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
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

September 29, 2008

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

RE: **EM-VER-084-080912** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 10 Bona Street, Milford, 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.

The proposed modifications are to be implemented as specified here and in your notice dated September 12, 2008, including the placement of all necessary equipment and shelters within the tower compound. 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.

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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/MP/jb

c: The Honorable James L. Richetelli, Jr., Mayor, City of Milford
David Sulkis, City Planner, City of Milford
Crown Castle

ROBINSON & COLE LLP

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
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Direct (860) 275-8345

EM-VER-084-080912

ORIGINAL

September 12, 2008

Via Hand Delivery

S. Derek Phelps
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification**
10 Bona Street, Milford, Connecticut

Dear Mr. Phelps:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") seeks Council authorization to install antennas on the existing 133-foot monopole tower owned by Crown Castle International at 10 Bona Street in Milford, Connecticut. 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 James L. Richetelli, Jr., Mayor of the City of Milford. Pursuant to a Council directive, a copy of this letter is also being sent to 10 Bona Street LLC, the owner of the property on which the tower is located.

On October 23, 2002, the Council approved the request of Cellco to co-locate antennas at the 93-foot level on the existing 133-foot tower at 10 Bona Street in Milford. The installation authorized by the Council was never completed and the approval subsequently expired.

The existing facility consists of a 133-foot monopole tower capable of supporting multiple carriers at 10 Bona Street in Milford. AT&T antennas are located at the 133-foot level on the tower. Cellco intends to install six (6) LPA-80090/4CF antennas and six (6) LPA-185090/8CF antennas at the 113-foot level on the tower. Associated equipment, including a diesel-fueled back-up generator, will be located within a 12' x 30' equipment shelter on the ground adjacent to the tower. Attached behind Tab 1 are Project Plans for the proposed Cellco facility.

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

1. The proposed modification will not increase the overall height of the existing tower. Cellco's antennas will be mounted with their centerline at the 113-foot level on the 133-foot tower.

2. The proposed installation of the associated equipment shelter will not require an extension of the fenced compound or the lease area.

3. The proposed installation will not increase the noise levels at the facility by six decibels or more.

4. The operation of the antennas will not increase radio frequency (RF) power density levels at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. The RF power density calculations for Cellco antennas would be 17% of the FCC standard. A power density calculations table is included behind Tab 2.

Included behind Tab 3 is a Structural Analysis Report confirming that the tower can support the existing and Cellco antennas, and associated equipment.

For the foregoing reasons, Cellco respectfully submits that the proposed antenna installation at the facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Attachments
Copy to:
James L. Richetelli, Jr., Milford Mayor
10 Bona Street LLC
Sandy M. Carter
Michelle Kababik

Cellco Partnership

d.b.a. verizon wireless

WIRELESS COMMUNICATIONS FACILITY

MILFORD III

10 BONA STREET

MILFORD, CT 06460

SITE DIRECTIONS

FROM: 99 EAST RIVER DRIVE, EAST HARTFORD, CONNECTICUT
TO: 10 BONA STREET, MILFORD, CONNECTICUT

1.	Start out going EAST on E RIVER DR toward PITKIN ST.	1.3 MI.
2.	Merge onto US-5 S/CT-15 S.	1.8 MI.
3.	Merge onto I-91 S via EXIT 88 toward NEW HAVEN/N.Y. CITY.	38.6 MI.
4.	Merge onto I-95 S/GOVERNOR JOHN DAVIS LODGE TURNPIKE via the exit on the LEFT.	11.0 MI.
5.	Take the PLAINS RD exit, EXIT 36.	0.2 MI.
6.	Turn left onto PLAINS RD.	0.3 MI.
7.	Turn SLIGHT RIGHT onto N CLARK ST.	0.1 MI.
8.	Turn RIGHT onto BOSTON POST RD/US-1.	0.3 MI.
9.	Turn RIGHT onto ERNA AVE.	0.2 MI.
10.	Turn RIGHT onto WILMA ST.	0.0 MI.
11.	WILMA ST becomes ROSELLE ST.	0.0 MI.
12.	Turn RIGHT onto BONA ST.	0.0 MI.
13.	End at 10 Bona Street Milford, CT 06460-3164	

GENERAL NOTES

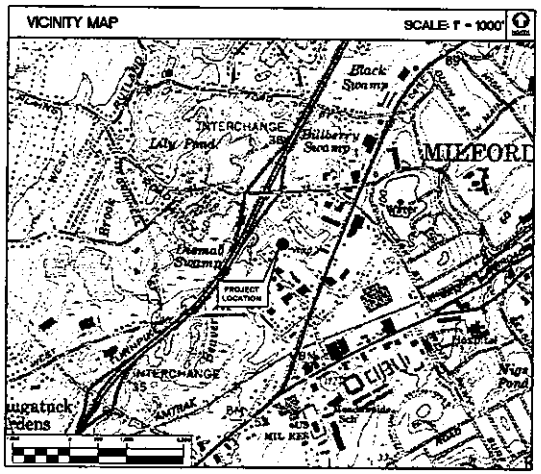
1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELLCO PARTNERSHIP.

PROJECT SCOPE

1. THE PROPOSED SCOPE OF WORK GENERALLY INCLUDES THE INSTALLATION OF A 12'x30' PREFABRICATED WIRELESS EQUIPMENT SHELTER ON A CONCRETE FOUNDATION WITHIN THE EXISTING WIRELESS COMMUNICATIONS LEASE AREA.
2. A TOTAL OF TWELVE (12) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO BE MOUNTED ON AN EXISTING 133' TALL MONOPOLE TOWER AT A RAD CENTER ELEVATION OF 113' ABOVE THE EXISTING TOWER BASE PLATE.
3. ELECTRIC AND TELCO UTILITIES SHALL BE ROUTED UNDERGROUND TO THE PROPOSED EQUIPMENT SHELTER FROM AN EXISTING UTILITY BACKBOARD LOCATED WITHIN THE FENCED COMPOUND.

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

SITE NAME:	MILFORD III
SITE ADDRESS:	10 BONA STREET MILFORD, CT 06460
LESSEE/ TENANT:	CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108
CONTACT PERSON:	SANDY CARTER CELLCO PARTNERSHIP (860) 803-8219
TOWER COORDINATES:	LATITUDE 41°-13'-11.8" LONGITUDE 73°-04'-40.2"
	COORDINATES ARE BASED ON CONNECTICUT SITING COUNCIL DATABASE, LAST UPDATED JUNE 28, 2006.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	00
C-1	COMPOUND PLAN AND ELEVATION	00

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
00	08/05/08	DAS	DMD	ISSUED FOR CSC

DESIGNED BY: CFC
DRAWN BY: CAS
CHK'D BY: DMD

PROFESSIONAL ENGINEER SEAL

Cellco Partnership d.b.a. Verizon wireless

NATOONI

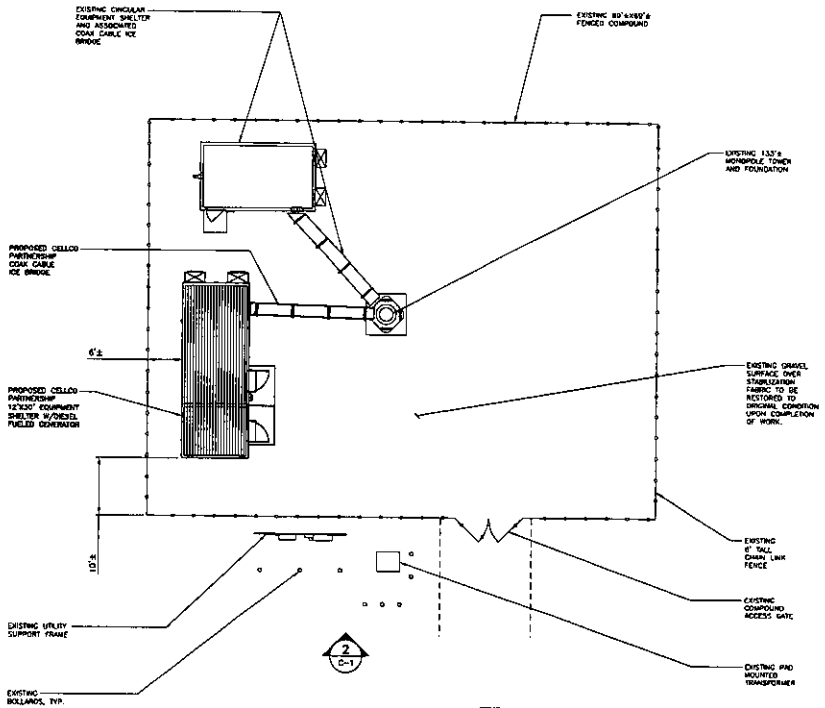
VERIZON WIRELESS
WIRELESS COMMUNICATIONS FACILITY
MILFORD III
10 BONA STREET
MILFORD, CT 06460

DATE: 08/05/08
SCALE: AS NOTED
JOB NO. 9030

TITLE SHEET

T-1

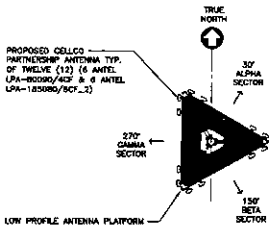
Sheet No. 1 of 2



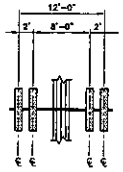
1 C-1 **COMPOUND PLAN** SCALE: 1" = 10'-0" TRUE NORTH

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

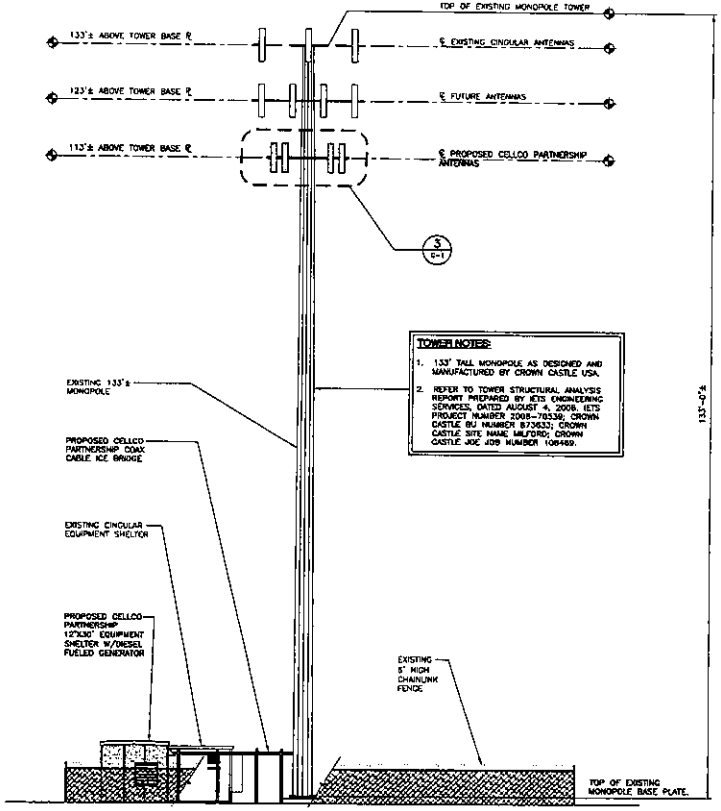


PLAN VIEW



TYPICAL SECTOR ELEVATION

3 C-1 **ANTENNA MOUNTING CONFIGURATION** NOT TO SCALE



2 C-1 **SOUTH ELEVATION** SCALE: 1" = 10'

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

DESIGNED BY: CPC
DRAWN BY: CMS
CHK'D BY: DMD

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
00	08/08/08	CMS	DMD	ISSUED FOR CSC

PROFESSIONAL ENGINEER SEAL

Cellco Partnership
d.b.a. Verizon Wireless

NATIONAL

VERIZON WIRELESS
WIRELESS COMMUNICATIONS FACILITY
MILFORD III
10 BONA STREET
MILFORD, CT 06460

DATE: 08/08/08
SCALE: AS NOTED
JOB NO. 903C

COMPOUND PLAN AND ELEVATION

C-1

Sheet No. 2 of 2

	General	Power	Density					
Site Name: Milford 3								
Tower Height: Verizon @ 113Ft.								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*Cingular UMTS	1	500	133	0.0102	1965	1.0000	1.02%	
*Cingular	19	100	133	0.0386	880	0.5867	6.58%	
Verizon	**9**	**196**	**113**	**0.0900**	**880**	**0.5866**	**15.34%**	
Verizon	**3**	**233**	**113**	**0.0166**	**1900**	**1.0000**	**1.66%**	
								24.60%
* Source: Siting Council								

Date: **August 4, 2008**

Ms. Marianne Leech
Crown Castle International
9105 Monroe Road,
Suite 150
Charlotte, NC 28270
704-321-3829

IETS, P.C.
129 Greenwich Road
Charlotte, NC 28211
(704) 522-1131 Phone
(704) 522-1280 Fax
towerdata@iets.com

Subject: **Analysis Structural Report**

Carrier Designation	**Verizon Wireless Co-Locate**	
Crown Castle Designation	**Crown Castle BU Number:**	**873633**
	Crown Castle Site Name:	**Milford**
	Crown Castle JDE Job Number	**108469**
Engineering Firm Designation	**IETS Project Number:**	**2008-70539**
Site Data	**10 Bona Street, Milford, CT, New Haven County** **Latitude 41° 13' 12.27", Longitude -73° 04' 38.56"** **133 Foot – Monopole Tower**	

Dear Ms. Leech,

IETS is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the aforementioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 297306, in accordance with application 67186, revision 1.

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

LC1: Existing + Reserved + Proposed Equipment **Sufficient Capacity**

Note: See Table I and Table II for the proposed and existing/reserved loading.

The analysis has been performed in accordance with the TIA/EIA 222-F standard and the 2006 IBC based upon a fastest mile wind speed of 85 mph.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

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

Respectfully submitted,

Rick B. Siel, Jr., PE
Project Engineer

William A. Griswold, Jr., P.E.
Chief Engineer

National Society of Professional Engineers®
Signatory, NSPE Licensed Member

NATIONAL ASSOCIATION OF TOWER ERECTORS

STATE OF CONNECTICUT — No. 23729 — LICENSED PROFESSIONAL ENGINEER

TABLE OF CONTENTS

1) INTRODUCTION

The subject tower is a 133' monopole tower manufactured by Summit Manufacturing, LLC. The tower was originally designed for an 85 mph basic wind speed according to TIA/EIA-222-F.

2) ANALYSIS CRITERIA

- TIA/EIA-222-F
- 85 mph wind speed with no radial ice and a 74 mph wind speed with ½" of radial ice
- 2006 IBC
- Crown Castle provided proposed, existing, and reserved antenna and transmission line information.

Table 1 – Proposed Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount Information	Number of Feed Lines	Feed Line Size (in)
113	6 6	Antel Antel	LPA-80090/4CF LPA-185080/8CFx2	13' Low Profile Platform	12	1-5/8

Refer to IETS drawing 2008-70539-01 for existing and proposed cable routing.

Table 2 – Existing and Reserved Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
136 (SLA)*	9 12	Powerwave Powerwave	7770 LGP2140X	12	1-5/8
133	9 6 3	CSS CSS ADC	DUO1417-8686-40i 800 TMA DBC-750	9	1-5/8
123	3 (Reserved)	CSS	MP17-65	6 (Reserved)	1-5/8

*SLA loading is exceeded by the existing loading at 133' and is not considered in this analysis

Table 3 – Design Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model
133	12	Decibel	DB896H
123	12	DAPA	48000 PCS Panel
113	12	DAPA	48000 PCS Panel
103	12	DAPA	48000 PCS Panel
93	12	DAPA	48000 PCS Panel
83	12	DAPA	48000 PCS Panel

3) ANALYSIS PROCEDURE

Table 4 – Documents Provided

Document	Remarks	Reference	Source
Tower Drawings	Summit Manufacturing, LLC	1339622	CCI Sites
Foundation Drawings	Summit Manufacturing, LLC	1340388	CCI Sites
Soils Report	Criscuolo Shepard Associates	1340372	CCI Sites

3.1) Analysis Method

RISA Tower (version 5.2.0.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind, and ice load cases. All loads were computed in accordance with the ANSI/EIA/TIA 222F or the local building code requirements. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1. This structural analysis **does not** include a grouted base plate.
2. All proposed and future transmission cables are installed in the locations noted on the cable routing drawing in *Appendix B.*
3. When applicable, transmission cables were considered to be structural components for calculating wind loads, as allowed by TIA/EIA-222-F.
4. Information in the original design drawings and specifications that could not be verified by IETS personnel is assumed to be correct. For this analysis, IETS will assume conformance with the original design drawings and specifications.
5. IETS shall assume that all tower components are in sufficient condition to carry their full design capacity.
6. We have not based the adequacy of the tower on limitations for antenna twist, tilt, roll, or lateral translation.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and IETS should be allowed to review any new information to determine its effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 – Tower Component Stresses vs. Capacity – LC1

Notes	Component	Elevation (ft)	% Capacity	Pass/Fail
RISA Tower Analysis Summary:(Monopole)				
			Summary	
Notes:	Component	Elevation	% Capacity	Pass/Fail
	L1	133 - 86.5	35.1	Pass
	L2	86.5 – 39.75	54.4	Pass
	L3	39.75 - 0	51.1	Pass
Individual Components:				
Notes:	Component	Elevation	% Capacity	Pass/Fail
1	Anchor Rods	-	44.0	Pass
1	Base Plate	-	71.5	Pass
1	Base Foundation (Compared w/ Design Loads)	-	53.1	Pass
Structure Rating (max from all components) =				**71.5%**

*Notes:

1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity listed.
2) The percent capacities shown above (excluding foundations) include the 1/3 increase in allowable stresses as allowed by TIA/EIA-222-F.

APPENDIX A

RISA TOWER OUTPUT

Tower Input Data

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

- Tower is located in New Haven County, Connecticut.
- Basic wind speed of 85 mph.
- Nominal ice thickness of 0.5000 in.
- Ice density of 56 pcf.
- A wind speed of 74 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.333.
- 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*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	
L1	133.00-86.50	46.50	4.25	18	24.0000	33.1160	0.2500	1.0000	A607-65 (65 ksi)
L2	86.50-39.75	51.00	5.25	18	31.7828	41.7800	0.2813	1.1250	A607-65 (65 ksi)
L3	39.75-0.00	45.00		18	40.1884	49.0100	0.3750	1.5000	A607-65 (65 ksi)

Tapered Pole Properties

Section	*Tip Dia.*	*Area*	*I*	*r*	*C*	*I/C*	*J*	*It/Q*	*w*	*w/t*
	in	in^2	in^4	*in*	*in*	in^3	in^4	in^2	*in*	
L1	24.3702	18.8456	1342.9976	8.4313	12.1920	110.1540	2687.7623	9.4246	3.7840	15.136
	33.6269	26.0792	3558.9750	11.6674	16.8229	211.5550	7122.6329	13.0421	5.3884	21.554
L2	33.1191	28.1211	3525.6028	11.1831	16.1457	218.3621	7055.8447	14.0632	5.0988	18.129
	42.4245	37.0454	8060.1282	14.7321	21.2242	379.7605	16130.8621	18.5262	6.8583	24.385
L3	41.8534	47.3879	9489.9239	14.1337	20.4157	464.8347	18992.3349	23.6984	6.4132	17.102
	49.7661	57.8878	17299.0559	17.2654	24.8971	694.8227	34620.8743	28.9494	7.9658	21.242

Load Combinations

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

Maximum Reactions

Location	*Condition*	*Gov. Load Comb.*	*Vertical K*	*Horizontal, X K*	*Horizontal, Z K*
Pole	Max. Vert	14	29.80	0.00	0.00
	Max. H_x	11	24.83	16.60	0.00
	Max. H_z	2	24.83	0.00	16.60
	Max. M_x	2	1514.79	0.00	16.60
	Max. M_z	5	1514.79	-16.60	0.00
	Max. Torsion	13	0.00	8.30	14.38
	Min. Vert	5	24.83	-16.60	0.00
	Min. H_x	5	24.83	-16.60	0.00
	Min. H_z	8	24.83	0.00	-16.60
	Min. M_x	8	-1514.79	0.00	-16.60
	Min. M_z	11	-1514.79	16.60	0.00
	Min. Torsion	3	-0.00	-8.30	14.38

Tower Mast Reaction Summary

Load Combination	*Vertical K*	*Shear$_x$ K*	*Shear$_z$ K*	*Overturning Moment, M_x kip-ft*	*Overturning Moment, M_z kip-ft*	*Torque kip-ft*
Dead Only	24.83	0.00	0.00	0.00	0.00	0.00

Load Combination	*Vertical*	*Shear$_x$*	*Shear$_z$*	*Overturning Moment, M_x*	*Overturning Moment, M_z*	*Torque*
	K	*K*	*K*	*kip-ft*	*kip-ft*	*kip-ft*
Dead+Wind 0 deg - No Ice	24.83	0.00	-16.60	-1514.79	0.00	0.00
Dead+Wind 30 deg - No Ice	24.83	8.30	-14.38	-1311.90	-757.43	0.00
Dead+Wind 60 deg - No Ice	24.83	14.38	-8.30	-757.43	-1311.90	-0.00
Dead+Wind 90 deg - No Ice	24.83	16.60	0.00	0.00	-1514.79	0.00
Dead+Wind 120 deg - No Ice	24.83	14.38	8.30	757.43	-1311.90	0.00
Dead+Wind 150 deg - No Ice	24.83	8.30	14.38	1311.90	-757.43	-0.00
Dead+Wind 180 deg - No Ice	24.83	0.00	16.60	1514.79	0.00	0.00
Dead+Wind 210 deg - No Ice	24.83	-8.30	14.38	1311.90	757.43	0.00
Dead+Wind 240 deg - No Ice	24.83	-14.38	8.30	757.43	1311.90	-0.00
Dead+Wind 270 deg - No Ice	24.83	-16.60	0.00	0.00	1514.79	0.00
Dead+Wind 300 deg - No Ice	24.83	-14.38	-8.30	-757.43	1311.90	0.00
Dead+Wind 330 deg - No Ice	24.83	-8.30	-14.38	-1311.90	757.43	-0.00
Dead+Ice+Temp	29.80	0.00	0.00	0.00	0.00	0.00
Dead+Wind 0 deg+Ice+Temp	29.80	0.00	-13.55	-1273.16	0.00	0.00
Dead+Wind 30 deg+Ice+Temp	29.80	6.77	-11.73	-1102.61	-636.59	0.00
Dead+Wind 60 deg+Ice+Temp	29.80	11.73	-6.77	-636.59	-1102.61	-0.00
Dead+Wind 90 deg+Ice+Temp	29.80	13.55	0.00	0.00	-1273.16	0.00
Dead+Wind 120 deg+Ice+Temp	29.80	11.73	6.77	636.59	-1102.61	0.00
Dead+Wind 150 deg+Ice+Temp	29.80	6.77	11.73	1102.61	-636.59	-0.00
Dead+Wind 180 deg+Ice+Temp	29.80	0.00	13.55	1273.16	0.00	0.00
Dead+Wind 210 deg+Ice+Temp	29.80	-6.77	11.73	1102.61	636.59	0.00
Dead+Wind 240 deg+Ice+Temp	29.80	-11.73	6.77	636.59	1102.61	-0.00
Dead+Wind 270 deg+Ice+Temp	29.80	-13.55	0.00	0.00	1273.16	0.00
Dead+Wind 300 deg+Ice+Temp	29.80	-11.73	-6.77	-636.59	1102.61	0.00
Dead+Wind 330 deg+Ice+Temp	29.80	-6.77	-11.73	-1102.61	636.59	-0.00
Dead+Wind 0 deg - Service	24.83	0.00	-8.27	-754.93	0.00	0.00
Dead+Wind 30 deg - Service	24.83	4.13	-7.16	-653.79	-377.46	0.00
Dead+Wind 60 deg - Service	24.83	7.16	-4.13	-377.46	-653.79	-0.00
Dead+Wind 90 deg - Service	24.83	8.27	0.00	0.00	-754.93	0.00
Dead+Wind 120 deg - Service	24.83	7.16	4.13	377.46	-653.79	0.00
Dead+Wind 150 deg - Service	24.83	4.13	7.16	653.79	-377.46	-0.00
Dead+Wind 180 deg - Service	24.83	0.00	8.27	754.93	0.00	0.00
Dead+Wind 210 deg - Service	24.83	-4.13	7.16	653.79	377.46	0.00
Dead+Wind 240 deg - Service	24.83	-7.16	4.13	377.46	653.79	-0.00
Dead+Wind 270 deg - Service	24.83	-8.27	0.00	0.00	754.93	0.00
Dead+Wind 300 deg - Service	24.83	-7.16	-4.13	-377.46	653.79	0.00
Dead+Wind 330 deg - Service	24.83	-4.13	-7.16	-653.79	377.46	-0.00

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		°	°
L1	133 - 86.5	23.246	30	1.4680	0.0000
L2	90.75 - 39.75	11.116	30	1.1789	0.0000
L3	45 - 0	2.648	30	0.5373	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation	*Appurtenance*	*Gov. Load Comb.*	*Deflection*	*Tilt*	*Twist*	*Radius of Curvature*
ft			*in*	°	°	*ft*
133.00	Mount - 13' Low Profile Platform	30	23.246	1.4680	0.0000	39630
123.00	Mount - Standard T-Arm (3 Sectors)	30	20.204	1.4256	0.0000	19815
113.00	Mount - 13' Low Profile Platform	30	17.224	1.3739	0.0000	9907

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	133 - 86.5 (1)	TP33.116x24x0.25	46.50	0.00	0.0	39.000	25.4180	-7.78	991.30	0.008
L2	86.5 - 39.75 (2)	TP41.78x31.7828x0.2813	51.00	0.00	0.0	39.000	36.1267	-14.58	1408.94	0.010
L3	39.75 - 0 (3)	TP49.01x40.1884x0.375	45.00	0.00	0.0	39.000	57.8878	-24.82	2257.62	0.011

Pole Bending Design Data

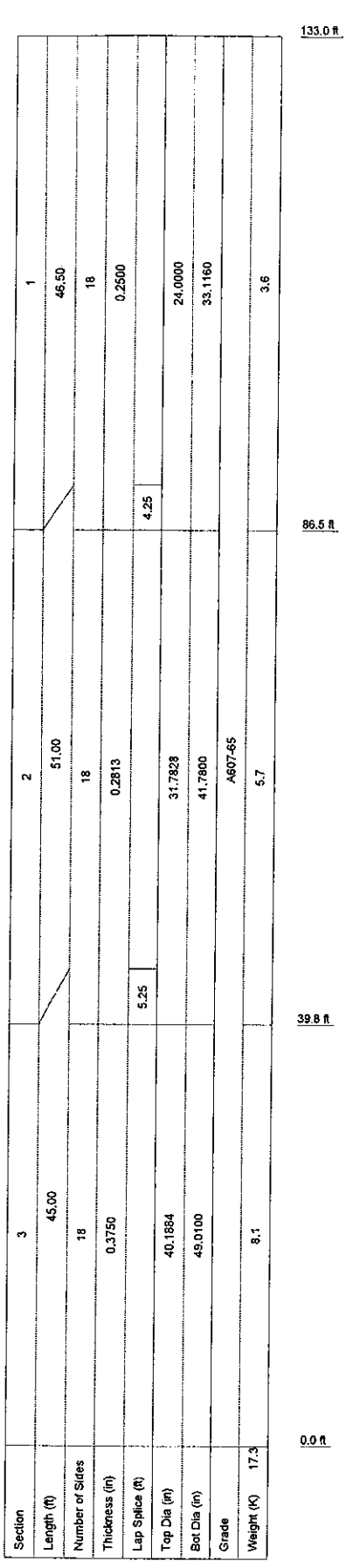
Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	133 - 86.5 (1)	TP33.116x24x0.25	300.75	-17.962	39.000	0.461	0.00	0.000	39.000	0.000
L2	86.5 - 39.75 (2)	TP41.78x31.7828x0.2813	838.89	-27.878	39.000	0.715	0.00	0.000	39.000	0.000
L3	39.75 - 0 (3)	TP49.01x40.1884x0.375	1514.86	-26.162	39.000	0.671	0.00	0.000	39.000	0.000

Pole Interaction Design Data

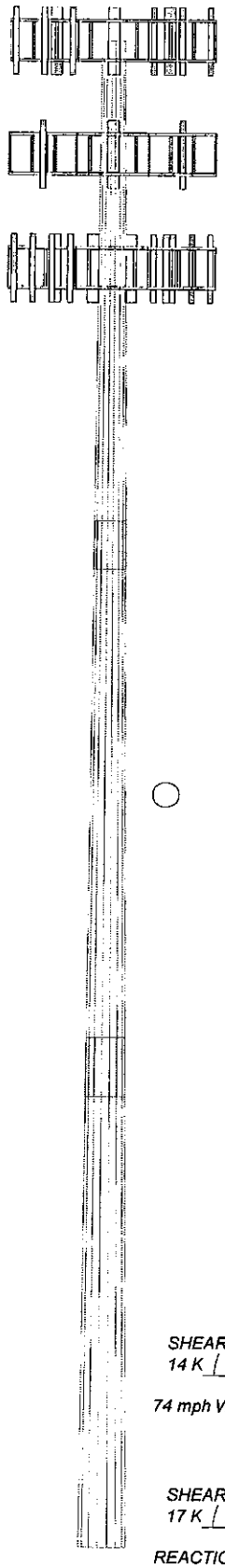
Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	133 - 86.5 (1)	TP33.116x24x0.25	0.008	0.461	0.000	0.468	1.333	H1-3
L2	86.5 - 39.75 (2)	TP41.78x31.7828x0.2813	0.010	0.715	0.000	0.725	1.333	H1-3
L3	39.75 - 0 (3)	TP49.01x40.1884x0.375	0.011	0.671	0.000	0.682	1.333	H1-3

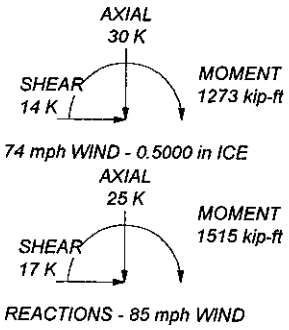
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	133 - 86.5	Pole	TP33.116x24x0.25	1	-7.78	1321.41	35.1	Pass
L2	86.5 - 39.75	Pole	TP41.78x31.7828x0.2813	2	-14.58	1878.12	54.4	Pass
L3	39.75 - 0	Pole	TP49.01x40.1884x0.375	3	-24.82	3009.41	51.1	Pass
							Summary	
						Pole (L2)	54.4	Pass
						RATING =	**54.4**	**Pass**



Section	3	2	1
Length (ft)	45.00	51.00	46.50
Number of Sides	18	18	18
Thickness (in)	0.3750	0.2813	0.2500
Lap Splice (ft)		5.25	4.25
Top Dia (in)	40.1884	31.7828	24.0000
Bot Dia (in)	49.0100	41.7800	33.1160
Grade		A607-65	
Weight (K)	8.1	5.7	3.6





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Mount - 13' Low Profile Platform	133	MP17-65	123
(3) DUO1417-8686	133	MP17-65	123
(3) DUO1417-8686	133	MP17-65	123
(3) DUO1417-8686	133	Mount - 13' Low Profile Platform	113
(2) ADC DB800-1900 (TMA)	133	(2) LPA-80090/4CF	113
DBC-750	133	(2) LPA-185080/8CFx2	113
(2) ADC DB800-1900 (TMA)	133	(2) LPA-80090/4CF	113
DBC-750	133	(2) LPA-185080/8CFx2	113
(2) ADC DB800-1900 (TMA)	133	(2) LPA-80090/4CF	113
DBC-750	133	(2) LPA-185080/8CFx2	113
Mount - Standard T-Arm (3 Sectors)	123		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

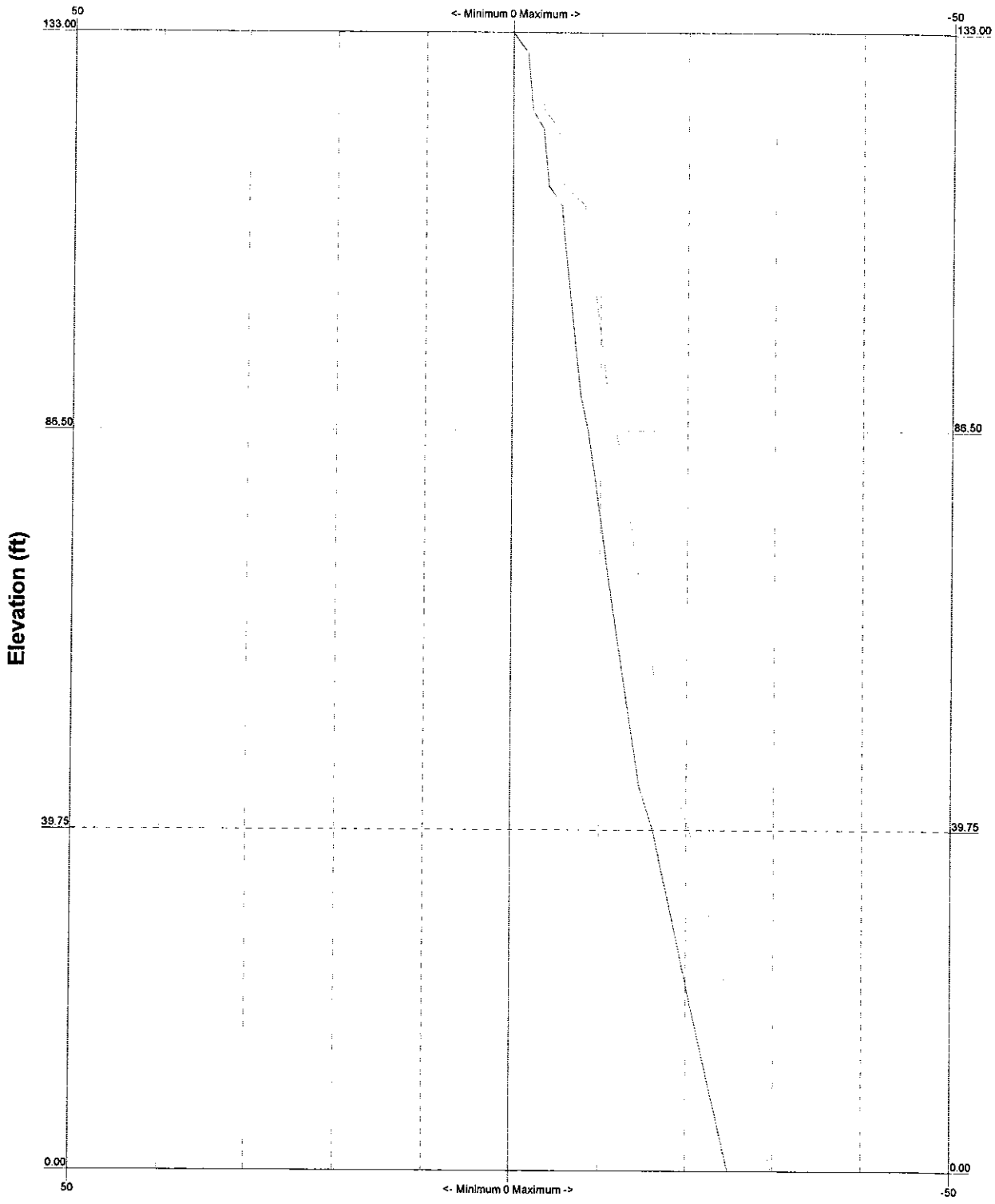
TOWER DESIGN NOTES

1. Tower is located in New Haven 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 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 60 mph wind.
5. TOWER RATING: 54.4%

IETS
129 Greenwich Rd.
Charlotte, NC
Phone: (704) 522-1131
FAX: (704) 522-1280

Job: 2008-70539 BU# 873633 "Milford"			
Project: Verizon Wireless Co-Locate			
Client: Crown Castle International	Drawn by: Mark J. Stewart	App'd:	
Code: TIA/EIA-222-F	Date: 08/04/08	Scale: NTS	
Path:		Dwg No. E-1	

TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice
Leg Compression (K)

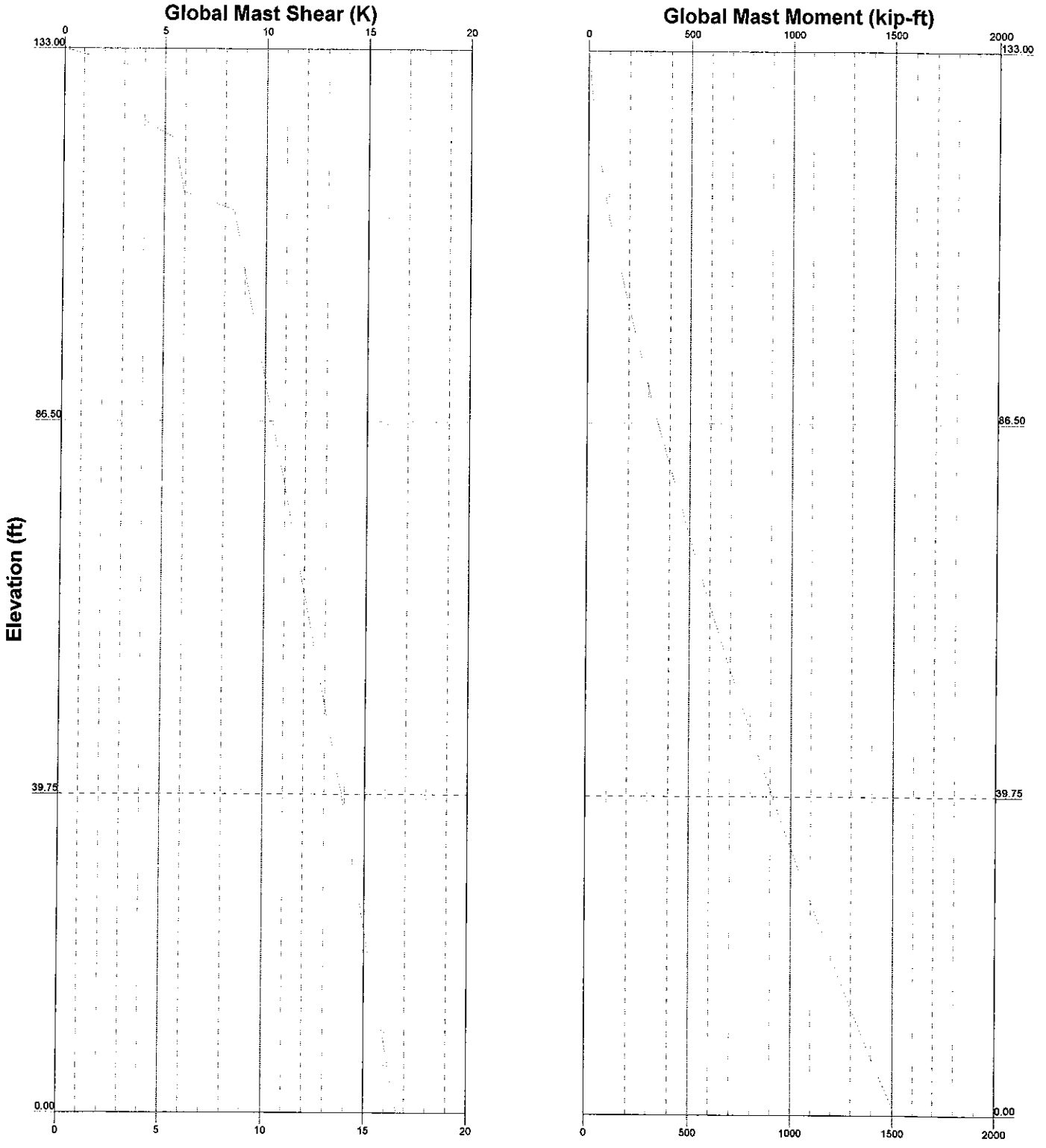


IETS 129 Greenwich Rd. Charlotte, NC Phone: (704) 522-1131 FAX: (704) 522-1280	Job: ***2008-70539 BU# 873633 "Milford"***		
	Project: ***Verizon Wireless Co-Locate***		
	Client: Crown Castle International	Drawn by: Mark J. Stewart	App'd:
	Code: TIA/EIA-222-F	Date: 08/04/08	Scale: NTS
	Path:		Dwg No. E-3

TIA/EIA-222-F - 85 mph/74 mph 0.5000 in Ice

Vx Vz

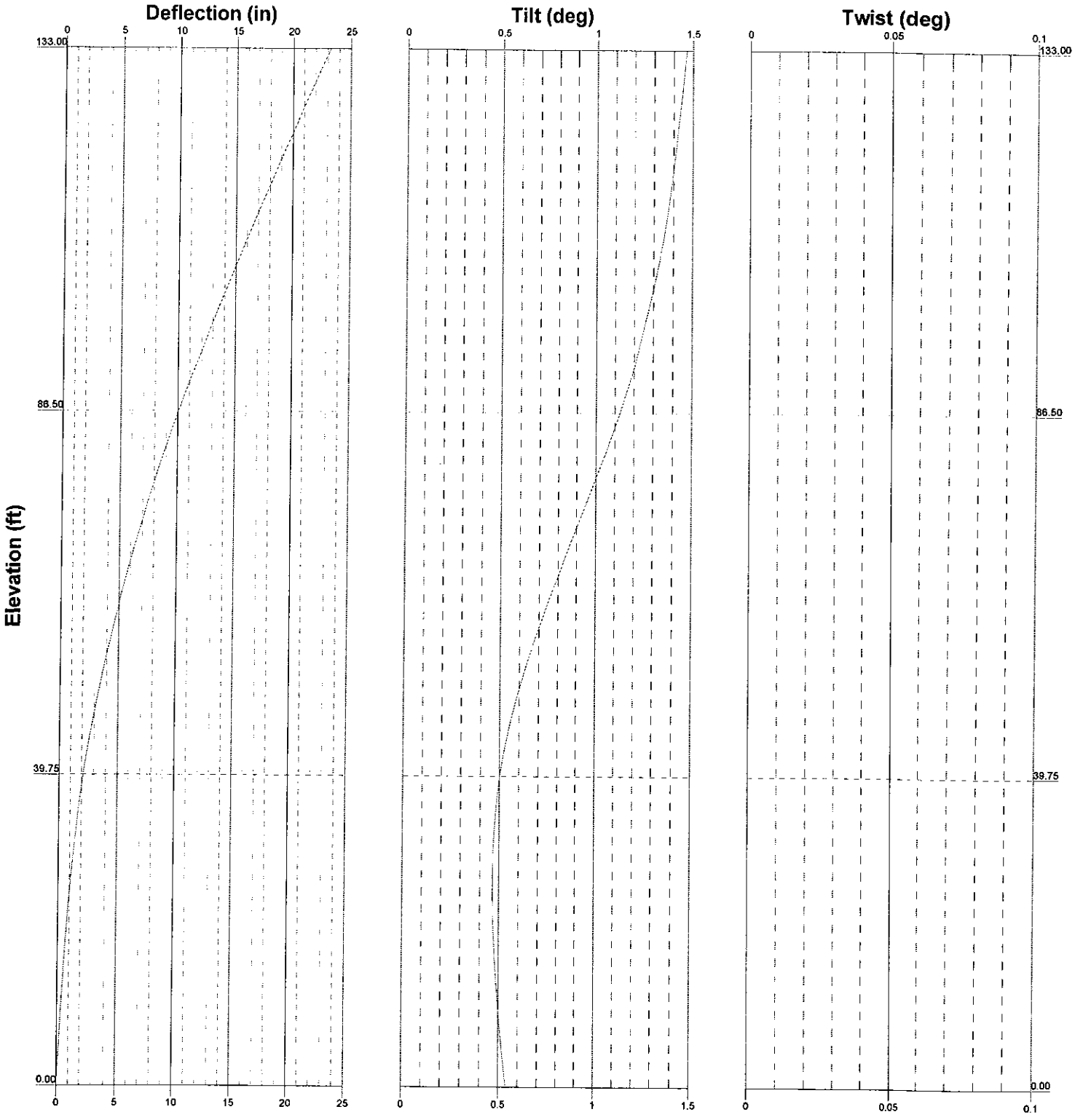
Maximum Values
Mx Mz



IETS 129 Greenwich Rd. Charlotte, NC Phone: (704) 522-1131 FAX: (704) 522-1280	Job: 2008-70539 BU# 873633 "Milford"		
	Project: Verizon Wireless Co-Locate		
	Client: Crown Castle International	Drawn by: Mark J. Stewart	App'd:
	Code: TIA/EIA-222-F	Date: 08/04/08	Scale: NTS
	Path:		Dwg No. E-4

TIA/EIA-222-F - Service - 60 mph

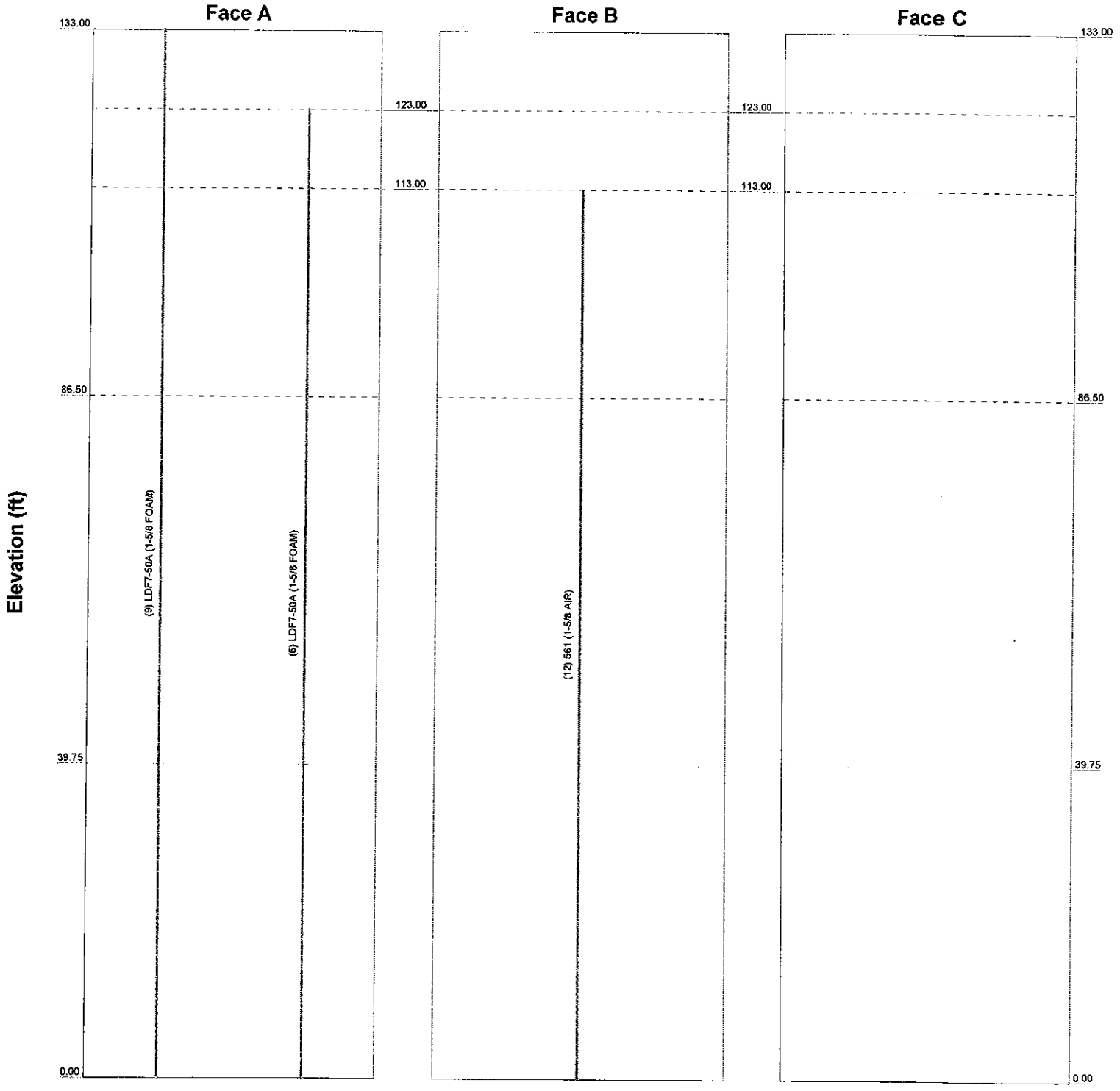
Maximum Values



IETS 129 Greenwich Rd. Charlotte, NC Phone: (704) 522-1131 FAX: (704) 522-1280	Job: ***2008-70539 BU# 873633 "Milford"***		
	Project: ***Verizon Wireless Co-Locate***		
	Client: Crown Castle International	Drawn by: Mark J. Stewart	App'd:
	Code: TIA/EIA-222-F	Date: 08/04/08	Scale: NTS
	Path:		Dwg No. E-5

Feedline Distribution Chart
0' - 133'

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

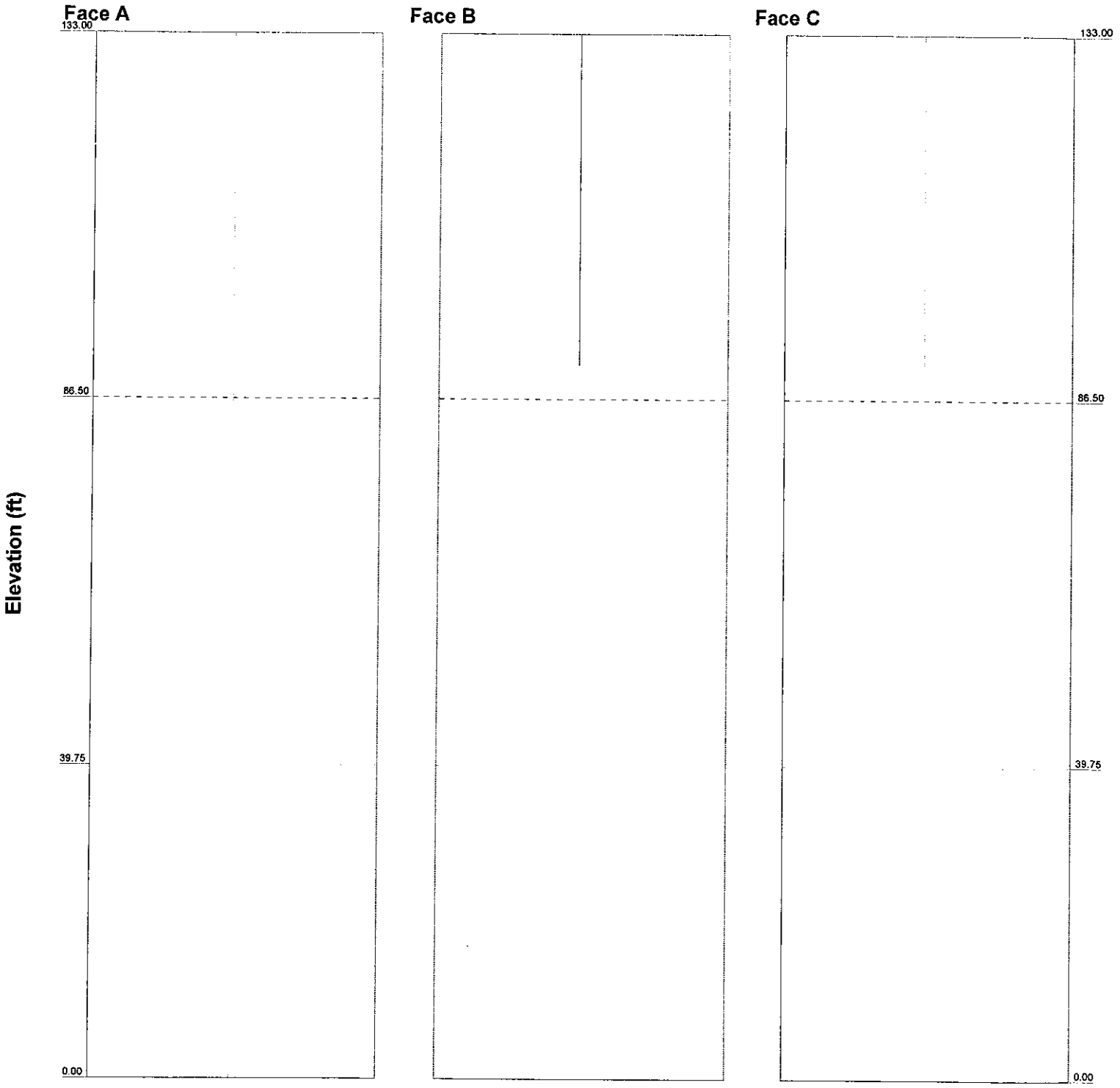


IETS
129 Greenwich Rd.
Charlotte, NC
Phone: (704) 522-1131
FAX: (704) 522-1280

Job: 2008-70539 BU# 873633 "Milford"			
Project: Verizon Wireless Co-Locate			
Client: Crown Castle Internationa	Drawn by: Mark J. Stewart	App'd:	
Code: TIA/EIA-222-F	Date: 08/04/08	Scale: NTS	
Path:		Dwg No. E-7	

Stress Distribution Chart
0' - 133'

> 100% 90%-100% 75%-90% 50%-75% < 50% Overstress

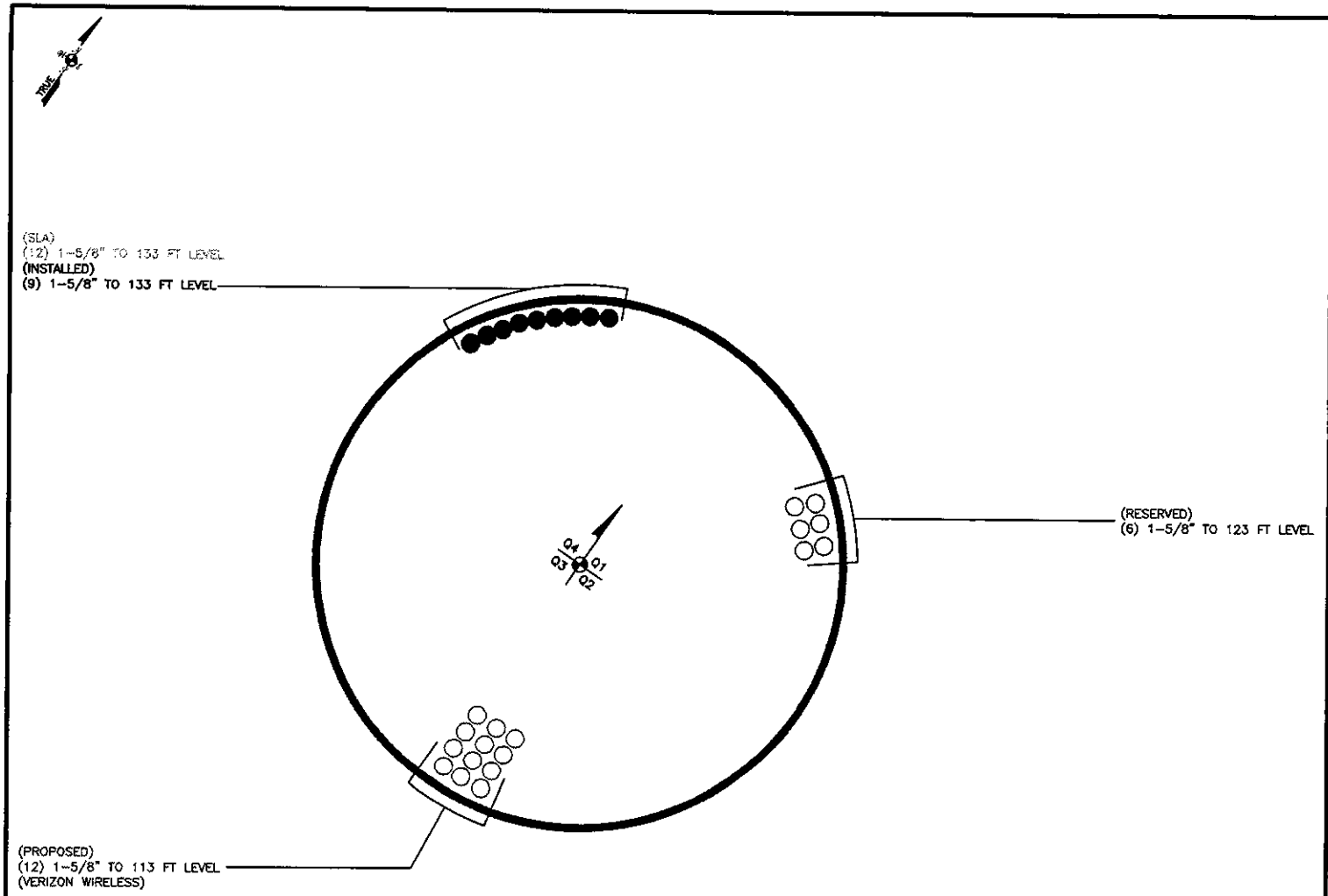


IETS
129 Greenwich Rd.
Charlotte, NC
Phone: (704) 522-1131
FAX: (704) 522-1280

Job: 2008-70539 BU# 873633 "Milford"			
Project: Verizon Wireless Co-Locate			
Client: Crown Castle Internationa	Drawn by: Mark J. Stewart	App'd:	
Code: TIA/EIA-222-F	Date: 08/04/08	Scale: NTS	
Path:		Dwg No. E-8	

APPENDIX B

BASE LEVEL DRAWING



Verizon Co-Locate

www.iets.com
IETS
Engineering Services
129 Greenwich Road
Charlotte, NC 28211
Ph:(704)522-1131
Fax:(704)522-1280

NOTES

RELEASE: ORIGINAL

DRAWN BY: MJS
CHECKED BY: W. A. Griswold
DRAWING DATE: 08-04-08

BUSINESS UNIT NUMBER

873633

SITE NAME

Milford

SITE INFORMATION

133' Monopole
10 Bona Street
Milford, CT

DRAWING TITLE

Cable Routing Drawing

DRAWING NUMBER

2008-70539-01

APPENDIX C

ADDITIONAL CALCULATIONS

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IETS
Engineering Services
Industrial Engineering & Testing Services, P.C.
129 Greenwich Road
Charlotte, North Carolina 28211
Phone: (704) 522-1131 / Fax: (704) 522-1280 / Web: www.IETS.cor

Monopole Anchor Bolt & Base Plate Stress Calculator

IETS Job No.:	2008-70539
Client Name:	Crown Castle International
Project Name:	Verizon
BU No.:	873633

Design by :	Mark Stewart
Date :	August 4, 2008

BOLT INFORMATION	Number	**16**	each
	Size	**2 1/4"**	diameter
	Circle Dia.	**60.000**	inches
	F_u	**100**	ksi
	Clustered	**Y**	Y/N
	Spacing	**6.000**	inches

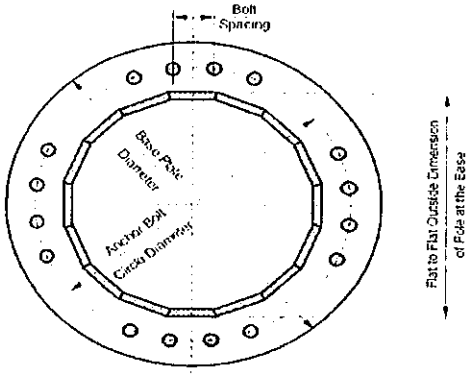
BASE PLATE INFORMATION	Diameter	**58.000**	inches
	Thickness	**3.250**	inches
	F_y	**55**	ksi
	Grout Present	**N**	Y/N

POLE BASE DIMENSIONS	Flat to Flat	**49.010**	inches
	No. Sides	**18**	

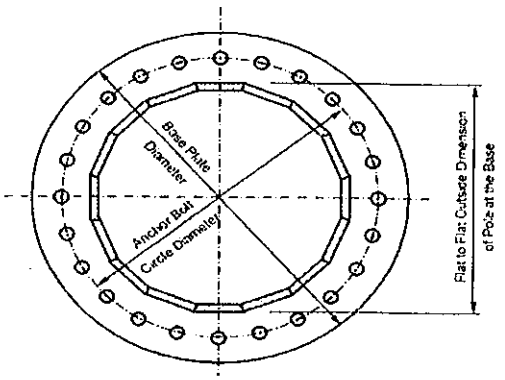
LOADS		**W/O ICE**	**W/ ICE**	
	Axial Down	**25.0**	**30.0**	kips
	Moment	**1,515**	**1,273**	ft-kips

BOLT STRESS CHECK	Area of Bolts =	**63.62**	in^2
	S_{bolts} =	**959**	in^3
	Bolt Stress w/o Ice =	**19.35**	ksi
	Bolt Stress w/ Ice =	**16.40**	ksi
	Maximum Bolt Force =	**76.93**	kips
	Maximum Bolt Stress =	**19.35**	ksi
	Max Allow Bolt Stress =	**44.00**	ksi **1/3 Increase Included**
	Percent of Allowable =	**44.0**	

BASE PLATE STRESS CHECK	Effective Bolt Spacing =	**6.00**	in
	Bending Length =	**5.40**	in
	Bending Width =	**6.00**	in
	Section Modulus =	**10.56**	in3
	Max. Bolt Force =	**76.93**	kips
	Moment =	**415.52**	in-kips
	Bending Stress =	**39.34**	ksi
	Allowable Stress =	**55.00**	ksi **1/3 Increase Included**
	Percent of Allowable =	**71.5**	



CLUSTERED BOLT PATTERN



NON-CLUSTERED BOLT PATTERN

Last Program Revision Date 07-30-08

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Engineering Services

Industrial Engineering & Testing Services, P.C.
129 Greenwich Road
Charlotte, North Carolina 28211
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Foundation Capacity

(Compared w/ Design Loads)

JOB No **2008-70539**
BU# **873633**
DATE 8/4/2008 ENGINEER MJS
Foundation: ○ PAD ○ Pier ◉ Tower Dwg ○ Fndn Dwg
Design Code: TIA/EIA-222-F

	Actual	Design	%
Moment	1515	3400	**44.6%**
Shear	17	32	**53.1%**

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
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

September 16, 2008

The Honorable James L. Richetelli, Jr.
Mayor
City of Milford
Parsons Complex
70 West River Street
Milford, CT 06460-3364

RE: **EM-VER-084-080912** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 10 Bona Street, Milford, Connecticut.

Dear Mayor Richetelli:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

If you have any questions or comments regarding this proposal, please call me or inform the Council by September 30, 2008.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: David Sulkis, City Planner, City of Milford