.229	0.199	0.003
			0.000					1" Ice	0.302	0.270	0.005
								2" Ice	0.476	0.439	0.014
								4" Ice	0.927	0.879	0.051
T-Arm Mount [TA 702-3]	C	None				0.000	110.000	No Ice	5.640	5.640	0.339

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(MetroPCS-E)						1/2" Ice	6.550	6.550	0.429
						1" Ice	7.460	7.460	0.519
						2" Ice	9.280	9.280	0.699
						4" Ice	12.920	12.920	1.059
#									
(2) RRUS-11	C	From Leg	1.000	0.000	99.000	No Ice	4.424	1.186	0.055
(AT&T-E)			0.000			1/2" Ice	4.708	1.351	0.081
			0.000			1" Ice	5.001	1.526	0.110
						2" Ice	5.613	1.900	0.179
						4" Ice	6.940	2.753	0.368
(2) RRUS-11	B	From Leg	1.000	0.000	99.000	No Ice	4.424	1.186	0.055
(AT&T-E)			0.000			1/2" Ice	4.708	1.351	0.081
			0.000			1" Ice	5.001	1.526	0.110
						2" Ice	5.613	1.900	0.179
						4" Ice	6.940	2.753	0.368
(2) RRUS-11	A	From Leg	1.000	0.000	99.000	No Ice	4.424	1.186	0.055
(AT&T-E)			0.000			1/2" Ice	4.708	1.351	0.081
			0.000			1" Ice	5.001	1.526	0.110
						2" Ice	5.613	1.900	0.179
						4" Ice	6.940	2.753	0.368
DC6-48-60-18-8F	C	From Leg	1.000	0.000	99.000	No Ice	2.567	4.317	0.019
(AT&T-E)			0.000			1/2" Ice	2.798	4.596	0.050
			0.000			1" Ice	3.038	4.885	0.085
						2" Ice	3.543	5.488	0.167
						4" Ice	4.658	6.797	0.383
Valmont Uni-Tri Bracket	C	None		0.000	99.000	No Ice	1.750	1.750	0.290
(AT&T-E)						1/2" Ice	1.940	1.940	0.306
						1" Ice	2.130	2.130	0.322
						2" Ice	2.510	2.510	0.354
						4" Ice	3.270	3.270	0.418
#									
7770.00 w/ Mount Pipe	C	From Leg	3.000	0.000	95.000	No Ice	6.218	4.353	0.057
(AT&T-E)			0.000			1/2" Ice	6.769	5.198	0.103
			0.000			1" Ice	7.296	5.919	0.159
						2" Ice	8.385	7.411	0.293
						4" Ice	10.691	10.763	0.680
7770.00 w/ Mount Pipe	B	From Leg	3.000	0.000	95.000	No Ice	6.218	4.353	0.057
(AT&T-E)			0.000			1/2" Ice	6.769	5.198	0.103
			0.000			1" Ice	7.296	5.919	0.159
						2" Ice	8.385	7.411	0.293
						4" Ice	10.691	10.763	0.680
7770.00 w/ Mount Pipe	A	From Leg	3.000	0.000	95.000	No Ice	6.218	4.353	0.057
(AT&T-E)			0.000			1/2" Ice	6.769	5.198	0.103
			0.000			1" Ice	7.296	5.919	0.159
						2" Ice	8.385	7.411	0.293
						4" Ice	10.691	10.763	0.680
P65-16-XLH-RR w/Mount Pipe	C	From Leg	3.000	0.000	95.000	No Ice	8.637	6.362	0.079
			0.000			1/2" Ice	9.290	7.538	0.141
(AT&T-E)			0.000			1" Ice	9.910	8.427	0.216
						2" Ice	11.176	10.239	0.393
						4" Ice	13.829	14.099	0.886
P65-16-XLH-RR w/Mount Pipe	B	From Leg	3.000	0.000	95.000	No Ice	8.637	6.362	0.079
			0.000			1/2" Ice	9.290	7.538	0.141
(AT&T-E)			0.000			1" Ice	9.910	8.427	0.216
						2" Ice	11.176	10.239	0.393
						4" Ice	13.829	14.099	0.886
P65-16-XLH-RR w/Mount	A	From Leg	3.000	0.000	95.000	No Ice	8.637	6.362	0.079

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Pipe			0.000			1/2" Ice	9.290	7.538	0.141
(AT&T-E)			0.000			1" Ice	9.910	8.427	0.216
						2" Ice	11.176	10.239	0.393
						4" Ice	13.829	14.099	0.886
(2) LGP21401	C	From Leg	4.000	0.000	95.000	No Ice	1.288	0.233	0.014
(AT&T-E)			0.000			1/2" Ice	1.445	0.313	0.021
			0.000			1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401	B	From Leg	4.000	0.000	95.000	No Ice	1.288	0.233	0.014
(AT&T-E)			0.000			1/2" Ice	1.445	0.313	0.021
			0.000			1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401	A	From Leg	4.000	0.000	95.000	No Ice	1.288	0.233	0.014
(AT&T-E)			0.000			1/2" Ice	1.445	0.313	0.021
			0.000			1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
P65-16-XLH-RR w/Mount Pipe	C	From Leg	3.000	0.000	95.000	No Ice	8.637	6.362	0.079
			0.000			1/2" Ice	9.290	7.538	0.141
(AT&T-Future)			0.000			1" Ice	9.910	8.427	0.216
						2" Ice	11.176	10.239	0.393
						4" Ice	13.829	14.099	0.886
P65-16-XLH-RR w/Mount Pipe	B	From Leg	3.000	0.000	95.000	No Ice	8.637	6.362	0.079
			0.000			1/2" Ice	9.290	7.538	0.141
(AT&T-Future)			0.000			1" Ice	9.910	8.427	0.216
						2" Ice	11.176	10.239	0.393
						4" Ice	13.829	14.099	0.886
P65-16-XLH-RR w/Mount Pipe	A	From Leg	3.000	0.000	95.000	No Ice	8.637	6.362	0.079
			0.000			1/2" Ice	9.290	7.538	0.141
(AT&T-Future)			0.000			1" Ice	9.910	8.427	0.216
						2" Ice	11.176	10.239	0.393
						4" Ice	13.829	14.099	0.886
6' x 2" Mount Pipe	C	From Leg	3.000	0.000	95.000	No Ice	1.425	1.425	0.022
(AT&T-E)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe	B	From Leg	3.000	0.000	95.000	No Ice	1.425	1.425	0.022
(AT&T-E)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
6' x 2" Mount Pipe	A	From Leg	3.000	0.000	95.000	No Ice	1.425	1.425	0.022
(AT&T-E)			0.000			1/2" Ice	1.925	1.925	0.033
			0.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
						4" Ice	4.702	4.702	0.231
Platform Mount [LP 602-1]	C	None		0.000	95.000	No Ice	32.030	32.030	1.343
(AT&T-E)						1/2" Ice	38.710	38.710	1.800
						1" Ice	45.390	45.390	2.257
						2" Ice	58.750	58.750	3.170
						4" Ice	85.470	85.470	4.998
#									
LLPX310R w/ Mount Pipe	C	From Leg	3.000	0.000	73.000	No Ice	5.065	2.985	0.045
(Clearwire-E)			0.000			1/2" Ice	5.480	3.528	0.081

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.000			1" Ice	5.905	4.087	0.125
						2" Ice	6.788	5.314	0.232
						4" Ice	8.705	8.133	0.544
LLPX310R w/ Mount Pipe (Clearwire-E)	B	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.065 5.480 5.905 6.788 8.705	2.985 3.528 4.087 5.314 8.133	0.045 0.081 0.125 0.232 0.544
LLPX310R w/ Mount Pipe (Clearwire-E)	A	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.065 5.480 5.905 6.788 8.705	2.985 3.528 4.087 5.314 8.133	0.045 0.081 0.125 0.232 0.544
FDD_R6_RRH (Clearwire-E)	C	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.789 1.971 2.163 2.571 3.491	0.778 0.918 1.067 1.391 2.143	0.033 0.045 0.058 0.094 0.200
FDD_R6_RRH (Clearwire-E)	B	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.789 1.971 2.163 2.571 3.491	0.778 0.918 1.067 1.391 2.143	0.033 0.045 0.058 0.094 0.200
FDD_R6_RRH (Clearwire-E)	A	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.789 1.971 2.163 2.571 3.491	0.778 0.918 1.067 1.391 2.143	0.033 0.045 0.058 0.094 0.200
HORIZON DUO (Clearwire-E)	A	From Leg	4.000 0.000 0.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.547 0.648 0.759 1.005 1.601	0.343 0.426 0.518 0.728 1.252	0.007 0.012 0.018 0.036 0.097
HORIZON DUO (Clearwire-E)	C	From Leg	4.000 0.000 0.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.547 0.648 0.759 1.005 1.601	0.343 0.426 0.518 0.728 1.252	0.007 0.012 0.018 0.036 0.097
(2) RV65-18-04DPL2 w/ Mount Pipe (Sprint/Nextel-E)	C	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.537 3.954 4.368 5.275 7.316	3.294 4.020 4.696 6.098 9.102	0.031 0.062 0.102 0.201 0.509
(2) RV65-18-04DPL2 w/ Mount Pipe (Sprint/Nextel-E)	B	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.537 3.954 4.368 5.275 7.316	3.294 4.020 4.696 6.098 9.102	0.031 0.062 0.102 0.201 0.509
(2) RV90-17-04DPL2 w/ Mount Pipe (Sprint/Nextel-E)	A	From Leg	3.000 0.000 2.000	0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.593 5.088 5.578 6.588 8.731	3.319 4.089 4.784 6.225 9.308	0.039 0.074 0.118 0.228 0.561
Platform Mount [LP 712-1] (E)	C	None		0.000	73.000	No Ice 1/2" Ice 1" Ice 2" Ice	24.530 29.940 35.350 46.170	24.530 29.940 35.350 46.170	1.335 1.646 1.956 2.577

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
#						4" Ice	67.810	67.810	3.820

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-23G-2-C (Nextel-E)	A	Paraboloid w/Shroud (HP)	From Leg	3.000 0.000 2.000	0.000		73.000	2.175	No Ice	3.715	0.012
									1/2" Ice	4.006	0.021
									1" Ice	4.296	0.030
									2" Ice	4.876	0.047
									4" Ice	6.037	0.082
A-ANT-23G-2-C (Nextel-E)	C	Paraboloid w/Shroud (HP)	From Leg	3.000 0.000 2.000	0.000		73.000	2.175	No Ice	3.715	0.012
									1/2" Ice	4.006	0.021
									1" Ice	4.296	0.030
									2" Ice	4.876	0.047
									4" Ice	6.037	0.082
#											

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

Comb. No.	Description
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 Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	140 - 101.58	36.531	28	2.812	0.009
L2	101.58 - 70	16.893	28	1.852	0.002
L3	70 - 59	7.244	28	1.039	0.001
L4	59 - 48.6	5.067	28	0.851	0.001
L5	53.02 - 30.5	4.074	28	0.736	0.000
L6	30.5 - 0	1.305	28	0.418	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
138.000	9' Omni	28	35.408	2.764	0.009	11754
120.000	(2) APX16PV-16PVL-E w/ Mount Pipe	28	25.573	2.332	0.005	2937
110.000	800 10504 w/ Mount Pipe	28	20.607	2.079	0.003	1957
99.000	(2) RRUS-11	28	15.860	1.780	0.002	1594
95.000	7770.00 w/ Mount Pipe	28	14.358	1.667	0.001	1692
75.000	A-ANT-23G-2-C	28	8.400	1.140	0.001	2524
73.000	LLPX310R w/ Mount Pipe	28	7.924	1.098	0.001	2652

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	140 - 101.58	104.812	3	8.074	0.027
L2	101.58 - 70	48.598	3	5.329	0.005
L3	70 - 59	20.866	3	2.991	0.002
L4	59 - 48.6	14.599	3	2.452	0.001
L5	53.02 - 30.5	11.737	3	2.119	0.001

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L6	30.5 - 0	3.761	3	1.205	0.001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
138.000	9' Omni	3	101.600	7.939	0.026	4232
120.000	(2) APX16PV-16PVL-E w/ Mount Pipe	3	73.462	6.704	0.014	1054
110.000	800 10504 w/ Mount Pipe	3	59.241	5.978	0.009	700
99.000	(2) RRUS-11	3	45.636	5.122	0.005	567
95.000	7770.00 w/ Mount Pipe	3	41.323	4.797	0.004	600
75.000	A-ANT-23G-2-C	3	24.193	3.284	0.002	883
73.000	LLPX310R w/ Mount Pipe	3	22.823	3.161	0.002	926

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	140 - 138.079	TP21.882x13.161x0.188	38.420	0.000	0.0	39.000	7.980	-0.182	311.234	0.001*
	138.079 - 136.158					39.000	8.240	-1.281	321.355	0.004
	136.158 - 134.237					39.000	8.499	-1.353	331.475	0.004
	134.237 - 132.316					39.000	8.759	-1.429	341.596	0.004
	132.316 - 130.395					39.000	9.018	-1.508	351.717	0.004
	130.395 - 128.474					39.000	9.278	-1.590	361.837	0.004
	128.474 - 126.553					39.000	9.537	-1.676	371.958	0.005
	126.553 - 124.632					39.000	9.797	-1.764	382.079	0.005
	124.632 - 122.711					39.000	10.056	-1.855	392.199	0.005
	122.711 - 120.79					39.000	10.316	-1.948	402.320	0.005
	120.79 - 118.869					39.000	10.575	-3.048	412.441	0.007
	118.869 - 116.948					39.000	10.835	-3.154	422.561	0.007
	116.948 - 115.027					39.000	11.094	-3.263	432.682	0.008
	115.027 - 113.106					39.000	11.354	-3.376	442.803	0.008
	113.106 - 111.185					39.000	11.613	-3.491	452.923	0.008
	111.185 - 109.264					39.000	11.873	-4.068	463.044	0.009
	109.264 - 107.343					39.000	12.132	-4.194	473.165	0.009
	107.343 - 105.422					39.000	12.392	-4.324	483.285	0.009
	105.422 - 103.501					39.000	12.651	-4.457	493.406	0.009
	103.501 - 101.58					39.000	12.911	-4.593	503.527	0.009
L2	101.58 - 100.001	TP29.055x21.882x0.313	31.580	0.000	0.0	39.000	21.750	-4.784	848.249	0.006
	100.001 - 98.422					39.000	22.106	-5.520	862.123	0.006
	98.422 - 96.843					39.000	22.462	-5.708	875.997	0.007
	96.843 - 95.264					39.000	22.817	-5.898	889.871	0.007
	95.264 - 93.685					39.000	23.173	-7.857	903.744	0.009
	93.685 - 92.106					39.000	23.529	-8.061	917.618	0.009
	92.106 - 90.527					39.000	23.884	-8.268	931.492	0.009
	90.527 - 88.948					39.000	24.240	-8.478	945.365	0.009
	88.948 - 87.369					39.000	24.596	-8.690	959.239	0.009
	87.369 - 85.79					39.000	24.952	-8.906	973.113	0.009
	85.79 - 84.211					39.000	25.307	-9.124	986.986	0.009

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 $\frac{P}{P_a}$
	84.211 - 82.632					39.000	25.663	-9.345	1000.860	0.009
	82.632 - 81.053					39.000	26.019	-9.569	1014.730	0.009
	81.053 - 79.474					39.000	26.375	-9.796	1028.610	0.010
	79.474 - 77.895					39.000	26.730	-10.025	1042.480	0.010
	77.895 - 76.316					39.000	27.086	-10.256	1056.350	0.010
	76.316 - 74.737					39.000	27.442	-10.496	1070.230	0.010
	74.737 - 73.158					39.000	27.798	-10.733	1084.100	0.010
	73.158 - 71.579					39.000	28.153	-12.616	1097.980	0.011
	71.579 - 70					39.000	28.509	-12.864	1111.850	0.012
L3	70 - 69	TP31.55x29.055x0.523	11.000	0.000	0.0	30.480	47.722	-13.105	1454.560	0.009
	69 - 68					30.480	48.098	-13.333	1466.030	0.009
	68 - 67					30.480	48.474	-13.562	1477.500	0.009
	67 - 66					30.480	48.851	-13.793	1488.980	0.009
	66 - 65					30.480	49.227	-14.024	1500.450	0.009
	65 - 64					30.480	49.604	-14.258	1511.920	0.009
	64 - 63					30.480	49.980	-14.493	1523.390	0.010
	63 - 62					30.480	50.356	-14.729	1534.860	0.010
	62 - 61					30.480	50.733	-14.966	1546.330	0.010
	61 - 60					30.480	51.109	-15.205	1557.810	0.010
	60 - 59					30.480	51.486	-15.446	1569.280	0.010
L4	59 - 57.804	TP33.913x31.55x0.456	10.400	0.000	0.0	32.580	45.397	-15.752	1479.040	0.011
	57.804 - 56.608					32.580	45.790	-16.064	1491.850	0.011
	56.608 - 55.412					32.580	46.184	-16.377	1504.660	0.011
	55.412 - 54.216					32.580	46.577	-16.692	1517.480	0.011
	54.216 - 53.02					32.580	46.970	-17.009	1530.290	0.011
	53.02 - 48.6					32.580	48.424	-8.520	1577.650	0.005
L5	53.02 - 48.6	TP37.4x31.997x0.594	22.520	0.000	0.0	31.560	61.174	-10.516	1930.660	0.005
	48.6 - 47.5944					31.560	61.629	-19.363	1945.010	0.010
	47.5944 - 46.5889					31.560	62.084	-19.679	1959.360	0.010
	46.5889 - 45.5833					31.560	62.538	-19.996	1973.710	0.010
	45.5833 - 44.5778					31.560	62.993	-20.315	1988.060	0.010
	44.5778 - 43.5722					31.560	63.448	-20.635	2002.410	0.010
	43.5722 - 42.5667					31.560	63.902	-20.957	2016.750	0.010
	42.5667 - 41.5611					31.560	64.357	-21.280	2031.100	0.010
	41.5611 - 40.5556					31.560	64.812	-21.605	2045.450	0.011
	40.5556 - 39.55					31.560	65.266	-21.932	2059.800	0.011
	39.55 - 38.5444					31.560	65.721	-22.260	2074.150	0.011
	38.5444 - 37.5389					31.560	66.175	-22.590	2088.500	0.011
	37.5389 - 36.5333					31.560	66.630	-22.922	2102.850	0.011
	36.5333 - 35.5278					31.560	67.085	-23.255	2117.190	0.011
	35.5278 - 34.5222					31.560	67.539	-23.590	2131.540	0.011
	34.5222 - 33.5167					31.560	67.994	-23.926	2145.890	0.011
	33.5167 - 32.5111					31.560	68.449	-24.264	2160.240	0.011
	32.5111 - 31.5056					31.560	68.903	-24.603	2174.590	0.011
	31.5056 - 30.5					31.560	69.358	-24.944	2188.940	0.011
L6	30.5 - 28.975	TP44.317x37.4x0.597	30.500	0.000	0.0	30.900	70.416	-25.473	2175.850	0.012

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 $\frac{P}{P_a}$
	28.975 - 27.45					30.900	71.071	-26.011	2196.100	0.012
	27.45 - 25.925					30.900	71.727	-26.552	2216.360	0.012
	25.925 - 24.4					30.900	72.382	-27.097	2236.620	0.012
	24.4 - 22.875					30.900	73.038	-27.645	2256.870	0.012
	22.875 - 21.35					30.900	73.694	-28.197	2277.130	0.012
	21.35 - 19.825					30.900	74.349	-28.752	2297.390	0.013
	19.825 - 18.3					30.900	75.005	-29.311	2317.640	0.013
	18.3 - 16.775					30.900	75.660	-29.873	2337.900	0.013
	16.775 - 15.25					30.900	76.316	-30.439	2358.160	0.013
	15.25 - 13.725					30.900	76.971	-31.008	2378.420	0.013
	13.725 - 12.2					30.900	77.627	-31.581	2398.670	0.013
	12.2 - 10.675					30.900	78.283	-32.157	2418.930	0.013
	10.675 - 9.15					30.900	78.938	-32.737	2439.190	0.013
	9.15 - 7.625					30.900	79.594	-33.320	2459.440	0.014
	7.625 - 6.1					30.900	80.249	-33.907	2479.700	0.014
	6.1 - 4.575					30.900	80.905	-34.497	2499.960	0.014
	4.575 - 3.05					30.900	81.560	-35.090	2520.210	0.014
	3.05 - 1.525					30.900	82.216	-35.688	2540.470	0.014
	1.525 - 0					30.900	82.871	-36.288	2560.730	0.014

* DL controls

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	140 - 138.079	TP21.882x13.161x0.188	0.048	0.022	39.000	0.001	0.000	0.000	39.000	0.000
	138.079 - 136.158		17.964	7.701	39.000	0.197	0.000	0.000	39.000	0.000
	136.158 - 134.237		28.292	11.394	39.000	0.292	0.000	0.000	39.000	0.000
	134.237 - 132.316		38.804	14.710	39.000	0.377	0.000	0.000	39.000	0.000
	132.316 - 130.395		49.504	17.694	39.000	0.454	0.000	0.000	39.000	0.000
	130.395 - 128.474		60.394	20.389	39.000	0.523	0.000	0.000	39.000	0.000
	128.474 - 126.553		71.478	22.829	39.000	0.585	0.000	0.000	39.000	0.000
	126.553 - 124.632		82.759	25.042	39.000	0.642	0.000	0.000	39.000	0.000
	124.632 - 122.711		94.242	27.056	39.000	0.694	0.000	0.000	39.000	0.000
	122.711 - 120.79		105.929	28.893	39.000	0.741	0.000	0.000	39.000	0.000
	120.79 - 118.869		120.576	31.285	39.000	0.802	0.000	0.000	39.000	0.000
	118.869 - 116.948		137.354	33.944	39.000	0.870	0.000	0.000	39.000	0.000
	116.948 - 115.027		154.340	36.369	39.000	0.933	0.000	0.000	39.000	0.000
	115.027 - 113.106		171.537	38.586	39.000	0.989	0.000	0.000	39.000	0.000
	113.106 - 111.185		188.948	40.615	39.000	1.041	0.000	0.000	39.000	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 $\frac{f_{by}}{F_{by}}$
	111.185 - 109.264		207.603	42.687	39.000	1.095	0.000	0.000	39.000	0.000
	109.264 - 107.343		228.128	44.913	39.000	1.152	0.000	0.000	39.000	0.000
	107.343 - 105.422		248.871	46.958	39.000	1.204	0.000	0.000	39.000	0.000
	105.422 - 103.501		269.835	48.837	39.000	1.252	0.000	0.000	39.000	0.000
	103.501 - 101.58		291.022	50.566	39.000	1.297	0.000	0.000	39.000	0.000
L2	101.58 - 100.001	TP29.055x21.882x0.313	308.637	31.669	39.000	0.812	0.000	0.000	39.000	0.000
	100.001 - 98.422		326.982	32.473	39.000	0.833	0.000	0.000	39.000	0.000
	98.422 - 96.843		346.528	33.326	39.000	0.855	0.000	0.000	39.000	0.000
	96.843 - 95.264		366.270	34.127	39.000	0.875	0.000	0.000	39.000	0.000
	95.264 - 93.685		392.079	35.412	39.000	0.908	0.000	0.000	39.000	0.000
	93.685 - 92.106		419.261	36.723	39.000	0.942	0.000	0.000	39.000	0.000
	92.106 - 90.527		446.635	37.957	39.000	0.973	0.000	0.000	39.000	0.000
	90.527 - 88.948		474.202	39.118	39.000	1.003	0.000	0.000	39.000	0.000
	88.948 - 87.369		501.962	40.212	39.000	1.031	0.000	0.000	39.000	0.000
	87.369 - 85.79		529.917	41.242	39.000	1.057	0.000	0.000	39.000	0.000
	85.79 - 84.211		558.066	42.213	39.000	1.082	0.000	0.000	39.000	0.000
	84.211 - 82.632		586.410	43.128	39.000	1.106	0.000	0.000	39.000	0.000
	82.632 - 81.053		614.950	43.992	39.000	1.128	0.000	0.000	39.000	0.000
	81.053 - 79.474		643.688	44.807	39.000	1.149	0.000	0.000	39.000	0.000
	79.474 - 77.895		672.622	45.576	39.000	1.169	0.000	0.000	39.000	0.000
	77.895 - 76.316		701.755	46.302	39.000	1.187	0.000	0.000	39.000	0.000
	76.316 - 74.737		731.168	46.993	39.000	1.205	0.000	0.000	39.000	0.000
	74.737 - 73.158		761.183	47.671	39.000	1.222	0.000	0.000	39.000	0.000
	73.158 - 71.579		798.150	48.724	39.000	1.249	0.000	0.000	39.000	0.000
	71.579 - 70		832.663	49.564	39.000	1.271	0.000	0.000	39.000	0.000
L3	70 - 69	TP31.55x29.055x0.523	854.625	30.593	30.480	1.004	0.000	0.000	30.480	0.000
	69 - 68		876.683	30.889	30.480	1.013	0.000	0.000	30.480	0.000
	68 - 67		898.825	31.175	30.480	1.023	0.000	0.000	30.480	0.000
	67 - 66		921.058	31.451	30.480	1.032	0.000	0.000	30.480	0.000
	66 - 65		943.383	31.718	30.480	1.041	0.000	0.000	30.480	0.000
	65 - 64		965.792	31.977	30.480	1.049	0.000	0.000	30.480	0.000
	64 - 63		988.300	32.227	30.480	1.057	0.000	0.000	30.480	0.000
	63 - 62		1010.892	32.469	30.480	1.065	0.000	0.000	30.480	0.000
	62 - 61		1033.583	32.703	30.480	1.073	0.000	0.000	30.480	0.000
	61 - 60		1056.358	32.929	30.480	1.080	0.000	0.000	30.480	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 $\frac{f_{by}}{F_{by}}$
	60 - 59		1079.225	33.147	30.480	1.088	0.000	0.000	30.480	0.000
L4	59 - 57.804	TP33.913x31.55x0.456	1106.700	38.047	32.580	1.168	0.000	0.000	32.580	0.000
	57.804 - 56.608		1134.308	38.325	32.580	1.176	0.000	0.000	32.580	0.000
	56.608 - 55.412		1162.050	38.591	32.580	1.185	0.000	0.000	32.580	0.000
	55.412 - 54.216		1189.925	38.848	32.580	1.192	0.000	0.000	32.580	0.000
	54.216 - 53.02		1217.925	39.094	32.580	1.200	0.000	0.000	32.580	0.000
	53.02 - 48.6		605.542	18.280	32.580	0.561	0.000	0.000	32.580	0.000
L5	53.02 - 48.6	TP37.4x31.997x0.594	717.223	17.745	31.560	0.562	0.000	0.000	31.560	0.000
	48.6 - 47.5944		1346.908	32.829	31.560	1.040	0.000	0.000	31.560	0.000
	47.5944 - 46.5889		1371.133	32.928	31.560	1.043	0.000	0.000	31.560	0.000
	46.5889 - 45.5833		1395.450	33.022	31.560	1.046	0.000	0.000	31.560	0.000
	45.5833 - 44.5778		1419.850	33.112	31.560	1.049	0.000	0.000	31.560	0.000
	44.5778 - 43.5722		1444.342	33.198	31.560	1.052	0.000	0.000	31.560	0.000
	43.5722 - 42.5667		1468.925	33.280	31.560	1.054	0.000	0.000	31.560	0.000
	42.5667 - 41.5611		1493.592	33.359	31.560	1.057	0.000	0.000	31.560	0.000
	41.5611 - 40.5556		1518.342	33.433	31.560	1.059	0.000	0.000	31.560	0.000
	40.5556 - 39.55		1543.183	33.505	31.560	1.062	0.000	0.000	31.560	0.000
	39.55 - 38.5444		1568.117	33.573	31.560	1.064	0.000	0.000	31.560	0.000
	38.5444 - 37.5389		1593.142	33.638	31.560	1.066	0.000	0.000	31.560	0.000
	37.5389 - 36.5333		1618.258	33.699	31.560	1.068	0.000	0.000	31.560	0.000
	36.5333 - 35.5278		1643.458	33.758	31.560	1.070	0.000	0.000	31.560	0.000
	35.5278 - 34.5222		1668.750	33.814	31.560	1.071	0.000	0.000	31.560	0.000
	34.5222 - 33.5167		1694.133	33.867	31.560	1.073	0.000	0.000	31.560	0.000
	33.5167 - 32.5111		1719.608	33.917	31.560	1.075	0.000	0.000	31.560	0.000
	32.5111 - 31.5056		1745.175	33.965	31.560	1.076	0.000	0.000	31.560	0.000
	31.5056 - 30.5		1770.825	34.011	31.560	1.078	0.000	0.000	31.560	0.000
L6	30.5 - 28.975	TP44.317x37.4x0.597	1809.900	33.922	30.900	1.098	0.000	0.000	30.900	0.000
	28.975 - 27.45		1849.167	34.016	30.900	1.101	0.000	0.000	30.900	0.000
	27.45 - 25.925		1888.617	34.105	30.900	1.104	0.000	0.000	30.900	0.000
	25.925 - 24.4		1928.250	34.188	30.900	1.106	0.000	0.000	30.900	0.000
	24.4 - 22.875		1968.083	34.266	30.900	1.109	0.000	0.000	30.900	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 $\frac{f_{by}}{F_{by}}$
	22.875 - 21.35		2008.108	34.339	30.900	1.111	0.000	0.000	30.900	0.000
	21.35 - 19.825		2048.317	34.407	30.900	1.113	0.000	0.000	30.900	0.000
	19.825 - 18.3		2088.717	34.470	30.900	1.116	0.000	0.000	30.900	0.000
	18.3 - 16.775		2129.317	34.529	30.900	1.117	0.000	0.000	30.900	0.000
	16.775 - 15.25		2170.108	34.584	30.900	1.119	0.000	0.000	30.900	0.000
	15.25 - 13.725		2211.092	34.636	30.900	1.121	0.000	0.000	30.900	0.000
	13.725 - 12.2		2252.267	34.683	30.900	1.122	0.000	0.000	30.900	0.000
	12.2 - 10.675		2293.642	34.727	30.900	1.124	0.000	0.000	30.900	0.000
	10.675 - 9.15		2335.208	34.767	30.900	1.125	0.000	0.000	30.900	0.000
	9.15 - 7.625		2376.975	34.804	30.900	1.126	0.000	0.000	30.900	0.000
	7.625 - 6.1		2418.933	34.839	30.900	1.127	0.000	0.000	30.900	0.000
	6.1 - 4.575		2461.092	34.870	30.900	1.128	0.000	0.000	30.900	0.000
	4.575 - 3.05		2503.442	34.898	30.900	1.129	0.000	0.000	30.900	0.000
	3.05 - 1.525		2546.000	34.924	30.900	1.130	0.000	0.000	30.900	0.000
	1.525 - 0		2588.750	34.947	30.900	1.131	0.000	0.000	30.900	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	140 - 138.079	TP21.882x13.161x0.188	0.000	0.000	26.000	0.000	0.000	0.000	26.000	0.000
	138.079 - 136.158		5.328	0.647	26.000	0.050	0.427	0.089	26.000	0.003
	136.158 - 134.237		5.423	0.638	26.000	0.049	0.427	0.083	26.000	0.003
	134.237 - 132.316		5.520	0.630	26.000	0.048	0.425	0.078	26.000	0.003
	132.316 - 130.395		5.619	0.623	26.000	0.048	0.423	0.073	26.000	0.003
	130.395 - 128.474		5.719	0.616	26.000	0.047	0.421	0.069	26.000	0.003
	128.474 - 126.553		5.821	0.610	26.000	0.047	0.419	0.065	26.000	0.003
	126.553 - 124.632		5.925	0.605	26.000	0.047	0.417	0.061	26.000	0.002
	124.632 - 122.711		6.031	0.600	26.000	0.046	0.415	0.058	26.000	0.002
	122.711 - 120.79		6.139	0.595	26.000	0.046	0.413	0.055	26.000	0.002
	120.79 -		8.683	0.821	26.000	0.063	0.410	0.052	26.000	0.002

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 $\frac{f_{vt}}{F_{vt}}$
	118.869									
	118.869 - 116.948		8.791	0.811	26.000	0.062	0.408	0.049	26.000	0.002
	116.948 - 115.027		8.900	0.802	26.000	0.062	0.406	0.047	26.000	0.002
	115.027 - 113.106		9.011	0.794	26.000	0.061	0.403	0.044	26.000	0.002
	113.106 - 111.185		9.124	0.786	26.000	0.060	0.401	0.042	26.000	0.002
	111.185 - 109.264		10.633	0.896	26.000	0.069	0.399	0.040	26.000	0.002
	109.264 - 107.343		10.747	0.886	26.000	0.068	0.396	0.038	26.000	0.001
	107.343 - 105.422		10.861	0.876	26.000	0.067	0.393	0.036	26.000	0.001
	105.422 - 103.501		10.977	0.868	26.000	0.067	0.391	0.034	26.000	0.001
	103.501 - 101.58		11.094	0.859	26.000	0.066	0.388	0.033	26.000	0.001
L2	101.58 - 100.001	TP29.055x21.882x0.313	11.213	0.516	26.000	0.040	0.385	0.019	26.000	0.001
	100.001 - 98.422		12.314	0.557	26.000	0.043	0.556	0.027	26.000	0.001
	98.422 - 96.843		12.438	0.554	26.000	0.043	0.556	0.026	26.000	0.001
	96.843 - 95.264		12.562	0.551	26.000	0.042	0.553	0.025	26.000	0.001
	95.264 - 93.685		17.153	0.740	26.000	0.057	0.549	0.024	26.000	0.001
	93.685 - 92.106		17.275	0.734	26.000	0.056	0.546	0.023	26.000	0.001
	92.106 - 90.527		17.397	0.728	26.000	0.056	0.542	0.022	26.000	0.001
	90.527 - 88.948		17.520	0.723	26.000	0.056	0.538	0.022	26.000	0.001
	88.948 - 87.369		17.642	0.717	26.000	0.055	0.535	0.021	26.000	0.001
	87.369 - 85.79		17.766	0.712	26.000	0.055	0.531	0.020	26.000	0.001
	85.79 - 84.211		17.890	0.707	26.000	0.054	0.527	0.019	26.000	0.001
	84.211 - 82.632		18.014	0.702	26.000	0.054	0.523	0.019	26.000	0.001
	82.632 - 81.053		18.139	0.697	26.000	0.054	0.520	0.018	26.000	0.001
	81.053 - 79.474		18.264	0.692	26.000	0.053	0.516	0.017	26.000	0.001
	79.474 - 77.895		18.389	0.688	26.000	0.053	0.512	0.017	26.000	0.001
	77.895 - 76.316		18.515	0.684	26.000	0.053	0.508	0.016	26.000	0.001
	76.316 - 74.737		18.948	0.690	26.000	0.053	0.754	0.024	26.000	0.001
	74.737 - 73.158		19.075	0.686	26.000	0.053	0.754	0.023	26.000	0.001
	73.158 - 71.579		21.801	0.774	26.000	0.060	0.823	0.024	26.000	0.001
	71.579 - 70		21.925	0.769	26.000	0.059	0.823	0.024	26.000	0.001
L3	70 - 69	TP31.55x29.055x0.523	22.005	0.461	20.320	0.045	0.818	0.014	20.320	0.001
	69 - 68		22.094	0.459	20.320	0.045	0.817	0.014	20.320	0.001
	68 - 67		22.184	0.458	20.320	0.045	0.815	0.014	20.320	0.001
	67 - 66		22.274	0.456	20.320	0.045	0.813	0.013	20.320	0.001

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 $\frac{f_{vt}}{F_{vt}}$
	66 - 65		22.364	0.454	20.320	0.045	0.812	0.013	20.320	0.001
	65 - 64		22.454	0.453	20.320	0.045	0.810	0.013	20.320	0.001
	64 - 63		22.545	0.451	20.320	0.044	0.808	0.013	20.320	0.001
	63 - 62		22.637	0.450	20.320	0.044	0.806	0.013	20.320	0.001
	62 - 61		22.728	0.448	20.320	0.044	0.805	0.012	20.320	0.001
	61 - 60		22.820	0.446	20.320	0.044	0.803	0.012	20.320	0.001
	60 - 59		22.912	0.445	20.320	0.044	0.801	0.012	20.320	0.001
L4	59 - 57.804	TP33.913x31.55x0.456	23.025	0.507	21.720	0.047	0.799	0.013	21.720	0.001
	57.804 - 56.608		23.136	0.505	21.720	0.047	0.798	0.013	21.720	0.001
	56.608 - 55.412		23.248	0.503	21.720	0.046	0.797	0.013	21.720	0.001
	55.412 - 54.216		23.359	0.502	21.720	0.046	0.796	0.013	21.720	0.001
	54.216 - 53.02		23.472	0.500	21.720	0.046	0.795	0.012	21.720	0.001
	53.02 - 48.6		11.093	0.229	21.720	0.021	0.371	0.005	21.720	0.000
L5	53.02 - 48.6	TP37.4x31.997x0.594	12.879	0.211	21.040	0.020	0.423	0.005	21.040	0.000
	48.6 - 47.5944		24.047	0.390	21.040	0.037	0.791	0.009	21.040	0.000
	47.5944 - 46.5889		24.133	0.389	21.040	0.037	0.790	0.009	21.040	0.000
	46.5889 - 45.5833		24.220	0.387	21.040	0.037	0.790	0.009	21.040	0.000
	45.5833 - 44.5778		24.307	0.386	21.040	0.037	0.789	0.009	21.040	0.000
	44.5778 - 43.5722		24.395	0.384	21.040	0.037	0.788	0.009	21.040	0.000
	43.5722 - 42.5667		24.482	0.383	21.040	0.036	0.787	0.009	21.040	0.000
	42.5667 - 41.5611		24.570	0.382	21.040	0.036	0.787	0.008	21.040	0.000
	41.5611 - 40.5556		24.659	0.380	21.040	0.036	0.786	0.008	21.040	0.000
	40.5556 - 39.55		24.747	0.379	21.040	0.036	0.785	0.008	21.040	0.000
	39.55 - 38.5444		24.836	0.378	21.040	0.036	0.784	0.008	21.040	0.000
	38.5444 - 37.5389		24.925	0.377	21.040	0.036	0.784	0.008	21.040	0.000
	37.5389 - 36.5333		25.015	0.375	21.040	0.036	0.783	0.008	21.040	0.000
	36.5333 - 35.5278		25.104	0.374	21.040	0.036	0.782	0.008	21.040	0.000
	35.5278 - 34.5222		25.194	0.373	21.040	0.035	0.781	0.008	21.040	0.000
	34.5222 - 33.5167		25.285	0.372	21.040	0.035	0.781	0.008	21.040	0.000
	33.5167 - 32.5111		25.375	0.371	21.040	0.035	0.780	0.007	21.040	0.000
	32.5111 - 31.5056		25.466	0.370	21.040	0.035	0.779	0.007	21.040	0.000
	31.5056 - 30.5		25.558	0.368	21.040	0.035	0.778	0.007	21.040	0.000
L6	30.5 - 28.975	TP44.317x37.4x0.597	25.686	0.365	20.600	0.035	0.778	0.007	20.600	0.000
	28.975 - 27.45		25.810	0.363	20.600	0.035	0.778	0.007	20.600	0.000
	27.45 - 25.925		25.934	0.362	20.600	0.035	0.778	0.007	20.600	0.000
	25.925 - 24.4		26.059	0.360	20.600	0.035	0.778	0.007	20.600	0.000
	24.4 - 22.875		26.184	0.358	20.600	0.035	0.778	0.007	20.600	0.000
	22.875 - 21.35		26.309	0.357	20.600	0.035	0.778	0.006	20.600	0.000
	21.35 - 19.825		26.435	0.356	20.600	0.035	0.778	0.006	20.600	0.000
	19.825 - 18.3		26.561	0.354	20.600	0.034	0.779	0.006	20.600	0.000
	18.3 - 16.775		26.688	0.353	20.600	0.034	0.779	0.006	20.600	0.000

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 $\frac{f_{vt}}{F_{vt}}$
	16.775 - 15.25		26.815	0.351	20.600	0.034	0.779	0.006	20.600	0.000
	15.25 - 13.725		26.942	0.350	20.600	0.034	0.779	0.006	20.600	0.000
	13.725 - 12.2		27.070	0.349	20.600	0.034	0.779	0.006	20.600	0.000
	12.2 - 10.675		27.198	0.347	20.600	0.034	0.779	0.006	20.600	0.000
	10.675 - 9.15		27.327	0.346	20.600	0.034	0.779	0.006	20.600	0.000
	9.15 - 7.625		27.456	0.345	20.600	0.033	0.780	0.006	20.600	0.000
	7.625 - 6.1		27.585	0.344	20.600	0.033	0.780	0.005	20.600	0.000
	6.1 - 4.575		27.715	0.343	20.600	0.033	0.780	0.005	20.600	0.000
	4.575 - 3.05		27.845	0.341	20.600	0.033	0.780	0.005	20.600	0.000
	3.05 - 1.525		27.975	0.340	20.600	0.033	0.780	0.005	20.600	0.000
	1.525 - 0		28.106	0.339	20.600	0.033	0.780	0.005	20.600	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	140 - 138.079	0.001	0.001	0.000	0.000	0.000	0.001* ✓	1.000	H1-3+VT ✓
	138.079 - 136.158	0.004	0.197	0.000	0.050	0.003	0.202 ✓	1.333	H1-3+VT ✓
	136.158 - 134.237	0.004	0.292	0.000	0.049	0.003	0.297 ✓	1.333	H1-3+VT ✓
	134.237 - 132.316	0.004	0.377	0.000	0.048	0.003	0.382 ✓	1.333	H1-3+VT ✓
	132.316 - 130.395	0.004	0.454	0.000	0.048	0.003	0.459 ✓	1.333	H1-3+VT ✓
	130.395 - 128.474	0.004	0.523	0.000	0.047	0.003	0.528 ✓	1.333	H1-3+VT ✓
	128.474 - 126.553	0.005	0.585	0.000	0.047	0.003	0.591 ✓	1.333	H1-3+VT ✓
	126.553 - 124.632	0.005	0.642	0.000	0.047	0.002	0.647 ✓	1.333	H1-3+VT ✓
	124.632 - 122.711	0.005	0.694	0.000	0.046	0.002	0.699 ✓	1.333	H1-3+VT ✓
	122.711 - 120.79	0.005	0.741	0.000	0.046	0.002	0.746 ✓	1.333	H1-3+VT ✓
	120.79 - 118.869	0.007	0.802	0.000	0.063	0.002	0.811 ✓	1.333	H1-3+VT ✓
	118.869 - 116.948	0.007	0.870	0.000	0.062	0.002	0.879 ✓	1.333	H1-3+VT ✓
	116.948 - 115.027	0.008	0.933	0.000	0.062	0.002	0.941 ✓	1.333	H1-3+VT ✓
	115.027 - 113.106	0.008	0.989	0.000	0.061	0.002	0.998 ✓	1.333	H1-3+VT ✓
	113.106 - 111.185	0.008	1.041	0.000	0.060	0.002	1.050 ✓	1.333	H1-3+VT ✓
	111.185 - 109.264	0.009	1.095	0.000	0.069	0.002	1.105 ✓	1.333	H1-3+VT ✓
	109.264 - 107.343	0.009	1.152	0.000	0.068	0.001	1.162 ✓	1.333	H1-3+VT ✓
	107.343 - 105.422	0.009	1.204	0.000	0.067	0.001	1.214 ✓	1.333	H1-3+VT ✓
	105.422 - 103.501	0.009	1.252	0.000	0.067	0.001	1.262 ✓	1.333	H1-3+VT ✓
	103.501 - 101.58	0.009	1.297	0.000	0.066	0.001	1.307 ✓	1.333	H1-3+VT ✓
L2	101.58 - 100.001	0.006	0.812	0.000	0.040	0.001	0.818 ✓	1.333	H1-3+VT ✓
	100.001 - 98.422	0.006	0.833	0.000	0.043	0.001	0.840 ✓	1.333	H1-3+VT ✓
	98.422 - 96.843	0.007	0.855	0.000	0.043	0.001	0.862 ✓	1.333	H1-3+VT ✓
	96.843 - 95.264	0.007	0.875	0.000	0.042	0.001	0.882 ✓	1.333	H1-3+VT ✓
	95.264 - 93.685	0.009	0.908	0.000	0.057	0.001	0.918	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
	93.685 - 92.106	0.009	0.942	0.000	0.056	0.001	0.951	1.333	H1-3+VT
	92.106 - 90.527	0.009	0.973	0.000	0.056	0.001	0.983	1.333	H1-3+VT
	90.527 - 88.948	0.009	1.003	0.000	0.056	0.001	1.013	1.333	H1-3+VT
	88.948 - 87.369	0.009	1.031	0.000	0.055	0.001	1.041	1.333	H1-3+VT
	87.369 - 85.79	0.009	1.057	0.000	0.055	0.001	1.067	1.333	H1-3+VT
	85.79 - 84.211	0.009	1.082	0.000	0.054	0.001	1.092	1.333	H1-3+VT
	84.211 - 82.632	0.009	1.106	0.000	0.054	0.001	1.116	1.333	H1-3+VT
	82.632 - 81.053	0.009	1.128	0.000	0.054	0.001	1.138	1.333	H1-3+VT
	81.053 - 79.474	0.010	1.149	0.000	0.053	0.001	1.159	1.333	H1-3+VT
	79.474 - 77.895	0.010	1.169	0.000	0.053	0.001	1.179	1.333	H1-3+VT
	77.895 - 76.316	0.010	1.187	0.000	0.053	0.001	1.198	1.333	H1-3+VT
	76.316 - 74.737	0.010	1.205	0.000	0.053	0.001	1.216	1.333	H1-3+VT
	74.737 - 73.158	0.010	1.222	0.000	0.053	0.001	1.233	1.333	H1-3+VT
	73.158 - 71.579	0.011	1.249	0.000	0.060	0.001	1.262	1.333	H1-3+VT
	71.579 - 70	0.012	1.271	0.000	0.059	0.001	1.283	1.333	H1-3+VT
L3	70 - 69	0.009	1.004	0.000	0.045	0.001	1.013	1.333	H1-3+VT
	69 - 68	0.009	1.013	0.000	0.045	0.001	1.023	1.333	H1-3+VT
	68 - 67	0.009	1.023	0.000	0.045	0.001	1.033	1.333	H1-3+VT
	67 - 66	0.009	1.032	0.000	0.045	0.001	1.042	1.333	H1-3+VT
	66 - 65	0.009	1.041	0.000	0.045	0.001	1.051	1.333	H1-3+VT
	65 - 64	0.009	1.049	0.000	0.045	0.001	1.059	1.333	H1-3+VT
	64 - 63	0.010	1.057	0.000	0.044	0.001	1.067	1.333	H1-3+VT
	63 - 62	0.010	1.065	0.000	0.044	0.001	1.075	1.333	H1-3+VT
	62 - 61	0.010	1.073	0.000	0.044	0.001	1.083	1.333	H1-3+VT
	61 - 60	0.010	1.080	0.000	0.044	0.001	1.091	1.333	H1-3+VT
	60 - 59	0.010	1.088	0.000	0.044	0.001	1.098	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
L4	59 - 57.804	0.011	1.168	0.000	0.047	0.001	1.179 ✓	1.333	H1-3+VT ✓
	57.804 - 56.608	0.011	1.176	0.000	0.047	0.001	1.188 ✓	1.333	H1-3+VT ✓
	56.608 - 55.412	0.011	1.185	0.000	0.046	0.001	1.196 ✓	1.333	H1-3+VT ✓
	55.412 - 54.216	0.011	1.192	0.000	0.046	0.001	1.204 ✓	1.333	H1-3+VT ✓
	54.216 - 53.02	0.011	1.200	0.000	0.046	0.001	1.212 ✓	1.333	H1-3+VT ✓
	53.02 - 48.6	0.005	0.561	0.000	0.021	0.000	0.567 ✓	1.333	H1-3+VT ✓
L5	53.02 - 48.6	0.005	0.562	0.000	0.020	0.000	0.568 ✓	1.333	H1-3+VT ✓
	48.6 - 47.5944	0.010	1.040	0.000	0.037	0.000	1.051 ✓	1.333	H1-3+VT ✓
	47.5944 - 46.5889	0.010	1.043	0.000	0.037	0.000	1.054 ✓	1.333	H1-3+VT ✓
	46.5889 - 45.5833	0.010	1.046	0.000	0.037	0.000	1.057 ✓	1.333	H1-3+VT ✓
	45.5833 - 44.5778	0.010	1.049	0.000	0.037	0.000	1.060 ✓	1.333	H1-3+VT ✓
	44.5778 - 43.5722	0.010	1.052	0.000	0.037	0.000	1.063 ✓	1.333	H1-3+VT ✓
	43.5722 - 42.5667	0.010	1.054	0.000	0.036	0.000	1.065 ✓	1.333	H1-3+VT ✓
	42.5667 - 41.5611	0.010	1.057	0.000	0.036	0.000	1.068 ✓	1.333	H1-3+VT ✓
	41.5611 - 40.5556	0.011	1.059	0.000	0.036	0.000	1.070 ✓	1.333	H1-3+VT ✓
	40.5556 - 39.55	0.011	1.062	0.000	0.036	0.000	1.073 ✓	1.333	H1-3+VT ✓
	39.55 - 38.5444	0.011	1.064	0.000	0.036	0.000	1.075 ✓	1.333	H1-3+VT ✓
	38.5444 - 37.5389	0.011	1.066	0.000	0.036	0.000	1.077 ✓	1.333	H1-3+VT ✓
	37.5389 - 36.5333	0.011	1.068	0.000	0.036	0.000	1.079 ✓	1.333	H1-3+VT ✓
	36.5333 - 35.5278	0.011	1.070	0.000	0.036	0.000	1.081 ✓	1.333	H1-3+VT ✓
	35.5278 - 34.5222	0.011	1.071	0.000	0.035	0.000	1.083 ✓	1.333	H1-3+VT ✓
	34.5222 - 33.5167	0.011	1.073	0.000	0.035	0.000	1.085 ✓	1.333	H1-3+VT ✓
	33.5167 - 32.5111	0.011	1.075	0.000	0.035	0.000	1.086 ✓	1.333	H1-3+VT ✓
	32.5111 - 31.5056	0.011	1.076	0.000	0.035	0.000	1.088 ✓	1.333	H1-3+VT ✓
	31.5056 - 30.5	0.011	1.078	0.000	0.035	0.000	1.089 ✓	1.333	H1-3+VT ✓
L6	30.5 - 28.975	0.012	1.098	0.000	0.035	0.000	1.110	1.333	H1-3+VT ✓

tnxTower	Job	Page
	84720.002.01- Shelton NE, CT (Site# 24519)	27 of 28
BT Engineering 1717 S. Boulder, Suite 300 Tulsa, OK 74145 Phone: (918) 587 - 4630 FAX: (918) 295 - 0265	**Project** 140' FWT Monopole / Fairfield County	**Date** 16:30:47 12/28/12
	Client AT&T Towers	**Designed by** A. Abbaszadeh

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
	28.975 - 27.45	0.012	1.101	0.000	0.035	0.000	1.113	1.333	H1-3+VT
	27.45 - 25.925	0.012	1.104	0.000	0.035	0.000	1.116	1.333	H1-3+VT
	25.925 - 24.4	0.012	1.106	0.000	0.035	0.000	1.119	1.333	H1-3+VT
	24.4 - 22.875	0.012	1.109	0.000	0.035	0.000	1.121	1.333	H1-3+VT
	22.875 - 21.35	0.012	1.111	0.000	0.035	0.000	1.124	1.333	H1-3+VT
	21.35 - 19.825	0.013	1.113	0.000	0.035	0.000	1.126	1.333	H1-3+VT
	19.825 - 18.3	0.013	1.116	0.000	0.034	0.000	1.128	1.333	H1-3+VT
	18.3 - 16.775	0.013	1.117	0.000	0.034	0.000	1.131	1.333	H1-3+VT
	16.775 - 15.25	0.013	1.119	0.000	0.034	0.000	1.132	1.333	H1-3+VT
	15.25 - 13.725	0.013	1.121	0.000	0.034	0.000	1.134	1.333	H1-3+VT
	13.725 - 12.2	0.013	1.122	0.000	0.034	0.000	1.136	1.333	H1-3+VT
	12.2 - 10.675	0.013	1.124	0.000	0.034	0.000	1.137	1.333	H1-3+VT
	10.675 - 9.15	0.013	1.125	0.000	0.034	0.000	1.139	1.333	H1-3+VT
	9.15 - 7.625	0.014	1.126	0.000	0.033	0.000	1.140	1.333	H1-3+VT
	7.625 - 6.1	0.014	1.127	0.000	0.033	0.000	1.141	1.333	H1-3+VT
	6.1 - 4.575	0.014	1.128	0.000	0.033	0.000	1.143	1.333	H1-3+VT
	4.575 - 3.05	0.014	1.129	0.000	0.033	0.000	1.144	1.333	H1-3+VT
	3.05 - 1.525	0.014	1.130	0.000	0.033	0.000	1.145	1.333	H1-3+VT
	1.525 - 0	0.014	1.131	0.000	0.033	0.000	1.145	1.333	H1-3+VT

* DL controls

tnxTower	Job	Page
	84720.002.01- Shelton NE, CT (Site# 24519)	28 of 28
BT Engineering 1717 S. Boulder, Suite 300 Tulsa, OK 74145 Phone: (918) 587 - 4630 FAX: (918) 295 - 0265	**Project** 140' FWT Monopole / Fairfield County	**Date** 16:30:47 12/28/12
	Client AT&T Towers	**Designed by** A. Abbaszadeh

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	140 - 101.58	Pole	TP21.882x13.161x0.188	1	-4.593	671.201	98.0	Pass
L2	101.58 - 70	Pole	TP29.055x21.882x0.313	2	-12.864	1482.096	96.3	Pass
L3	70 - 59	Pole	TP31.55x29.055x0.523	3	-15.446	2091.850	82.4	Pass
L4	59 - 48.6	Pole	TP33.913x31.55x0.456	4	-17.009	2039.876	90.9	Pass
L5	48.6 - 30.5	Pole	TP37.4x31.997x0.594	5	-24.944	2917.857	81.7	Pass
L6	30.5 - 0	Pole	TP44.317x37.4x0.597	6	-36.288	3413.453	85.9	Pass
							Summary	
						Pole (L1)	98.0	Pass
						RATING =	**98.0**	**Pass**

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev F

Site Data

Site #: *24519*
Site Name: *Shelton NE, CT*
County: *Fairfield*

Pole Manufacturer:	Other

Reactions		
Moment:	291.022	ft-kips
Axial:	4.6	kips
Shear:	11.1	kips
Elevation:	101.58	feet

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

Bolt Data			
Qty:	16		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:		<-- Disregard	Bolt Fty:
N/A:		<-- Disregard	44.00
Circle (in.):	26		

Plate Data		
Diam:	30	in
Thick, t:	1.5	in
Grade (Fy):	50	ksi
Strength, Fu:	65	ksi
Single-Rod B-eff:	4.34	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:	21.882	in
Thick:	0.1875	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	

Flange Bolt Results

			Rigid
Bolt Tension Capacity, **B**:	46.07	kips	Service, ASD
Max Bolt directly applied T:	33.29	Kips	Fty*ASIF
Min. PL "tc" for **B** cap. **w/o** Pry:	1.416	in	
Min PL "treq" for actual **T w/ Pry**:	0.910	in	
Min PL "t1" for actual **T w/o Pry**:	1.204	in	
T allowable w/o Prying:	46.07	kips	α'<0 case
Prying Force, Q:	0.00	kips	
Total Bolt Tension=T+Q:	33.29	kips	
Non-Prying Bolt Stress Ratio, T/B:	72.3%	Pass	

Exterior Flange Plate Results Flexural Check

			Rigid
Compression Side Plate Stress:	26.0	ksi	Service ASD
Allowable Plate Stress:	50.0	ksi	0.75*Fy*ASIF
Compression Plate Stress Ratio:	51.9%	Pass	Comp. Y.L. Length:
No Prying			14.04
Tension Side Stress Ratio, (treq/t)^2:	36.8%	Pass	

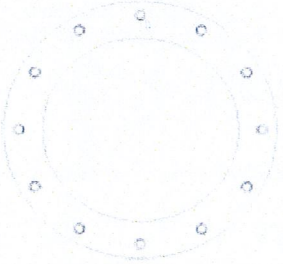
n/a

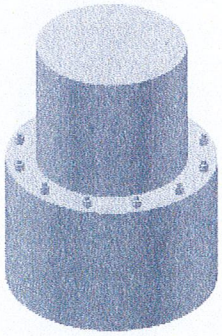
Stiffener Results

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

Analysis Date: 12/28/2012

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

TIA Rev F

Site Data

Site #: *24519*
Site Name: *Shelton NE, CT*
County: *Fairfield*

Pole Manufacturer:	*Other*

Reactions		
Moment:	2589	ft-kips
Axial:	36	kips
Shear:	28	kips

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

Anchor Rod Data		
Qty:	16	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	51	in

Plate Data		
Diam:	57	in
Thick:	2.25	in
Grade:	60	ksi
Single-Rod B-eff:	8.79	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:	44.317	in
Thick:	0.3125	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	

Anchor Rod Results

Maximum Rod Tension:	150.0 Kips	Rigid
Allowable Tension:	195.0 Kips	Service, ASD
Anchor Rod Stress Ratio:	77.0% Pass	Fty*ASIF

Base Plate Results

	Flexural Check	
Base Plate Stress:	43.1 ksi	Rigid
Allowable Plate Stress:	60.0 ksi	Service ASD
Base Plate Stress Ratio:	71.8% Pass	0.75*Fy*ASIF
		Y.L. Length: 25.24

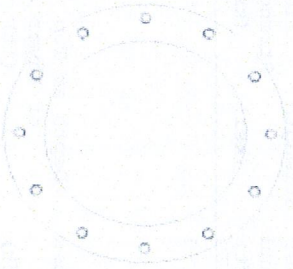
n/a

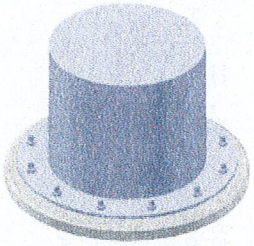
Stiffener Results

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

Analysis Date: 12/28/2012

CAISSON Version 10.35 2:32:08 PM Friday, December 28, 2012
B&T Engineering

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*****************************************************************************************************
*                                                                                                   *
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*                                                                                                   *
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Project Title: 84720.002- Shelton NE, CT (Site# 24519)
Project Notes: 140' FWT Monopole- 6' Dia, 14.5' Depth (14' Bearing)

Calculation Method: Full 8CD

******* I N P U T D A T A

Pier Properties

Diameter (ft)	Distance of Top of Pier above Ground (ft)	Concrete Strength (ksi)	Steel Yield Strength (ksi)
6.00	0.50		

Soil Properties

Layer	Type	Thickness (ft)	Depth at Top of Layer (ft)	Density (lbs/ft^3)	CU (psf)	KP	PHI (deg)
1	Clay	3.00	0.00	100.0			
2	Clay	5.50	3.00	130.0	4000.0		
3	Clay	20.00	8.50	130.0	12000.0		

Design (Factored) Loads at Top of Pier

Moment (ft-k)	Axial Load (kips)	Shear Load (kips)	Additional Safety Factor Against Soil Failure
2589.0	36.0	28.00	3.30

Soil Interaction: 2/3.3 * 100 = 60.6%

******* R E S U L T S

Calculated Pier Properties

Length (ft)	Weight (kips)	End Bearing Pressure (psf)
14.500	61.497	1273.2

Ultimate Resisting Forces Along Pier

Type	Distance of Top of Layer to Top of Pier (ft)	Thickness (ft)	Density (lbs/ft^3)	CU (psf)	KP	Force (kips)	Arm (ft)
Clay	0.50	3.00	100.0			0.00	2.00
Clay	3.50	5.50	130.0	4000.0		1056.00	6.25
Clay	9.00	1.91	130.0	12000.0		1102.43	9.96
Clay	10.91	3.59	130.0	12000.0		-2065.57	12.71

Shear and Moments Along Pier

Distance below Top of Pier (ft)	Shear (with Safety Factor) (kips)	Moment (with Safety Factor) (ft-k)	Shear (without Safety Factor) (kips)	Moment (without Safety Factor) (ft-k)
0.00	92.9	8670.3	28.1	2627.4
1.45	92.9	8804.9	28.1	2668.2
2.90	92.9	8939.6	28.1	2709.0
4.35	-70.3	9004.8	-21.3	2728.7
5.80	-348.7	8701.0	-105.7	2636.7
7.25	-627.1	7993.5	-190.0	2422.3
8.70	-905.5	6882.3	-274.4	2085.5
10.15	-1625.5	5113.5	-492.6	1549.6
11.60	-1670.4	2422.1	-506.2	734.0
13.05	-835.2	605.5	-253.1	183.5
14.50	-0.0	-0.0	-0.0	-0.0

Max Bending Moment: 2732.21 Kip-ft

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

Site#: *24519*
Site Name: *Shelton NE, CT*
County #: *Fairfield*

Enter Load Factors Below:		
For M (WL)	1.3	<---- Enter Factor
For P (DL)	1.3	<---- Enter Factor

Pier Properties

Concrete:

Pier Diameter =	6.0	ft
Concrete Area =	4071.5	in^2

Reinforcement:

Clear Cover to **Tie**=	3.00	in
Horiz. **Tie** Bar Size=	4	
Vert. Cage Diameter =	5.30	ft
Vert. Cage Diameter =	63.59	in
Vertical Bar Size =	11	
Bar Diameter =	1.41	in
Bar Area =	1.56	in^2
Number of Bars =	26	
As Total=	40.56	in^2
A s/ Aconc, Rho:	0.0100	1.00%

ACI 10.5 , ACI 21.10.4, and IBC 1810.
Min As for Flexural, Tension Controlled, Shafts:

(3)*(Sqrt(f'c)/Fy:	0.0032
200 / Fy:	0.0033

Minimum Rho Check:

Actual Req'd Min. Rho:	0.33%	Flexural
Provided Rho:	1.00%	OK

Ref. Shaft Max Axial Capacities, ϕ Max(Pn or Tn):		
Max Pu = (φ=0.65) Pn.		
Pn per ACI 318 (10-2)	8392.18	kips
at Mu=(ϕ=0.65)Mn=	4351.05	ft-kips
Max Tu, (φ=0.9) Tn =	2190.24	kips
at Mu=ϕ=(0.90)Mn=	0.00	ft-kips

Maximum Shaft Superimposed Forces

TIA Revision:	F	
Max. Service Shaft M:	2732.21	ft-kips (* **Note**)
Max. Service Shaft P:	32	kips
Max Axial Force Type:	Comp.	

(*) **Note:** Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

Load Factor	**Shaft Factored Loads**		
1.30	Mu:	3551.873	ft-kips
1.30	Pu:	41.6	kips

Material Properties

Concrete Comp. strength, f'c =	4000	psi
Reinforcement yield strength, Fy =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	

ACI 318 Code

Select Analysis ACI Code= 2008

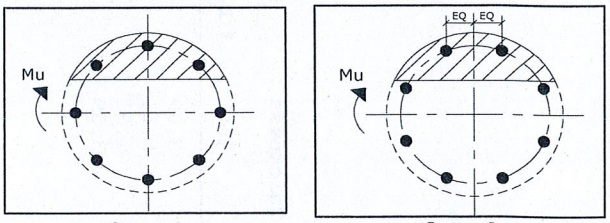
Seismic Properties

Seismic Design Category =	D
Seismic Risk =	**High**

Solve (Run) <-- Press Upon Completing All Input

Results:

Governing Orientation Case: **1**



Case 1 Case 2

Dist. From Edge to Neutral Axis:	**13.18**	in
Extreme Steel Strain, εt:	**0.0124**	
	εt > 0.0050, Tension Controlled	
Reduction Factor,φ:	**0.900**	

Output Note: Negative Pu=Tension

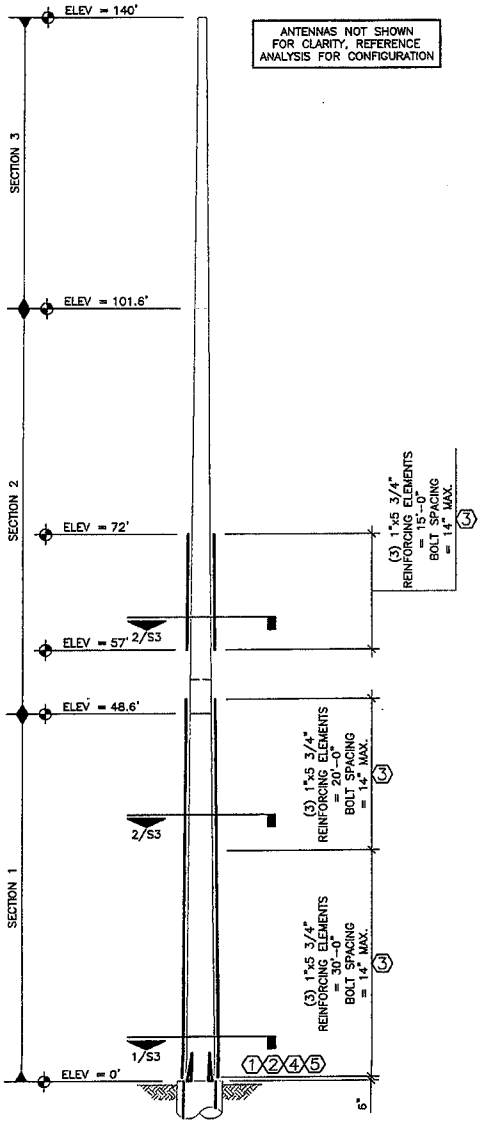
For Axial Compression, φ Pn = Pu:	41.60	kips
Drilled Shaft Moment Capacity, φMn:	**5342.48**	ft-kips
Drilled Shaft Superimposed Mu:	**3551.87**	ft-kips

(Mu/φMn, Drilled Shaft Flexure CSR:	**66.5%**

Analysis Date: 12/28/2012

APPENDIX C

TOWER MODIFICATION DRAWINGS



1 TOWER ELEVATION
SCALE: N.T.S.

ANTENNAS NOT SHOWN FOR CLARITY, REFERENCE ANALYSIS FOR CONFIGURATION

MODIFICATIONS BASED ON STRUCTURAL ANALYSIS FROM B+T GROUP DATED 11/27/12 AND ACCOMPANIED BY ANALYSIS FROM B+T GROUP DATED 12/28/12.

EXISTING MEMBER SCHEDULE

SECTION	NUMBER OF SIDES	THICKNESS	BOTTOM DIAMETER	TOP DIAMETER
1	18	0.3125"	44.317"	31.994"
2	18	0.3125"	33.913"	21.882"
3	18	0.1880"	21.882"	13.161"

EXISTING TOWER HAS BEEN PREVIOUSLY MODIFIED. REFERENCE DRAWINGS BY GPD ASSOCIATES DATED 04/23/10

EXISTING TOWER HAS BEEN PREVIOUSLY MODIFIED. REFERENCE DRAWINGS BY GPD ASSOCIATES DATED 09/17/10

TOWER MODIFICATIONS:

1. CONTRACTOR SHALL BUDGET A SITE VISIT TO CHECK CRITICAL DIMENSIONS AND VERIFY UNKNOWN CONDITIONS PRIOR TO STEEL FABRICATION.
2. THE NEW AND EXISTING TRANSMISSION LINES MUST BE DISTRIBUTED AS SHOWN IN THE TX LINE DIST. DIAGRAM RE: DETAIL 2/S1.
3. INSTALL NEW REINFORCING ELEMENTS RE: SHEET S3.
4. INSTALL NEW TRANSITION STIFFENERS RE: SHEET S3.
5. INSTALL NEW ANCHOR RODS RE: SHEET S3.

* CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR ALL REMOVE AND REPLACE PROCEDURES.
** MODIFICATIONS SHALL BE COMPLETED PRIOR TO ADDING THE PROPOSED APPURTENANCES.

GENERAL NOTES

1.1 ALL WORK SHALL COMPLY WITH THE TIA/EIA-222-F STANDARD AS WELL AS ANY OTHER GOVERNING BUILDING CODES.
1.2 FIELD WORK WILL BE DONE AROUND EXISTING COAXIAL CABLE AND EQUIPMENT. ALL WORK SHALL BE DONE IN A MANNER SUCH THAT NO DAMAGE OCCURS TO THE EXISTING EQUIPMENT OR THE STRUCTURE.
1.3 A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND (OR APPROVED EQUIVALENT) SHALL BE APPLIED TO ANY FIELD CUTS OR FIELD DRILLED HOLES.
1.4 THE USE OF A GAS TORCH OR WELDER WILL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.
1.5 ALL FIELD CONNECTIONS SHALL BE MADE WITH A325X BOLTS, U.N.O.
1.6 IN LIEU OF TEMPORARY BRACING CONTRACTOR MAY HAVE A STABILITY ANALYSIS PERFORMED BY AN ENGINEER LICENSED IN THE STATE THE TOWER IS LOCATED. THE ANALYSIS SHALL USE A MINIMUM WIND SPEED OF 45 mph (3-SEC) PER TIA-1019.

FABRICATION

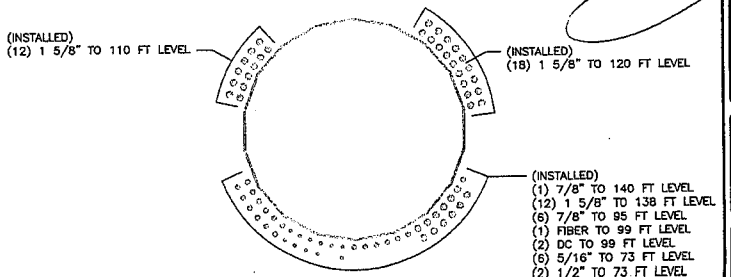
2.1 ALL WORK SHALL BE DONE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
2.2 STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:

	YIELD	ASTM SPECS
A. STEEL SHAPES AND PLATES, U.N.O.	65ksi	A572
B. SHIM PLATES	36ksi	A36

2.3 ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND A153.
2.4 WELDING SHALL MEET ANSI/AWS D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). ELECTRODES SHALL BE E80 SERIES.
2.5 CONTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B+T GROUP 2 WEEKS PRIOR TO FABRICATION.

KEY NOTES

(#) TOWER MODIFICATION I.D.



2 TX LINE DISTRIBUTION DIAGRAM
SCALE: N.T.S.

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.bigrp.com

at&t

ISSUED FOR:

REV	DATE	DESCRIPTION
0	12/28/12	ISSUED FOR CONSTRUCTION

PROJECT NO:	84720.002.01
PROJECT ENG:	ALI ABBASZADEH
DRAWN BY:	GLS
CHECKED BY:	SSV

B+T ENGINEERING, INC.

STATE OF CONNECTICUT
CHRISTOPHER TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHELTON NE
24519
OLIVER TERRACE
SHELTON, CT
EXISTING 140' MONOPOLE

SHEET TITLE
TOWER ELEV., SCHEDULES, TX LINE DIST. DIAGRAM AND GENERAL NOTES

SHEET NUMBER: S1
REVISION: 0

MI CHECKLIST

REQUIRED	REPORT ITEM	BRIEF DESCRIPTION
		PRE-CONSTRUCTION
X	MI CHECKLIST DRAWING	THIS CHECKLIST SHALL BE INCLUDED IN THE MI REPORT.
X	EOR APPROVED SHOP DRAWINGS	FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATION INSPECTION	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR CERTIFIED WELD INSPECTION	A VISUAL OBSERVATION BY CWI OF A PORTION OF WELDING ON THE PROPOSED STRUCTURAL MEMBERS IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL TEST REPORT (MTR)	MILL CERTIFICATION SHALL BE PROVIDED FOR ALL STEEL AS SPECIFIED IN THE MODIFICATION DRAWINGS AND THIS DOCUMENTATION SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR NDE INSPECTION	CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED WELD INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	NDE REPORT OF MONOPOLE BASE PLATE	A NON-DESTRUCTIVE EXAMINATION OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	THE MATERIAL SHIPPING LIST SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
		CONSTRUCTION
X	CONSTRUCTION INSPECTIONS	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FOUNDATION INSPECTIONS	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	CONCRETE COMP. STRENGTH AND SLUMP TESTS	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	POST INSTALLED ANCHOR ROD VERIFICATION	POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED AS SPECIFIED IN THE MODIFICATION DRAWINGS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	BASE PLATE GROUT VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT CERTIFIES THAT THE GROUT WAS INSTALLED AS SPECIFIED IN THE MODIFICATION DRAWINGS FOR INCLUSION IN THE MI REPORT.
X	CONTRACTOR'S CERTIFIED WELD INSPECTION	A CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST AS NECESSARY ALL FIELD WELDS. A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	EARTHWORK: LIFT AND DENSITY	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	ON SITE COLD GALVANIZING VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED AS SPECIFIED IN THE MODIFICATION DRAWINGS.
N/A	GUY WIRE TENSION REPORT	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT TO THE MI INSPECTOR INDICATING THE TEMPERATURE AND TENSION IN EVERY GUY CABLE AS PART OF PLUMB AND TENSION PROCEDURE FOR INCLUSION IN THE MI REPORT.
X	GC AS-BUILT DOCUMENTS	THE GENERAL CONTRACTOR SHALL SUBMIT A COPY OF THE CONTRACT DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD DUE TO FIELD CONDITIONS.
		POST-CONSTRUCTION
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTORS REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
X	POST INSTALLED ANCHOR ROD PULL-OUT TESTING	POST-INSTALLED ANCHOR RODS SHALL BE TESTED IN ACCORDANCE AS SPECIFIED IN THE MODIFICATION DRAWINGS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PHOTOGRAPHS	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI WHICH DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
ADDITIONAL TESTING AND INSPECTIONS:		

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE MI REPORT
N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT

MODIFICATION INSPECTION NOTES:

GENERAL

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT B+T GROUP.

MI INSPECTOR

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT.

GENERAL CONTRACTOR

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI

IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, AT&T SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF DEPOSITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). IF AT&T CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING MI'S

IF THE MODIFICATION INSPECTOR FAILS THE MI ("FAILED MI"), THE GC SHALL WORK WITH AT&T TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
- OR, WITH AT&T'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION
- THE ADDITIONAL COST INCURRED IN THE SECOND SUPERVISION PROCESS WOULD BE BORNE BY THE GENERAL CONTRACTOR.

MI VERIFICATION INSPECTIONS

AT&T RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTION(S) ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MI" OR "PASS AS NOTED MI" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
  - RAW MATERIALS
  - PHOTOS OF ALL CRITICAL DETAILS
  - FOUNDATION MODIFICATIONS
  - WELD PREPARATION
  - BOLT INSTALLATION AND TORQUE
  - FINAL INSTALLED CONDITION
  - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
  - PHOTOS OF MODIFIED SECTIONS INDIVIDUALLY INDICATING ELEVATION
  - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

at&t

ISSUED FOR:

REV	DATE	DESCRIPTION
0	12/28/12	ISSUED FOR CONSTRUCTION

PROJECT NO:	84720.002.01
PROJECT ENG:	ALI ABBASZADEH
DRAWN BY:	GLS
CHECKED BY:	SSV

B+T ENGINEERING, INC.

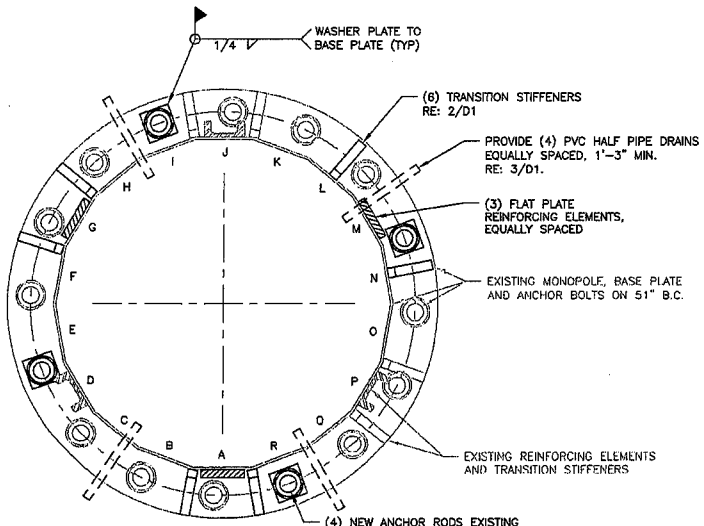
STATE OF CONNECTICUT
GRAND TRUNK
No. 23924
LICENSED
PROFESSIONAL ENGINEER

SHELTON NE
24519
OLIVER TERRACE
SHELTON, CT

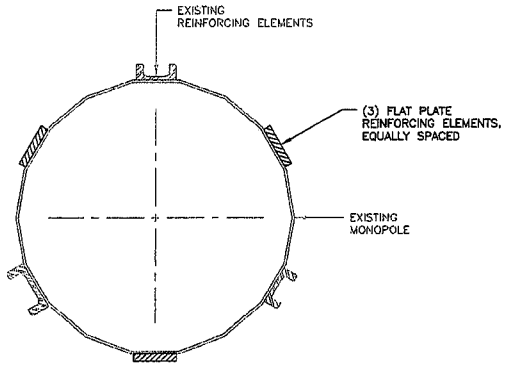
EXISTING 140' MONOPOLE

SHEET TITLE
MODIFICATION INSPECTION NOTES AND CHECKLIST

SHEET NUMBER:	REVISION:
S2	0



1 TOWER SECTION (0'-30.5')
SCALE: N.T.S.



2 TOWER SECTION (30.5'-50.5' AND 57'-72')
SCALE: N.T.S.

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

at&t

ISSUED FOR:

REV	DATE	DESCRIPTION
0	12/28/12	ISSUED FOR CONSTRUCTION

PROJECT NO:	84720.002.01
PROJECT ENG:	ALI ABBASZADEH
DRAWN BY:	GLS
CHECKED BY:	SSV

B+T ENGINEERING, INC.

STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

SHELTON NE
24519
OLIVER TERRACE
SHELTON, CT

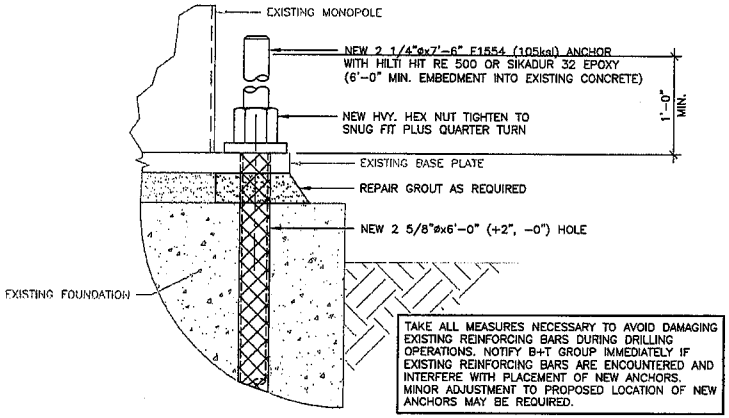
EXISTING 140'
MONOPOLE

SHEET TITLE
TOWER SECTIONS
0'-30.5', 30.5'-50.5' AND 57'-72'

SHEET NUMBER: S3

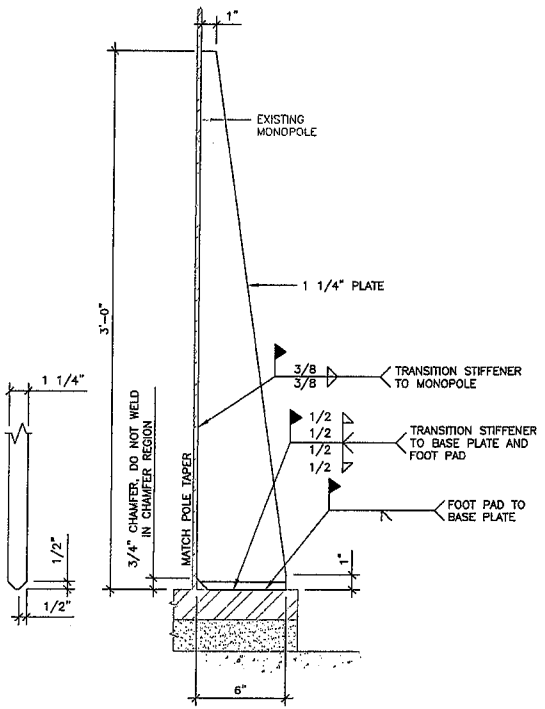
REVISION: 0

NEW ANCHOR ROD REINFORCING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. ALL NEW ANCHOR RODS SHALL BE PULL TESTED FOR 239ksi.

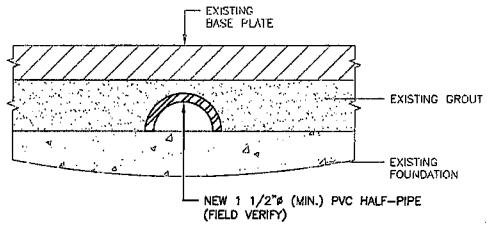


TAKE ALL MEASURES NECESSARY TO AVOID DAMAGING EXISTING REINFORCING BARS DURING DRILLING OPERATIONS. NOTIFY B+T GROUP IMMEDIATELY IF EXISTING REINFORCING BARS ARE ENCOUNTERED AND INTERFERE WITH PLACEMENT OF NEW ANCHORS. MINOR ADJUSTMENT TO PROPOSED LOCATION OF NEW ANCHORS MAY BE REQUIRED.

1 NEW ANCHOR ROD DETAIL
SCALE: N.T.S.



2 TRANSTION STIFFENER
SCALE: N.T.S.



3 DRAIN PIPE DETAIL
SCALE: N.T.S

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at&t

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B+T ENGINEERING, INC.

STATE OF CONNECTICUT
No. 23924
LICENSED PROFESSIONAL ENGINEER

SHELTON NE
24519
OLIVER TERRACE
SHELTON, CT
EXISTING 140' MONOPOLE

SHEET TITLE
DETAILS

SHEET NUMBER: D1
REVISION: 0

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

February 6, 2013

The Honorable Mark A. Lauretti
Mayor
City of Shelton
54 Hill Street
P. O. Box 364
Shelton, CT 06484

RE: **EM-VER-126-130128** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at Oliver Terrace (aka Platt Road), Shelton, Connecticut.

Dear Mayor Lauretti:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by February 22, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

LRoberts

Linda Roberts
Executive Director

LR/jb

c: Richard Schultz, Planning Administrator, City of Shelton

CSC
CONNECTICUT SITING COUNCIL