

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@po.state.ct.us

Web Site: www.ct.gov/csc

February 4, 2004

Michele G. Briggs
Manager of Real Estate
Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: **EM-CING-023-040126** - Southwestern Bell Mobile Systems, LLC notice of intent to modify an existing telecommunications facility located at 96 Powdermill Road, Canton, Connecticut.

Dear Ms. Briggs:

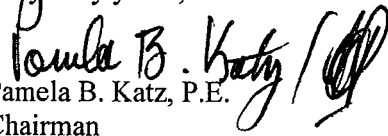
At a public meeting held on February 3, 2004, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated January 26, 2004. 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. 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,


Pamela B. Katz, P.E.
Chairman

PBK/laf

c: Honorable Mary B. Tomolonius, First Selectman, Town of Canton
Sarajane S. Pickett, Town Planner, Town of Canton
Sheila R. Becker, Regional Director of Compliance, SBA, Inc.
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
Christopher B. Fisher, Esq., Cuddy & Feder, LLP
Sandy M. Carter, Verizon Wireless



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January 26, 2004

Honorable Mary B. Tomolonius
First Selectman
Town of Canton
P.O. Box 168
Collinsville, CT 06022-0168

RE: **EM-CING-023-040126** – Southwestern Bell Mobile Systems, LLC (“SBMS”) notice of intent to modify an existing telecommunications facility located at 96 Powdermill Road, Canton, Connecticut.

Dear Ms. Tomolonius:

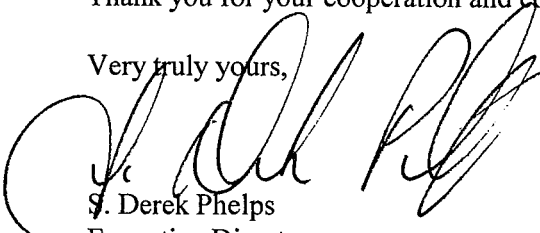
The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section § 16-50j-72.

The Council will consider this item at the next meeting scheduled for February 3, 2004, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very truly yours,



D. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

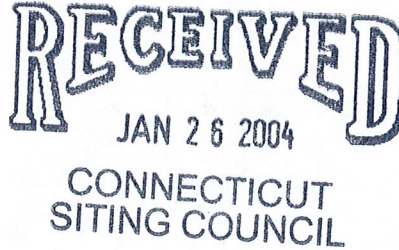
c: Sara Jane Pickett, Town Planner, Town of Canton



Fax: (609) 221-1111

Michele G. Briggs
Manager of Real Estate

January 26, 2004



Ms. Pam Katz, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Notice of Exempt Modification – Existing SBA Telecommunications Tower Facility at 96 Powdermill Road, Canton, Connecticut

Dear Chairman Katz:

Southwestern Bell Mobile Systems, LLC (“SBMS”) intends to install telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower off Powdermill Road in Canton, Connecticut.

The Canton facility is located at 96 Powdermill Road, which is just west of the Farmington River near the intersections of US Highways 44 and 202 with CT Rte 179. Tower coordinates (NAD 83) are N 41° 50’ 03” and W 72° 55’ 59”. The facility is owned and operated by SBA Properties, Inc. (“SBA”), 5900 Broken Sound Parkway NW, Boca Raton, FL 33487. SBA leases the land from Properties One LLC.

Please accept this letter as notification to the Council, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter is being sent to the 1st Selectman of Canton.

SBMS, the local component of the nationwide Cingular Wireless network, is licensed by the Federal Communications Commission (“FCC”) to provide cellular mobile telephone service in the Hartford, CT Metropolitan Statistical Area, which includes the area to be served by SBMS’ proposed installation. The public need for cellular service has been predetermined by the FCC.

SBA has agreed to plans put forth by SBMS pursuant to mutually acceptable terms and conditions and has also authorized SBMS to obtain necessary government approvals. Attached to this Notice are a site location map, a proposed site plan, the proposed tower profile, and a structural analysis report that shows the tower is structurally capable of supporting the proposed SBMS telecommunications equipment.

The SBA facility was approved by local zoning authorities on July 19, 2000, which was prior to the November 2000 Covello decision concerning Council and Town jurisdiction for tower siting. The tower came under Council jurisdiction with Verizon's application to co-locate in TS-VER-023-010216, which was approved on March 15, 2001.

The Powdermill Road facility consists of a 180-foot monopole within a roughly 40' x 60' compound surrounded by 6-ft high chain link fence topped by barbed wire. Sprint, AT&T, and Verizon operate antennas and associated equipment at the facility.

As shown on the attached drawings and as further described below, SBMS proposes to install up to twelve CSS DUO4-8670 panel antennas, approximately 48 inches in height, with the center of radiation approximately 137 feet above ground level. Associated equipment to be installed on the tower are up to six dual-band tower top amplifiers ("TTA's"; small metal boxes approximately 26 pounds apiece) immediately behind the antennas, and up to three very small (5 pounds apiece) CSS dual-band "combiners." SBMS also proposes to place a 12' x 20' prefabricated concrete equipment building at the base of the tower. All work will be done inside the existing fenced compound.

With the "GSM-only" configuration, SBMS will broadcast up to:

- 2 channels, 296 Watts ERP, 880 – 894 MHz; and
- 2 channels, 427 Watts ERP, 1930 – 1935 MHz.

Statutory Considerations

The changes to the Canton tower facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2) because they will not result in any substantial adverse environmental effect.

1. The height of the overall structure will be unaffected.
2. The proposed changes will not affect the property boundaries. All new construction will take place on property leased by SBA and within the existing fenced compound.
3. The proposed additions will not increase the noise level at the existing facility by six decibels or more.
4. Operation of the additional antennas will not increase the total radio frequency electromagnetic radiation power density, measured at the tower base, to or above the standard adopted by the State of Connecticut and the FCC. The "worst-case" exposure calculation in accordance with FCC OET Bulletin No. 65 (1997) for a point of interest at the base of the tower in relation to the operation of the currently proposed antenna array is as follows:

Company	Centerline Height (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density [†] (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Sprint *	177	1930	not given		0.0154	1.0000	1.54
AT&T *	167	D: 1945 E: 1985	16	250	0.0516	1.0000	5.16
	157						
Verizon *	147	875	9	200	0.0300	0.5833	5.13
Verizon *	147	1900	3	285	0.0142	1.0000	1.42
Cingular	137	880 - 894	2	296	0.0113	0.5867	1.93
Cingular	137	1930 - 1935	2	427	0.0164	1.0000	1.64
Total							16.82%

* Power density parameters taken from applications to the Council: TS-VER-023-010216, EM-AT&T-023-020503, and EM-VER-023-030905.

† Please note that the standard power density equation provided by the Council in its memo of January 22, 2001 incorporates a ground reflection factor of 2.56 (i.e., the square of 1.6) as described in FCC OET Bulletin No. 65.

As the table demonstrates, the cumulative "worst-case" exposure would be approximately 16.8 % of the ANSI/IEEE standard, as calculated for mixed frequency sites. Total power density levels resulting from SBMS' use of the tower facility would thus be within applicable standards.

For the foregoing reasons, SBMS respectfully submits that proposed changes to implement expanded shared use at the Canton site constitute an exempt modification under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7700 or Steve Levine at (860) 513-7636 with questions concerning this application. Thank you for your consideration in this matter.

Respectfully yours,

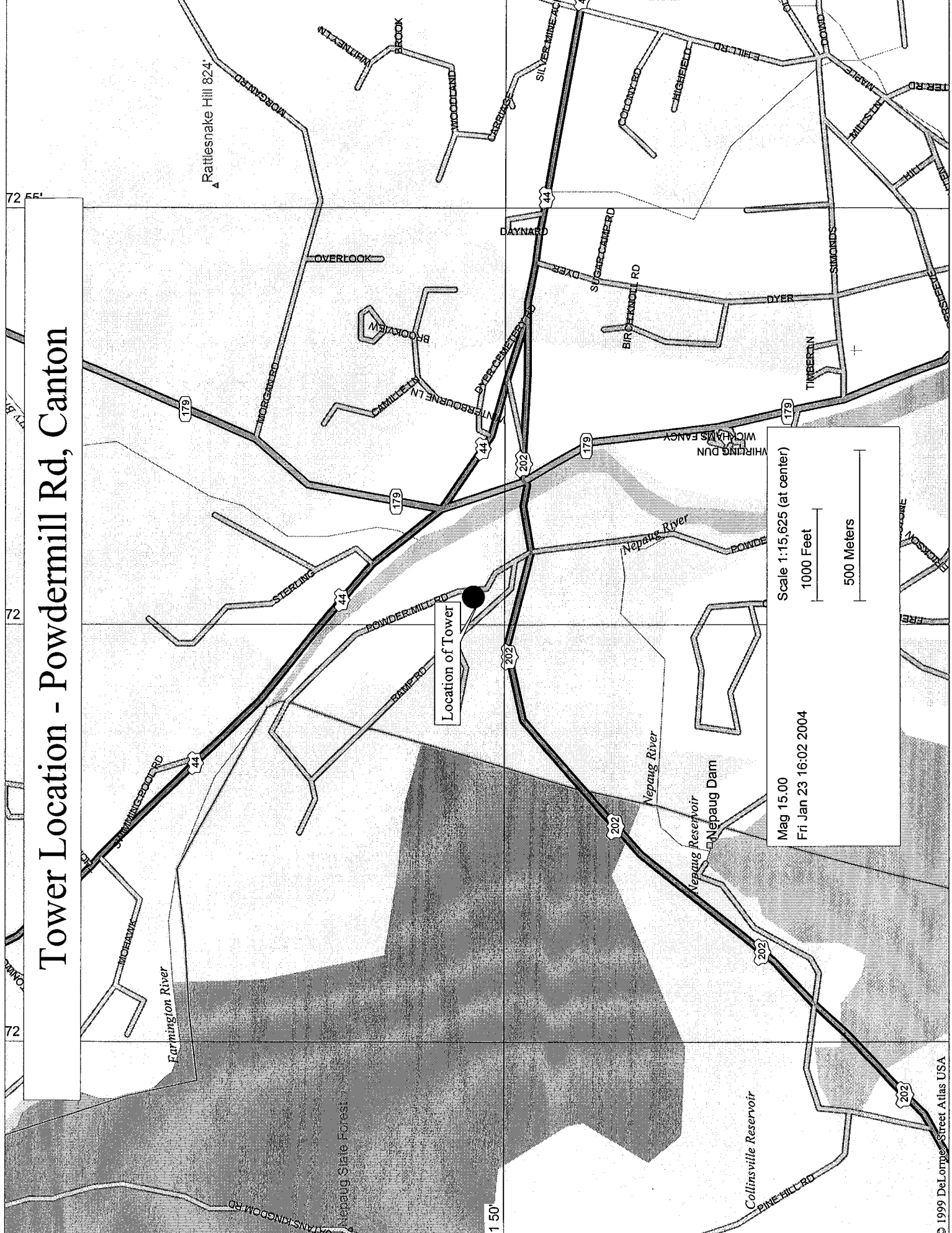


Michele G. Briggs
Manager of Real Estate

Enclosures

cc: Honorable Mary B. Tomolonius, 1st Selectman, Town of Canton

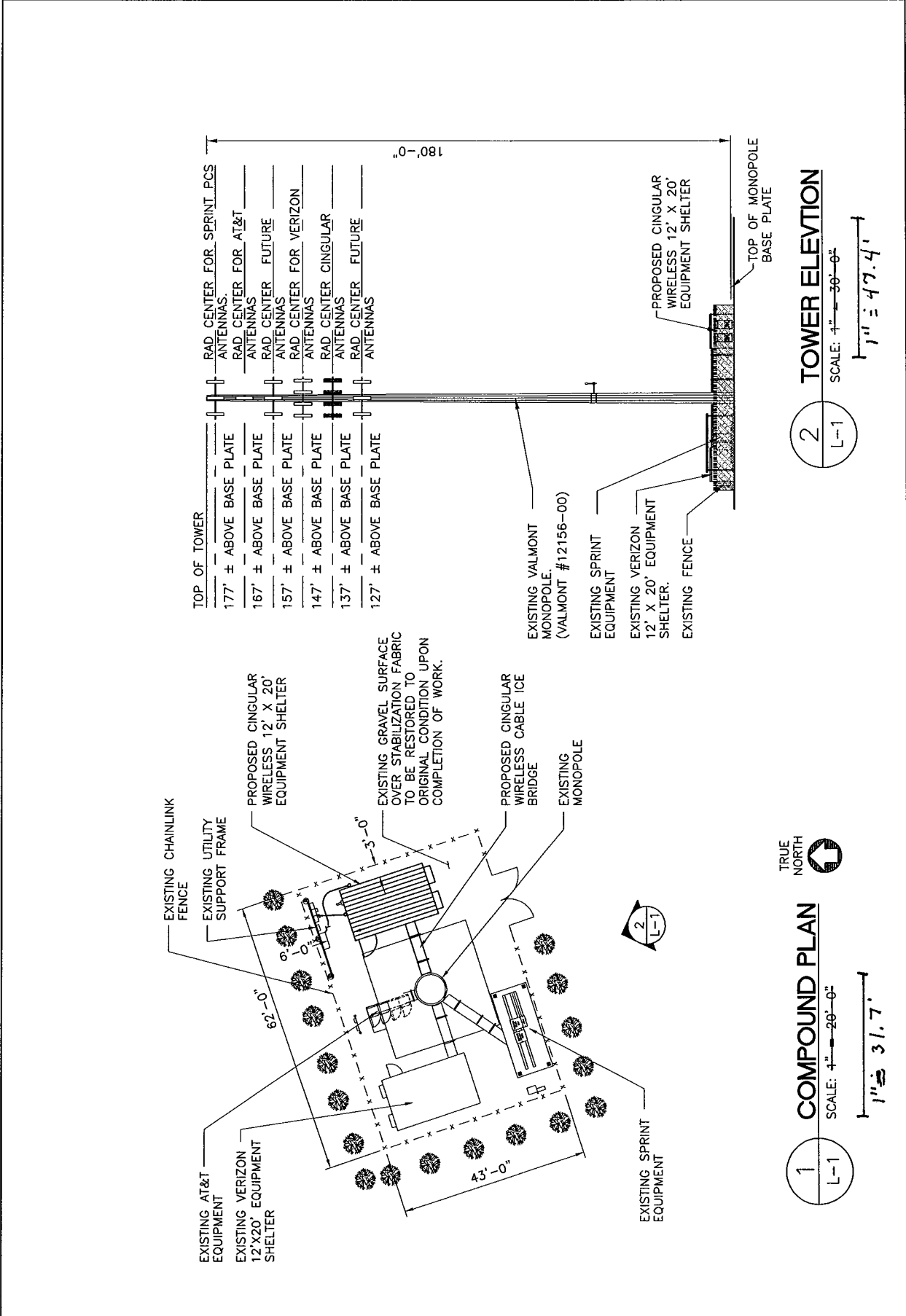
Tower Location - Powdermill Rd, Canton



Location of Tower

Scale 1:15,625 (at center)
1000 Feet
500 Meters

Mag 15.00
Fri Jan 23 16:02 2004



TOP OF TOWER	ANTENNAS	RAD CENTER FOR SPRINT PCS
177' ± ABOVE BASE PLATE	ANTENNAS	RAD CENTER FOR SPRINT PCS
167' ± ABOVE BASE PLATE	ANTENNAS	RAD CENTER FOR AT&T
157' ± ABOVE BASE PLATE	ANTENNAS	RAD CENTER FUTURE
147' ± ABOVE BASE PLATE	ANTENNAS	RAD CENTER FOR VERIZON
137' ± ABOVE BASE PLATE	ANTENNAS	RAD CENTER CINGULAR
127' ± ABOVE BASE PLATE	ANTENNAS	RAD CENTER FUTURE

2 TOWER ELEVATION
 SCALE: 1" = 30'-0"
 1" = 47.4'

1 COMPOUND PLAN
 SCALE: 1" = 20'-0"
 1" = 31.7'





Date 1/22/04

Mr. Tim Rosa
SBA Network Services
2490 Bruen Lane
Easton, PA 18040

Sterling Engineering & Design Group, Ltd.
7171 Hwy 6 N, Ste 130, Houston, Texas 77095
(P) 281/583-7088 (F) 281/583-5495
Email: Dbrick@sedg.net

Subject: Structural Analysis Report -- Our Project Number: 061-283

Carrier Identification	Cingular	SBA Site Name: South Canton
	Carrier Site Name: -	SBA Site I.D. Number: CT01722-S
	Carrier Site I.D. Number:--	

Site Data	96 Powder Mill Road Canton, CT 06022 (Hartford County)
	Latitude 41°-50'-3", Longitude 72°-55'-57"
	180 Foot -- Monopole

Dear Tim:

Sterling Engineering 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 SBA Network Services request for an analysis and associated proposal. The purpose of the analysis is to determine the suitability of the tower for the addition of proposed equipment when combined with the existing equipment on the structure. This analysis has been performed in accordance with the TIA/EIA 222-F standard and local code requirement wind speed. Based on our analysis we have determined the **Tower Structure is Adequate** for the proposed loading. Foundation is not analyzed due to lack of sufficient structural and geotechnical information. We at Sterling Engineering appreciate the opportunity of providing our continuing professional services to you and SBA Network Services. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,
Sterling Engineering and Design Group, Ltd.

Sandeep N. Patel, P.E., S.E.

Attachments:
Elevation Drawing
Feedline Distribution Diagram
Deflection Diagram
Tower Details

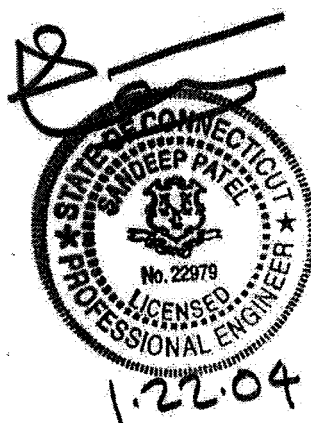


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INTRODUCTION

The 180' monopole is manufactured by Valmont. The structural design information for this tower was obtained from the manufacturer's drawings provided by SBA. The structural loading information was obtained from SBA. The tower is located in Hartford County, Connecticut. The tower analysis includes loads for existing and proposed appurtenances.

ANALYSIS CRITERIA

Specific code: TIA/EIA-222-F

Specific environmental conditions: 80 mph + 0" ice
 69 mph + 1/2" ice

Table 1 – Proposed Antenna and Cable Information

Center Line Elevation	Carrier Name	No. of Antenna / Dish	Antenna Manufacturer	Antenna Model	Mount Type	Feed Lines (No.)	Feed Line Size (In.)
137	Cingular	9	CSS	DUO-1417-8686-40	Valmont 13' Platform	9	1-5/8"
137	Cingular	6	ADC	Dual Band 800/1900 TTA	-	-	-
137	Cingular	3	CSS	Dual band Combiner	-	-	-

Table 2 – Existing Antenna and Cable Information

Center Line Elevation	Carrier Name	No. of Antenna / Dish	Antenna Manufacturer	Antenna Model	Mount Type	Feed Lines (No.)	Feed Line Size (In.)
177	Sprint	6	Decibel	DB930DD65E-M	Valmont 13' Platform	6	1-5/8"
167	AT&T	12	Allgon	7184	Valmont 13' Platform	12	1-5/8"
147	Verizon	12	Allgon	7129-16	Valmont 13' Platform	12	1-5/8"

Table 3 Future Antenna and Cable Information

Center Line Elevation	Carrier Name	No. of Antenna / Dish	Antenna Manufacturer	Antenna Model	Mount Type	Feed Lines (No.)	Feed Line Size (In.)
137	Cingular	3	CSS	DUO-1417-8686-40	Valmont 13' Platform	3	1-5/8"

ANALYSIS PROCEDURE

Analysis Methods

ERI Tower (Version 2.00), a commercially available software program, 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 222-F or the local building code requirements. Selected output from the analysis is included in Appendix A.

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 manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings
4. When applicable, transmission cables are considered to be structural components for calculating wind loads, as allowed by TIA/EIA-222F.
5. Some assumptions are made regarding mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
6. The existing coax cables are assumed to be distributed equally on all the three faces of the tower if existing coax cables layout plan is not available to us.
7. Stress ratios for a structural member less than 100% indicates that it meets all design requirements set forth by TIA/EIA Standard. In addition, member stress ratios between 100% and 105% are acceptable

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

ANALYSIS RESULTS

Tower Component Stresses vs. Capacity

Section Capacity Table								
Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
L1	180 - 131.75	Pole	TP36.25x26.84x0.25	1	-8376.98	184509.85	39.3	Pass
L2	131.75 - 91.67	Pole	TP43.56x34.7261x0.281	2	-16512.00	361924.15	84.4	Pass
L3	91.67 - 45.09	Pole	TP52.02x41.8287x0.438	3	-29321.10	968328.48	77.6	Pass
L4	45.09 - 0	Pole	TP60x49.9811x0.5	4	-48372.50	1816705.63	83.3	Pass
Summary								
Pole (L2)							84.4	Pass
RATING =							84.4	Pass

Foundation (Comparing design loads to actual loads)

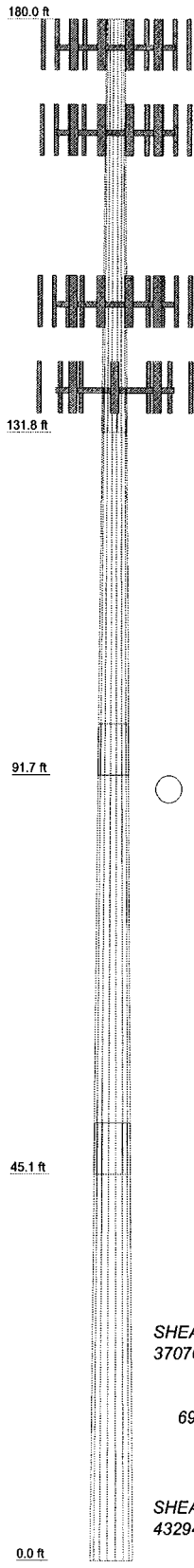
Reaction	Original Design Foundation Reactions (kips)	Proposed Reactions from Analysis (kips)	Remarks
Axial	60.687	59.422	O.K.
Shear	38.73	43.294	N/A
Moment	4923.75	4845.6	O.K.

The tower reactions under current and proposed loading are less than the original foundation design reactions except for the shear. The foundation may have additional shear resistance. If sufficient structural and geotechnical information for the foundation is provided, Sterling Engineering will be able to comment on the adequacy of the foundation to resist current and proposed loading.

APPENDIX A

Elevation Drawing
Feedline Distribution Diagram
Deflection Diagram

Section	1	2	3	4
Length (ft)	48.25	45.33	52.58	51.09
Number of Sides	16	16	16	16
Thickness (in)	0.2500	0.2810	0.4380	0.5000
Lap Splice (ft)	5.25	6.00	6.00	6.00
Top Dia (in)	26.6400	34.7261	41.8287	49.9811
Bot Dia (in)	36.2500	43.5600	52.0200	60.0000
Grade			A572-65	
Weight (lb)	4097.7	5373.3	11621.0	15108.5
				36201.5



APPURTENANCES

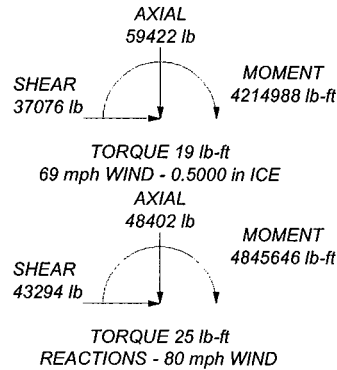
TYPE	ELEVATION	TYPE	ELEVATION
(4) DB930DD65E-M w/Mount Pipe (Sprint)	177	DUO1417-8686 w/Mount Pipe (Future) (Cingular)	137
(4) DB930DD65E-M w/Mount Pipe (Sprint)	177	DUO1417-8686 w/Mount Pipe (Future) (Cingular)	137
(4) DB930DD65E-M w/Mount Pipe (Sprint)	177	DUO1417-8686 w/Mount Pipe (Future) (Cingular)	137
PIROD 13' Low Profile Platform Top (Monopole) (Sprint)	177	(3) DUO1417-8686 w/Mount Pipe (Proposed) (Cingular)	137
(4) 7184 w/Mount Pipe (ATT)	167	(3) DUO1417-8686 w/Mount Pipe (Proposed) (Cingular)	137
(4) 7184 w/Mount Pipe (ATT)	167	(3) DUO1417-8686 w/Mount Pipe (Proposed) (Cingular)	137
(4) 7184 w/Mount Pipe (ATT)	167	(3) DUO1417-8686 w/Mount Pipe (Proposed) (Cingular)	137
PIROD 13' Low Profile Platform Top (Monopole) (ATT)	167	Vaimont 13' Platform w/o Rails (Cingular)	137
(4) 7129.16.05.08 w/Mount Pipe (Verizon)	147	(2) ADC TTA (Cingular)	137
(4) 7129.16.05.00 w/Mount Pipe (Verizon)	147	(2) ADC TTA (Cingular)	137
(4) 7129.16.05.00 w/Mount Pipe (Verizon)	147	(2) ADC TTA (Cingular)	137
(4) 7129.16.05.00 w/Mount Pipe (Verizon)	147	CSS Dual Band Combiner (Cingular)	137
(4) 7129.16.05.00 w/Mount Pipe (Verizon)	147	CSS Dual Band Combiner (Cingular)	137
PIROD 13' Low Profile Platform Top (Monopole) (Verizon)	147	CSS Dual Band Combiner (Cingular)	137

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
2. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
3. Deflections are based upon a 50 mph wind.
4. TOWER RATING: 84.4%



Sterling Engineering 7171, Highway 6 North, Ste 130 Houston, TX 77095 Phone: (281) 583 7088 FAX: (281) 583 5495		Job: 180 ft Monopole	
		Project: South Canton, CT01722-S	
Client: SBA Network Services	Drawn by: ASM	App'd:	
Code: TIA/EIA-222-F	Date: 01/22/04	Scale: NTS	
Path:		Dwg No. E-1	

Feedline Distribution Chart

0' - 180'

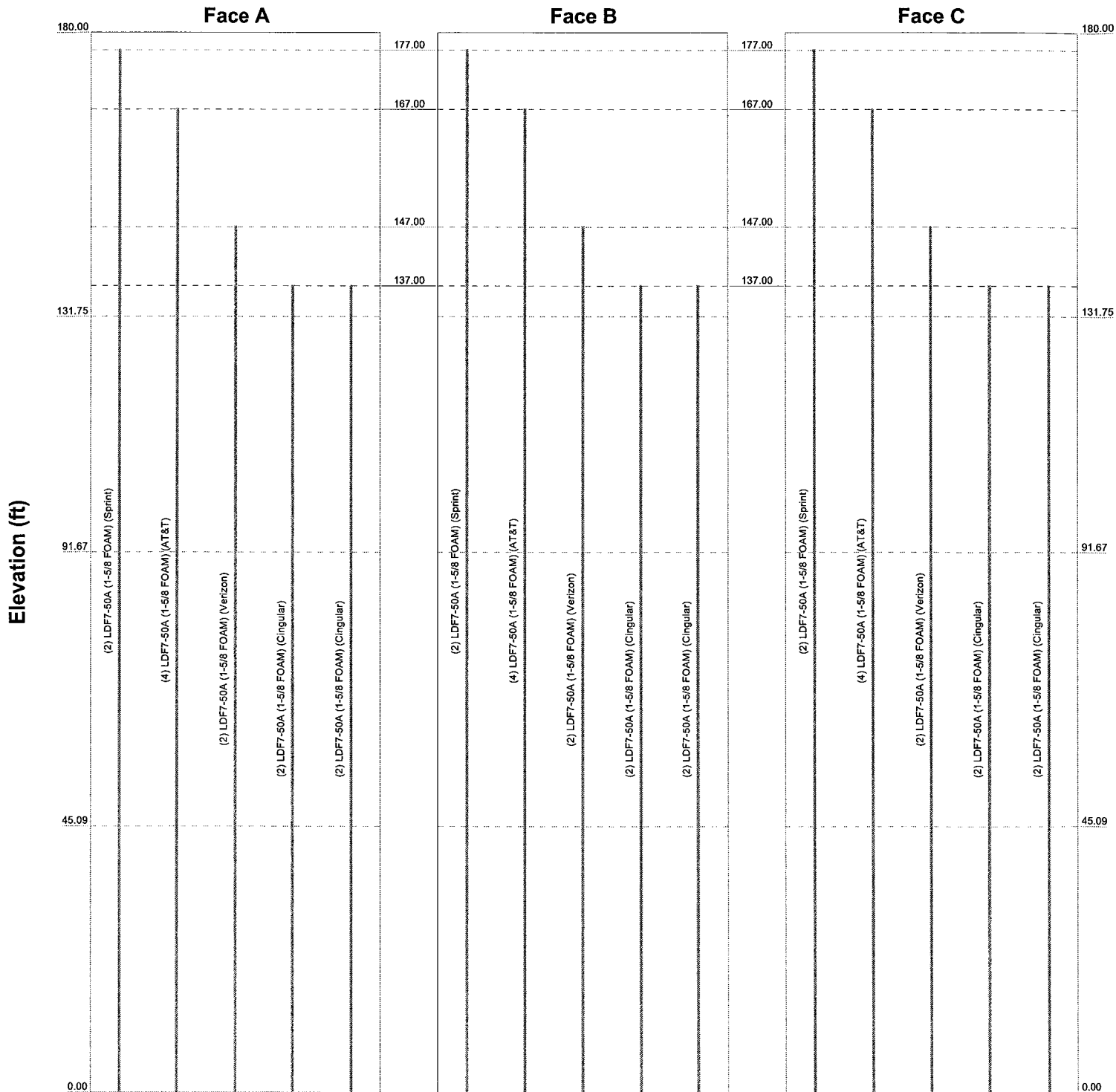
Round

Flat

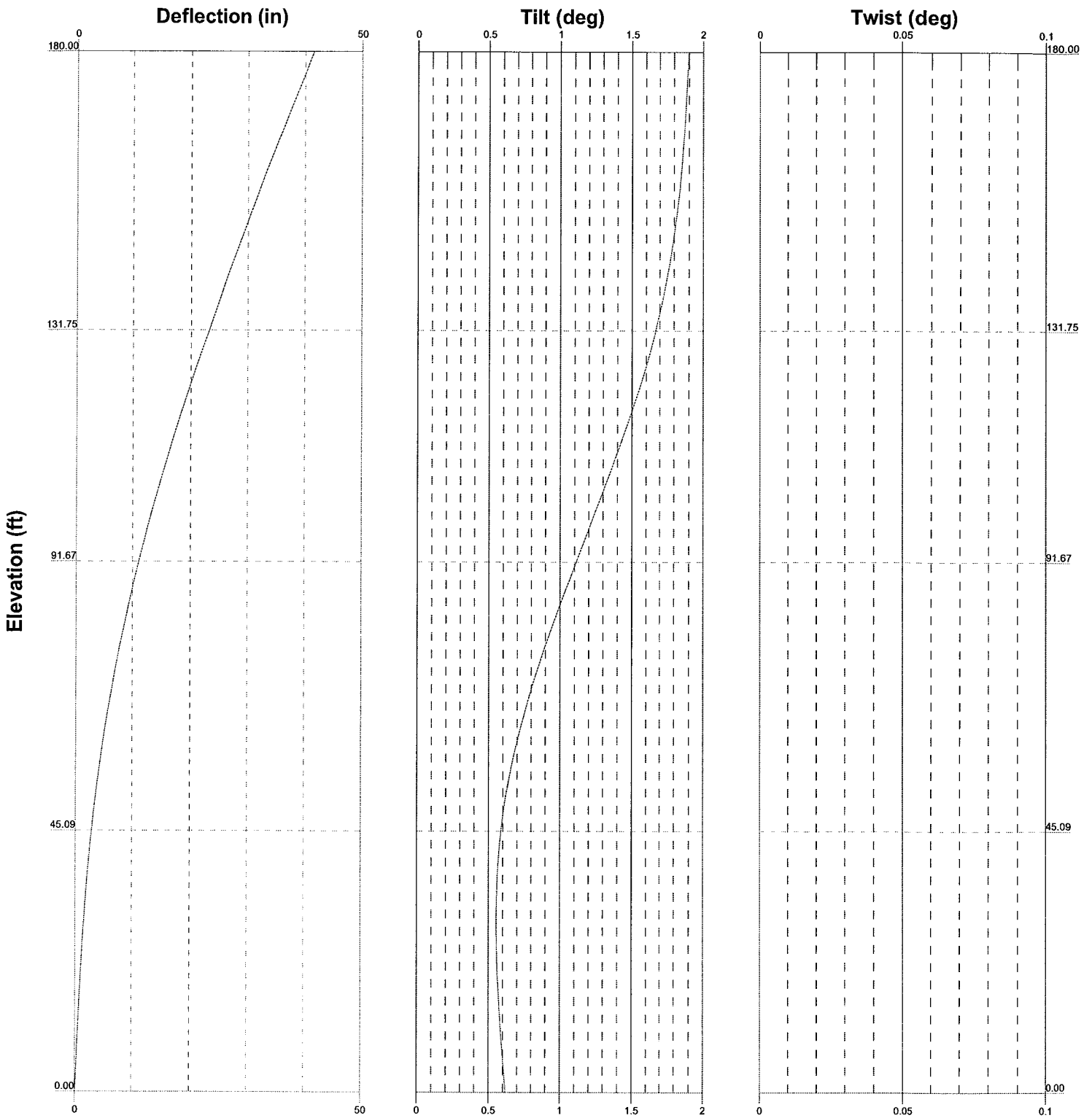
App In Face

App Out Face

Truss Leg



Sterling Engineering		Job: 180 ft Monopole	
7171, Highway 6 North, Ste 130		Project: South Canton, CT01722-S	
Houston, TX 77095		Client: SBA Network Services	Drawn by: ASM
Phone: (281) 583 7088		Code: TIA/EIA-222-F	Date: 01/22/04
FAX: (281) 583 5495		Path:	Scale: NTS
		Dwg No. E-7	



Sterling Engineering		Job: 180 ft Monopole	
7171, Highway 6 North, Ste 130		Project: South Canton, CT01722-S	
Houston, TX 77095		Client: SBA Network Services	Drawn by: ASM
Phone: (281) 583 7088		Code: TIA/EIA-222-F	Date: 01/22/04
FAX: (281) 583 5495		Path:	Scale: NTS
			Dwg No. E-5

APPENDIX B

Loading Configuration
Tower Details
Foundation Details



Southwestern Bell Mobile Systems, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7700
Fax: (860) 513-7190

Michele G. Briggs
Manager of Real Estate

January 26, 2004

Honorable Mary B. Tomolonius
1st Selectman, Town of Canton
Town Hall 4 Market Street
Collinsville, Connecticut 06022

Re: Notice of Exempt Modification – Existing SBA Telecommunications Tower Facility at 96 Powdermill Road, Canton, Connecticut

Dear Ms. Tomolonius:

Southwestern Bell Mobile Systems, LLC (“SBMS”) intends to install telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower at 96 Powdermill Road in Canton, Connecticut.

The facility is owned and operated by SBA Properties, Inc. (“SBA”), 5900 Broken Sound Parkway NW, Boca Raton, FL 33487. SBA leases the land from Properties One LLC.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council as required by Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73. Please accept this letter as notification to the Town of Canton under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The attached letter fully sets forth the SBMS proposal. However, if you have any questions or require any further information on the plans for the site or the Siting Council’s procedures, please contact the undersigned or Mr. Derek Phelps, Executive Director of the Connecticut Siting Council, at (860) 827-2935.

Sincerely,

Michele G. Briggs
Manager of Real Estate

Enclosure