STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

September 21, 2000

Sandy M. Carter
Bell Atlantic Mobile
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492

RE: **TS-BAM-003-000828** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at Janoski Road (Ference Road - Sky Hill Tower), Ashford, Connecticut.

Dear Ms. Carter:

At a public meeting held Tuesday, September 19, 2000, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. 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 may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point 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.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated August 28, 2000.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/RKE/laf

c: Honorable John M. Zulick, First Selectman, Town of Ashford
Julie M. Cashin, Esq., Hurwitz & Sagarin LLC
David Karpiak, Regional Manager, Sprint Sites USA
Ronald Clark, Nextel Communications
J. Brendan Sharkey, VoiceStream Wireless
Peter W. van Wilgen, Springwich Cellular Limited Partnership

TS-BAM-003-000828

Network Dept.

verizonwireless

Verizon Wireless
20 Alexander Drive
Wallingford, Connecticut 06492

August 28, 2000

Mr. Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

HAND DELIVERED

Re: **Request by Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of a Tower Facility located at Janoski Road (Ference Road – Sky Hill Tower), Ashford, Connecticut.**

Dear Chairman Gelston:

Pursuant to Connecticut General Statutes (C.G.S.) Sec. 16-50aa, Cellco Partnership d/b/a Verizon Wireless hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use by Verizon Wireless of an existing tower located at Janoski/Ference Road, Ashford, Connecticut. The property is owned by David H. Martin and the tower is owned and managed by Sprint Sites USA. As shown on the attached drawing and as further described below, Verizon Wireless proposes to install antennas on the existing tower and to locate an equipment shelter at the base of the tower. Verizon Wireless requests that the Council finds that the proposed shared use of the tower facility satisfy the criteria stated in C.G.S. Sec. 16-50aa, and to issue an order approving the proposed shared use.

Background

Verizon Wireless is licensed by the Federal Communications Commission to provide cellular telephone service in the Windham County New England County Metropolitan Area (NECMA), which includes the area to be served by the proposed Ashford installation.

The facility at Janoski/Ference Road in Ashford, consists of a 192 foot AGL lattice tower built by Sprint Sites USA and is located on a leased parcel. The lattice tower supports the antennas of Sprint Spectrum PCS, Nextel Communications, Omnipoint (Voicestream) and proposed Springwich Cellular Limited Partnership, all wireless carriers that provide mobile communications service to the public pursuant to their FCC licenses. Verizon Wireless and Sprint Sites USA have agreed to the proposed-shared use of this tower pursuant to mutually acceptable terms and conditions. Sprint Sites USA has authorized Verizon Wireless to apply for all necessary permits, approvals and authorizations which may be required for the proposed shared use of this facility.

Verizon Wireless proposes to install twelve (12) Swedcom Model ALP-E9011 antennas, approximately 43 inches in height, on a platform with their center of radiation at approximately 180 feet above ground level ("AGL"). Verizon Wireless will also install one (1) GPS antenna on the tower. Equipment associated with these antennas, as well as a 40 KW diesel-fueled emergency stand-by generator, would be located in a new approximately 12-foot x 30-foot equipment building located at the base of the tower.

C.G.S. Sec. 16-50aa provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the Council shall issue an order approving such shared use" (C.G.S. Sec. 16-50aa(c)(1).)

Discussion

A. Technical Feasibility. The existing tower is structurally sound and capable of supporting the proposed Verizon Wireless antennas. The tower will not require any structural modification to support the proposed attachments. A Structural Analysis Report prepared by H. E. Bergeron Engineers regarding the tower design and loading is attached to this application. Verizon Wireless engineers have determined that the proposed antenna installations present minimal potential for interference to or from existing radio transmissions from this location. In addition, the applicant is unaware of any occasion where its operations have caused interference with AM, FM or television reception. The proposed shared use of this tower therefore is technically feasible.

B. Legal Feasibility. Under C.G.S. Sec. 16-50aa, the Council has been authorized to issue an order approving the proposed-shared use of an existing communications tower facility such as the facility at Janoski/Ference Road. (C.G.S. Sec. 16-50aa(c)(1).) This authority complements the Council's prior-existing authority under C.G.S. Sec. 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. Sec. 16-50x(a) directs the Council to "give consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the authority vested in the Council by C.G.S. Sec. 16-50aa, an order by the Council approving the shared use would permit the applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use would have a minimal environmental effect, for the following reasons:

1. The proposed installations would have an insignificant incremental visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing site. The addition of the proposed antennas would not increase the height of the tower, and would not extend the boundaries of the tower site, including the placement of the equipment building near the base of the existing tower.

2. The proposed installation would not increase the noise levels at the existing facility by six decibels or more. The only additional noise will occur during emergency use or periodic exercising of the generator.

3. Operation of the additional antennas will not increase the total radio frequency electromagnetic radiation power density, measured at the tower base to a level at or above the applicable standard. "Worst-case" exposure calculations for a point at the base of the tower in relation to operation of each of the various carriers' antenna arrays are as follows:

	Applicable ANSI Stnd	Calculated "Worst-Case"	Percentage of Stnd.
Verizon Wireless	0.583 mW/cm2	0.0211 mW/cm2	3.6151%
Sprint	1.000 mW/cm2	0.0135910 mW/cm2	1.3591%
Nextel	0.5673 mW/cm2	0.0102616 mW/cm2	1.8087%
Omnipoint	1.000 mW/cm2	0.0104871 mW/cm2	1.0487%
Springwich	0.5867 mW/cm2	0.0383730 Mw/cm2	6.5409%
		Total	14.38%

The collective "worst-case" exposure would be only 14.38 % of the ANSI standard, as calculated for mixed frequency sites. Power density levels from shared use of the tower facility would thus be well below applicable ANSI standards

4. The proposed installations would not require any water or sanitary facilities, or generate discharges to water bodies. Operation of the emergency back-up generator will result in limited air emissions; pursuant to R.C.S.A. Section 22a-174-3, the generator will require the issuance of a permit from the Department of Environmental Protection Bureau of Air Management. After construction is complete, the proposed installation would not generate any traffic other than periodic maintenance visits.

The proposed use of this facility would therefore have a minimal environmental effect, and is environmentally feasible.

D. Economic Feasibility. As previously mentioned, the tower owner and the applicant have entered into a mutual agreement to share the use of the existing tower on terms agreeable to the parties, and the proposed tower sharing is thus economically feasible.

E. Public Safety Concerns. As stated above, the existing tower is structurally capable of supporting the proposed Verizon Wireless antennas. The Applicant is not aware of any other public safety concerns relative to the proposed tower sharing of the existing tower. In fact, the provision of new or improved cellular phone service in the Ashford area, especially along the heavily traveled Route 84 and the surrounding area, through shared use of the tower is expected to enhance the safety and welfare of area residents and travelers. The public safety benefits of wireless service are further illustrated by the decision of local authorities elsewhere in Connecticut to provide cellular phones to residents to improve local public safety and emergency communications. The proposed-shared use of this facility would likewise improve public safety in the Ashford area.

Conclusion

For the reasons discussed above, the proposed shared use of the existing telecommunications tower facility at Janoski/Ference Road satisfies the criteria stated in C.G.S. Sec. 16-50aa, and advances the General Assembly's and the Council's goal of preventing the proliferation of towers in Connecticut. The Applicant therefore requests that the Council issue an order approving the proposed shared use.

Thank you for your consideration of this matter.

Pursuant to Connecticut General Statutes Sec. 16-50v and Section 16-50v-1(a) of the Regulations of Connecticut State Agencies, Verizon Wireless has enclosed a check in the amount of $500.00 for the required filing fee.

Respectfully yours,

Sandy M. Carter

Sandy M. Carter
Manager – Regulatory
Verizon Wireless

Attachments
cc: John Zulick, First Selectman

Network Dept.

Verizon Wireless
20 Alexander Drive
Wallingford, Connecticut 06492

August 28, 2000

Honorable John Zulick
First Selectman
Knowlton Memorial Town Hall
25 Pompey Hollow Road
Ashford, Connecticut 06278

Dear Mr. Zulick:

This letter is to inform you that Cellco Partnership d/b/a Verizon Wireless plans to install antennas and associated equipment at the existing tower facility located at Janoski/Ference Road, Ashford, Connecticut. I am enclosing a copy of Verizon Wireless's tower sharing application to the Connecticut Siting Council.

The application fully sets forth the Company's proposal. However, if you have any questions or require further information on our plans or the Siting Council's procedures, please contact me at (203) 294-8519 or Mr. Joel Rinebold, Executive Director of the Connecticut Siting Council at (860) 827-2935.

Sincerely,

Sandy M. Carter

Sandy M. Carter
Manager- Regulatory
Verizon Wireless

Enclosure

Sprint Sites USA
East Region - Northeast District Office
535 East Crescent Avenue
Ramsey, NJ 07430
Mailstop NJRAMA0101

VIA FACSIMILE (203) 294-7424

August 15, 2000

Sandy M. Carter
Manager – Regulatory
Verizon Wireless
20 Alexander Drive
Wallingford, Connecticut 06492

RE: Sprint Site # CT03XC204-05
Janoski Road, Ashford, Connecticut 06278

Dear Ms. Carter:

I, David Karpiak, representing Sprint Spectrum L.P. (Sprint), authorize Verizon Wireless to act as applicant, representing Sprint before Connecticut Siting Counsel to obtain approval for an order required for governmental compliance. However, Verizon Wireless shall not be authorized to make any concessions or commitments to the Connecticut Siting Counsel that may affect the operations or future leasing opportunities of Sprint beyond what is shown on the construction drawing prepared by BL Companies, dated July 1, 2000, without obtaining prior approval and consent from Sprint.

Sincerely,

David Karpiak
Regional Manager

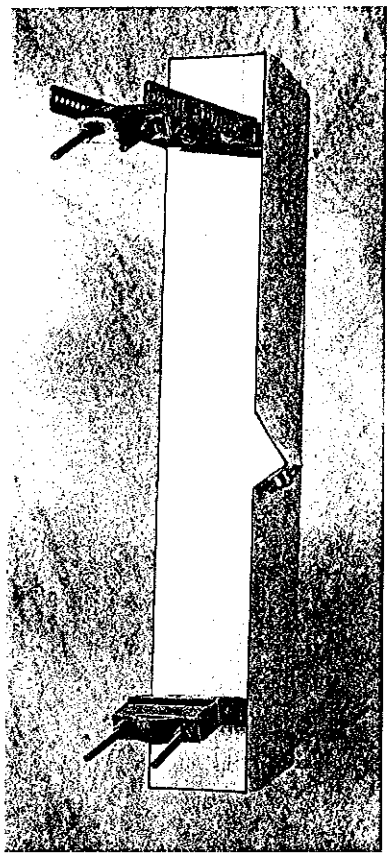
Swedcom

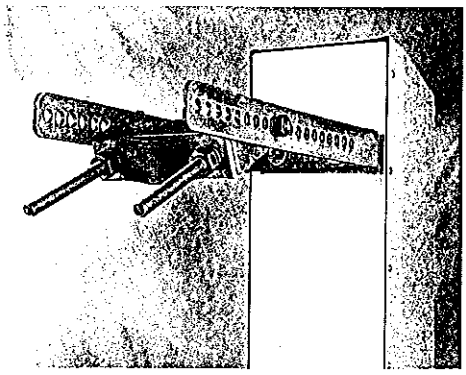
ALP-E 9011-Din

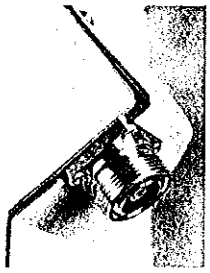
Enhanced Log-Periodic Antenna

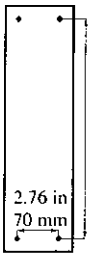
Features:

- ❑ Small Size
- ❑ Aesthetically Pleasing
- ❑ Suitable For TDMA/CDMA
- ❑ High Return Loss
- ❑ Low Intermodulation
- ❑ High FTB
- ❑ Broadbanded
- ❑ Side-lobe Suppression
- ❑ Sturdy Design
- ❑ Down-Tilt Brackets Incl.









The distance between the center of the bolts (on the back of the antenna) are shown in the drawing above.

Bolt diameter is: **3/8-16** [comes with lock nut].

Electrical Specifications

Frequency Range:	**800-900 MHz**
Impedance:	**50 ohm**
Connector Type:	**7/16 Din**
Return Loss:	**20 dB**
Polarization:	**Vertical**
Gain:	**> 11 dBd**
Front To Back Ratio:	**> 30 dB**
Side-Lobe Suppression:	**18 dB**
Intermodulation (2x25W):	**IM3 > 146 dB**
	IM5 > 153 dB
	IM7/9 > 163 dB
Power Rating:	**500 W**
H-Plane (-3 dB point):	**85 - 92°**
V-Plane (-3 dB point):	**16 - 18°**
Lightning Protection:	**DC Grounded**

Mechanical Specifications

Overall Height:	**43 in**	**[1092 mm]**
Width:	**6.5 in**	**[165 mm]**
Depth:	**8 in**	**[203 mm]**
Weight Including Tilt-Brackets:	**20 lbs**	**[9.1 Kg]**
Rated Wind Velocity:	**113 mph**	**[180 Km/h]**
Wind Area (CxA/Side):	**2.3 sq. ft.**	**[0.22 sq.m]**
Lateral Thrust At Rated Wind Worst Case:	**112 lbs**	**[500 N]**

Materials

Radiating Elements:	**Aluminum**
Extrusion:	**Aluminum**
Radome:	**Grey PVC**
Tilt-Bracket:	**Hot Dip Galvanized Steel**
Antenna Bolts:	**Stainless Steel**

The ALP-E 9011-Din is made in U.S.A.

H. E. Bergeron Engineers
• Civil • Structural • Land Surveying

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2605 White Mountain Highway
North Conway, NH 03860
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65 W. Commercial Street
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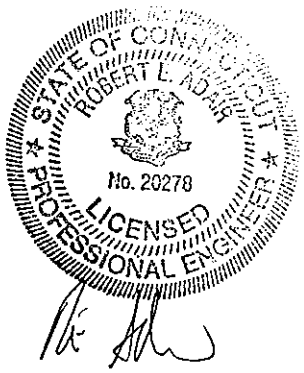
STRUCTURAL ANALYSIS REPORT
OF
192' ROHN SSV TOWER
ASHFORD, CONNECTICUT

Prepared for Verizon Wireless, Inc.

June 12, 2000



Prepared by:

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HEB Project No. 99188A

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STRUCTURAL ANALYSIS REPORT
of
192' SELF-SUPPORTING TOWER
ASHFORD, CONNECTICUT
prepared for Verizon Wireless, Inc.

EXECUTIVE SUMMARY:

H. E. Bergeron Engineers, P.A. (HEB) performed a structural analysis of this 192-foot ROHN SSV tower. The analysis was performed with the addition of a twelve-panel array of ALP9011 panel antennas installed on gate boom mounts at the 180-foot elevation.

Our analysis indicates this tower and its foundations are capable of supporting the proposed antennas.

INTRODUCTION:

A structural analysis of this communications tower was performed by HEB for Verizon Wireless, Inc. (Verizon). The tower is located in Ashford, Connecticut. HEB did not visit the tower site. This analysis was based on information provided to HEB, which included design drawings and calculations by ROHN, and antennas proposed by Verizon.

The structure is a 192-foot, galvanized steel, three-legged Model SSV self-supporting tower manufactured by UNR-ROHN. This analysis was conducted using the following antenna inventory:

- (1) lightning rod at top of tower
- Sprint: (9) DB980H90 panel antennas with 2-1/4" waveguide cables on 12-foot gate boom mounts at 189'
- Nextel: (12) DB980H90 panel antennas with 1-5/8" waveguide cables on 12-foot gate boom mounts at 170'
- Omnipoint: (6) DAPA 79210 panel antennas with 1-5/8" waveguide cables on (3) 3-foot sidearms at 150'
- Sprint: (1) GPS antenna with 7/8" waveguide cable on a 4-foot sidearm at 98'
- SNET: (12) ALP7120.16 panel antennas with 1-1/4" waveguide cables on 12-foot gate boom mounts at 140'

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- Verizon: (12) ALP9011 panel antennas with 1-5/8" waveguide cables on 15-foot gate boom mounts at 180' (proposed)

STRUCTURAL ANALYSIS:

Methodology:

The structural analysis was done in accordance with TIA/EIA-222-F, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures (EIA), and the American Institute of Steel Construction (AISC), Manual of Steel Construction, Allowable Stress Design, Ninth Edition.

The analysis was conducted using a wind speed of 90 miles per hour and one-half inch of radial ice over the entire structure and all appurtenances. The EIA/TIA Standard requires a minimum of 85 miles per hour for Windham County, Connecticut. The tower was analyzed by calculating the resultant wind loading and associated maximum bending moments and axial loads. The moments and forces were used to calculate compressive and shear stresses in leg members, which were compared to allowable stresses according to AISC.

Two loading conditions were evaluated in accordance with EIA/TIA-222-F to determine the tower's capacity. The more demanding of the two cases is used to calculate the tower capacity:

- Case 1 = Wind Load (without ice) + Tower Dead Load
- Case 2 = **0.75** Wind Load (with ice) + Ice Load + Tower Dead Load

In addition, the EIA/TIA standard permits a one-third increase in allowable stresses for towers less than 700-feet tall. Allowable stresses of tower members were increased by one-third when computing the load capacity values shown below.

ANALYSIS RESULTS:

Our analysis determined the existing tower and foundation will support the proposed antennas. The following table summarizes the capacity of the tower based on compressive stresses of the leg members:

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Tower Capacity

Elevation	Capacity
0-20'	97%
20'-40'	87%
40'-60'	76%
60'-80'	84%
80'-100'	87%
100'-120'	72%
120'-140'	80%
140'-160'	85%
160'-180'	74%
180'-192'	13%

Evaluation of Bracing Members:

Bracing consists of angle members installed in an X-bracing configuration. In this arrangement, each compression member is paired with a matching tension member. Diagonal bracing was determined to be appropriately sized based on a slenderness ratio (effective length divided by the radius of gyration) of 200 or less, as required by paragraph 3.1.12 of EIA/TIA-222-F.

Evaluation of Anchor and Splice Bolts:

Evaluation of the base anchor bolts and each tower section's splice bolts were conducted in accordance with AISC. We found all splice and anchor bolts to be adequately sized.

Analysis of Tower Foundations:

Evaluation of the existing base foundations, which reportedly are drilled caissons, was performed in two ways. Initially, HEB compared design reactions with reactions calculated under the proposed antenna loading. We found the uplift and compression reactions under the proposed loading are less than design reactions, indicating the foundations are adequate to support the proposed loads.

The foundations were also evaluated using spreadsheet software developed by HEB. Using geotechnical information provided by ROHN to calculate skin friction values, we found the caissons are adequately sized to resist uplift forces.

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Base reactions imposed by the proposed antennas were calculated to be as follows:

Tension:	284.2 kips
Compression:	329.7 kips
Shear:	63.7 kips
Overturning Moment:	6839.3 ft-kips

CONCLUSIONS AND SUGGESTIONS:

As detailed above, our analysis indicates that Sprint PCS's 192-foot ROHN self-supporting tower in Ashford, Connecticut is capable of supporting the additional antenna loading proposed.

LIMITATIONS:

This report is based on the following:

1. Tower is properly installed and maintained.
2. All members are in new condition.
3. All required members are in place.
4. All bolts are in place and are properly tightened.
5. Weep holes on tube and pipe members are open.
6. Tower is in plumb condition.
7. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
8. Tower foundations were properly designed and constructed to support design reactions.

H. E. Bergeron Engineers, P.A. (HEB) is not responsible for any modifications completed prior to or hereafter which HEB is not or was not directly involved. Modifications include but are not limited to:

1. Replacing or strengthening bracing members.
2. Reinforcing vertical members in any manner.
3. Adding or relocating stabilizers.
4. Installing antenna mounting gates or side arms.
5. Extending tower.

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HEB hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon the information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact HEB. HEB disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Appendix A

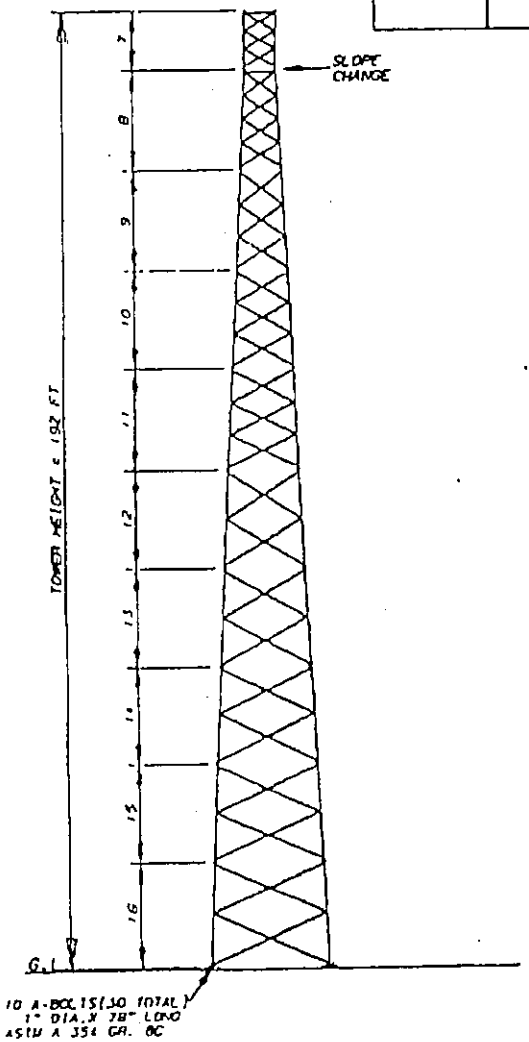
Drawings

TOWER DESIGN LOADING

DESIGN WIND LOAD PER ANSI/EIA-222-E-1991, 90 MPH BASIC WIND SPEED (1/2" RADIAL ICE LOAD). THIS TOWER IS DESIGNED TO SUPPORT THE FOLLOWING LOADS:

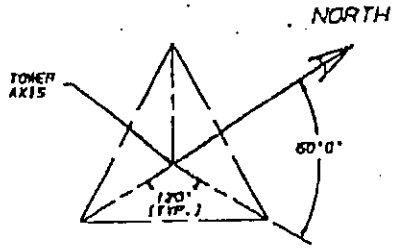
ELEVATION (FT)	ANTENNA TYPE	E.P.A. (SF) NO ICE	E.P.A. (SF) W/ICE	LINE SIZE (NOM)
189	(12) DB980H90E-M ON MOUNTING FRAME	114.0 TOTAL	139.0 TOTAL	(12) 2-1/4"
170	(12) ALP9212 W/ MOUNTING FRAME	119.0 TOTAL	145.0 TOTAL	(12) 1-5/8"
150	(12) ALP9212 W/ MOUNTING FRAME	119.0 TOTAL	145.0 TOTAL	(12) 1-5/8"
90	(1) GPS ANTENNA W/ 12' GATE BOOM	28.0 TOTAL	40.0 TOTAL	(1) 7/8"

SEE STRESS ANALYSIS FOR A COMPLETE LISTING OF ALL LOADS ON TOWER



TUBULAR MEMBER PROPERTIES

MEMBER	SIZE O.D. (IN)	SIZE THICK. (IN)
PIPE 2.5STD	2.875	0.203
PIPE 3 E.H	3.500	0.300
PIPE 4 E.H	4.500	0.337
PIPE 5 E.H	5.500	0.375
PIPE 6 EHS	6.625	0.340
PIPE 8 E.H	8.625	0.432
PIPE 8 DHS	8.750	0.375



TOWER ORIENTATION
N.T.S.

TOWER REACTIONS

COMPRESSION = 331.9 KIPS
TORSION = 291.6 KIPS
TOTAL SHEAR = 63.0 KIPS
O.T.M. = 6632.7 FT-KIPS

SECTION MEMBER SCHEDULE

SECTION	LEG SIZE	LEG BOLTED FLANGE CONNECTION NO.	LEG BOLTED FLANGE CONNECTION SIZE (IN)	BRACE SIZE	BRACE END CONNECTION NO.	BRACE END CONNECTION SIZE (IN)
1	PIPE 2.5STD	1	5/8	L1.75X1.75X1/8	1	5/8
2	PIPE 2.5STD	1	5/8	L2.5X2.5X1/8	1	5/8
3	PIPE 3 E.H	1	7/8	L2.5X2.5X1/4	1	5/8
4	PIPE 4 E.H	1	1	L2.5X2.5X1/4	1	5/8
5	PIPE 5 E.H	1	1	L3.5X3.5X1/4	1	5/8
6	PIPE 6 EHS	1	1	L3.5X3.5X1/4	1	5/8
7	PIPE 8 E.H	1	1	L4X4X1/4	1	5/8
8	PIPE 8 EHS	1	1	L5X5X5/16	1	5/8
9	PIPE 8 EHS	1	1	L5X5X5/16	1	5/8
10	PIPE 8 EHS	1	1	L6X6X3/8	1	5/8

NOTE: SECTION NUMBERS ARE FOR REFERENCE ONLY

GENERAL NOTES

1. ROHN COMMUNICATION TOWER DESIGNS CONFORM TO E.I.A.-222-E UNLESS OTHERWISE SPECIFIED UNDER TOWER DESIGN LOADING.
2. THE DESIGN LOADING CRITERIA INDICATED HAS BEEN PROVIDED TO ROHN. THE DESIGN LOADING CRITERIA WAS BEEN ASSUMED TO BE BASED ON SITE-SPECIFIC DATA IN ACCORDANCE WITH ANSI/EIA-222-E AND MUST BE VERIFIED BY OTHERS PRIOR TO INSTALLATION.
3. ANTENNAS AND LINES LISTED IN TOWER DESIGN LOADING TABLE ARE PROVIDED BY OTHERS UNLESS OTHERWISE SPECIFIED.
4. TOWER MEMBER DESIGN DOES NOT INCLUDE STRESSES DUE TO ERECTION SINCE ERECTION EQUIPMENT AND CONDITIONS ARE UNKNOWN. DESIGN ASSUMES COMPETENT AND QUALIFIED PERSONNEL WILL ERECT THE TOWER.
5. WORK SHALL BE IN ACCORDANCE WITH E.I.A.-222-E, "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES".
6. THE MINIMUM YIELD STRENGTH OF STRUCTURAL STEEL MEMBERS SHALL BE 50 KSI, EXCEPT AS NOTED BELOW.
   ANGLE BRACES L1.75X1/8 THRU L2-1/2X1/4 SHALL BE 36 KSI.
   STRUCTURAL PLATES SHALL BE 36 KSI.
7. FIELD CONNECTIONS SHALL BE BOLTED. NO FIELD WELDS SHALL BE ALLOWED.
8. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A-325, EXCEPT WHERE NOTED.
9. PAL NUTS SHALL BE PROVIDED FOR ALL TOWER BOLTS.
10. STRUCTURAL STEEL AND CONNECTION BOLTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION, IN ACCORDANCE WITH E.I.A.-222-E
11. ALL HIGH STRENGTH BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN THE NOVEMBER 13, 1985, AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
12. PURCHASER SHALL VERIFY THE INSTALLATION IS IN CONFORMANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR OBSTRUCTION MARKING AND LIGHTING.
13. TOLERANCE ON TOWER STEEL HEIGHT IS EQUAL TO PLUS 1% OR MINUS 1/2%.
14. DESIGN ASSUMES THAT, AS A MINIMUM, MAINTENANCE AND INSPECTION WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE IN ACCORDANCE WITH ANSI/EIA-222-E.
15. DESIGN ASSUMES LEVEL GRADE AT TOWER SITE.
16. DESIGN ASSUMES ALL TYPE ANTENNAS ARE MOUNTED SYMETRICALLY TO MINIMIZE TORQUE.
17. DESIGN ASSUMES WAVEGUIDES AND WAVEGUIDE LADDERS ARE EQUALLY DISTRIBUTED ON THREE TOWER FACES.
18. STANDARD INSIDE CORNER MOUNTED LADDER WITH ROHN-LOC SAFETY DEVICE SHALL BE PROVIDED FOR CLIMBING THE ENTIRE HEIGHT OF THE TOWER.
19. THREE 15-HOLE WAVEGUIDE LADDERS SHALL BE PROVIDED FROM 10' TO TOP OF TOWER AND (1) 15-HOLE WAVEGUIDE LADDER SHALL BE PROVIDED FROM 10' TO 150' ELEVATION.
20. TOWER ORIENTATION DETERMINED FROM CUSTOMER SUPPLIED PLOT PLAN.
21. FOR FOUNDATION DETAILS, SEE DRAWING NUMBER A963670.

TOWER SITE: SKYHILL (CT03XC204), CT.

No. & Revision Description — Date & Rev By & Chkd By & Appd By

ROHN

Sheet SIZE	By	Date
Drawn	CSR	12/16/96
Checked	MA	12/16/96
Appr. Engr.		
Appr. Mktg.		

Title: 192' SSV TOWER DESIGN FOR SPRINT SPECTRUM..

CAD FILE: 3ASA9A19 DRAWING NO.: A963669

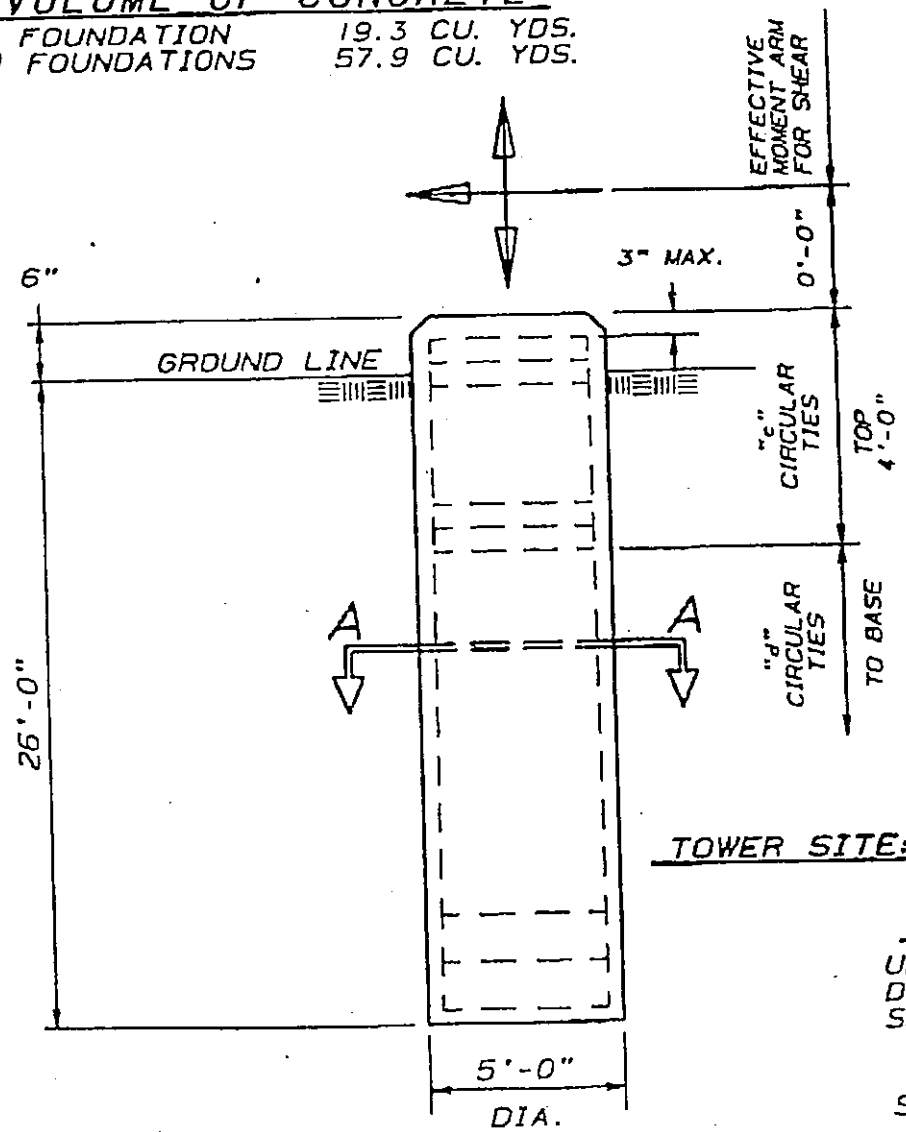
FOUNDATION SCHEDULE

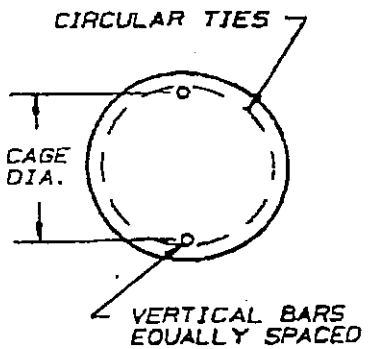
VERTICAL BARS			CIRCULAR TIES					
			"c" TIES			"d" TIES		
SIZE	LAP	CAGE DIA.	SIZE	SPACING	LAP	SIZE	SPACING	LAP
(18) #9	---	51"	#5	3"	27"	#5	12"	27"

NOTE: SEE TOWER ASSEMBLY DRAWING FOR FOUNDATION LAYOUT AND ANCHORAGE EMBEDMENT DRAWING NUMBER.

VOLUME OF CONCRETE

(1) FOUNDATION 19.3 CU. YDS.
(3) FOUNDATIONS 57.9 CU. YDS.





SECTION A-A

NOTE:
CAGE DIA. FROM CENTERLINE OF VERTICAL BARS.

TOWER SITE: SKYHILL (CT03XC204), CT.

REACTIONS/LEG

UPLIFT	=	291.6 KIPS
DOWNLOAD	=	331.9 KIPS
SHEAR	=	42.0 KIPS

SHEET 1 OF 3

No. ▲ Revision Description	▲ Date	▲ Rev By	▲ Ckd By	▲ Appd By

ROHN

Scale: NONE	By	Date
Drawn:	CSR	12/16/96
Checked:	HA	12/16/96
App. Eng.:	XK	12/16/96
App. Sales:	[illegible]	12/16/96

Title: DRILLED PIER FOUNDATION DETAIL FOR SPRINT SPECTRUM

ENG. FILE: 34589PH DRAWING NO.: A963670-1

Appendix B

Calculations

H. E. BERGERON ENGINEERS, P.A.
2605 White Mountain Highway, PO Box 440
North Conway, NH 03860
(603) 356-6936

Client:	Verizon Wireless		
Job:	Ashford, CT	Job No.:	99188A
Calculated By:	R. Adair	Date:	09-Jun-00
Checked By:		Date:	

General Information

Tower Manufacturer	ROHN
Tower Type	Self-supporting Tower
Total Height of Tower	192 ft.
Wind Speed	90 mph.
Radial Ice	0.5 in.
75% Reduction for ice	yes (yes or no)
1/3 increase for allowable loads	yes (yes or no)
Number of faces	3 faces

Antenna Force Calculations based on EIA/TIA-222-F, using the following formulas:

Force on discrete appurtenance: F=Qz*Gh*Ca*A

Force on microwave antennae: F=Cr*A*Gh*Kz*V^2, where Cr=((Ca^2)+(Cs^2))^(1/2)

Gh=.65+.60/(h/33)^(1/7) = Gh= 1.12

V as specified EIA-222-F

Fy	50 ksi
E (Modulus of Elasticity)	29000 ksi
Fb	0.6
K	1

Section No.	Section Length	Leg Spread @ Base of section	Leg Size (Description)	Width of Leg to Wind	Leg Properties			Shape (round =R flat =F)
					Area	r_z	Unbraced Lengths	
1	20	25.05	8" E.H.S.	8.75	9.87	2.96	120.00	R
2	20	23.05	8" E.H.S.	8.75	9.87	2.96	120.00	R
3	20	21.13	8" E.H.S.	8.75	9.87	2.96	120.00	R
4	20	18.88	6" E.H.	6.63	8.40	2.19	120.00	R
5	20	16.92	6" E.H.S.	6.63	6.71	2.23	120.00	R
6	20	14.83	5" E.H.	5.56	6.11	1.84	80.00	R
7	20	12.74	4" E.H.	4.50	4.41	1.48	80.00	R
8	20	10.61	3" E.H.	3.50	3.02	1.14	80.00	R
9	20	8.54	2.5" STD.	2.88	1.70	0.95	60.00	R
10	12	6.58	2.5" STD.	2.88	1.70	0.95	48.00	R
top		6.58						

192

H. E. BERGERON ENGINEERS, P.A.
2605 White Mountain Highway, PO Box 440
North Conway, NH 03860
(603) 356-6936

Client: Verizon Wireless
Job: Ashford, CT

Job No.: 99188A

Calculated By: R. Adair
Checked By:

Date: 09-Jun-00
Date:

Tower Summary

Section ***1*** ***type***

Ag = 496 sf z = 10 ft

	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
Round Members								
Leg	2	20.0	8.8	29.2	32.5	33.6	2015.1	338.9
				0.0	0.0		0.0	0.0
				0.0	0.0		0.0	0.0
Flat Members								
Leg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diagonal	4	26.0	4.0	34.7	43.3	9.8	3057.6	1092.0
				0.0	0.0		0.0	0.0

Section ***2*** ***type***

Ag = 456 sf z = 30 ft

	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
Round Members								
Leg	2	20.0	8.8	29.2	32.5	33.6	2015.1	338.9
				0.0	0.0		0.0	0.0
				0.0	0.0		0.0	0.0
Flat Members								
Leg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diagonal	4	24.2	4.0	32.2	40.3	8.2	2376.4	1014.3
				0.0	0.0		0.0	0.0

Section ***3*** ***type***

Ag = 415 sf z = 50 ft

	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
Round Members	3							
Leg	2	20.0	8.8	29.2	32.5	33.6	2015.1	338.9
				0.0	0.0		0.0	0.0
				0.0	0.0		0.0	0.0
Flat Members								
Leg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diagonal	4	22.1	4.0	29.5	36.8	8.2	2174.6	928.2
				0.0	0.0		0.0	0.0

ection 4						type		
Ag = 369 sf			z = 70 ft					
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
ound Members								
eg	2	20.0	6.6	22.1	25.4	28.6	1715.0	261.0
				0.0	0.0		0.0	0.0
				0.0	0.0		0.0	0.0
lat Members								
eg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
iagonal	4	20.5	4.0	27.3	34.1	6.6	1619.6	858.9
				0.0	0.0		0.0	0.0

ection 5						type		
Ag = 329 sf			z = 90 ft					
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
ound Members								
eg	2	20.0	6.6	22.1	25.4	22.8	1370.0	261.0
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
lat Members								
eg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
iagonal	4	18.8	3.5	21.9	28.1	5.8	1305.0	700.0
				0.0	0.0		0.0	0.0

ection 6						type		
Ag = 285 sf			z = 110 ft					
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
ound Members								
eg	2	20.0	5.6	18.5	21.9	20.8	1247.5	222.1
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
lat Members								
eg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
iagonal	6	15.3	3.0	23.0	30.6	4.9	1349.5	749.7
				0.0	0.0		0.0	0.0

ection 7						type		
Ag = 241 sf			z = 130 ft					
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
ound Members								
eg	2	20.0	4.5	15.0	18.3	15.0	900.4	183.2
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
lat Members								
eg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
iagonal	6	13.5	2.5	16.9	23.6	4.1	996.3	567.0
orizontal				0.0	0.0		0.0	0.0

ection 8						type		
Ag = 197 sf			z = 150 ft					
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
ound Members								
eg	2	20.0	3.5	11.7	15.0	10.3	616.6	146.5
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
lat Members								
eg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
iagonal	6	11.7	2.5	14.6	20.5	4.1	863.5	491.4

Section	9				type			
Ag =	156	sf		z =	170	ft		
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
Round Members								
Leg	2	20.0	2.9	9.6	12.9	5.8	347.1	123.6
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
Flat Members								
Leg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diagonal	8	9.1	2.0	12.1	18.2	2.4	532.9	424.7
Horizontal	1	6.3	2.0	1.1	1.6	3.2		

Section	10				type			
Ag =	82	sf		z =	186	ft		
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
Round Members								
Leg	2	12.0	2.9	5.8	7.8	5.8	208.3	74.2
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
Flat Members								
Leg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diagonal	6	7.7	1.8	6.7	10.6	2.1	293.8	242.6
Horizontal	1	6.3	2.0	1.1	1.6	3.2	60.9	37.0

Section	top				type			
Ag =	0	sf		z =	192	ft		
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
Round Members								
Leg	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
Flat Members								
Leg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diagonal				0.0	0.0		0.0	0.0
Horizontal				0.0	0.0		0.0	0.0

Section					type			
Ag =	0	sf		z =	192	ft		
	Quantity Per Face	Length (ft.)	Width (in.)	Area (sf)	Area w/ ice	Wt. Per ft.	Wt. (lbs.) Tower	Wt. (lbs.) Ice
Round Members								
Leg	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
Flat Members								
Leg	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				0.0	0.0		0.0	0.0
				0.0	0.0		0.0	0.0

Notes:

1. Ag is gross area of tower.
2. z is height above ground to mid-point of section.

H. E. BERGERON ENGINEERS, P.A.
2605 White Mountain Highway, PO Box 440
North Conway, NH 03860
(603) 356-6936

Client: Verizon Wireless
Job: Ashford, CT
Job No.: 99188A

Calculated By: R. Adair
Date: 09-Jun-00
Checked By:
Date:

Antennas

Type	Elev. (z)	Coeff. (C)	Kz	Qz	Area (no ice)	Area (ice)	Force (no Ice)	Force (ice)	Weight (no ice)	Weight (w/ Ice)
			1.00	20.74			0	0		
Lightning Rod	192	1.2	1.65	34.30	1.4	2.3	66	104	55	95
(9) DB980H90	189	1.4	1.65	34.14	46.6	57.6	2487	3076	1170	1350
on 12' gate booms			1.00	20.74			0	0		
(12) DB980H90	170	1.4	1.60	33.12	54.1	65.7	2801	3404	1260	1500
on 12' gate booms			1.00	20.74			0	0		
(6) DAPA79210	150	1.4	1.54	31.96	37.4	41.6	1868	2079	360	550
on (3) 3' sidearms			1.00	20.74			0	0		
GPS on 4' sidearm	98	0.8	1.36	28.30	1.3	1.8	34	45	50	75
			1.00	20.74			0	0		
(12) ALP7120.16	140	1.4	1.51	31.34	60.1	70.5	2944	3455	1380	1550
on 12' gate booms			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		
			1.00	20.74			0	0		

Dishes											Orient	Ca	Cs
		0.00000	1.00	20.74			0	0					
		0.00000	1.00	20.74			0	0					
		0.00000	1.00	20.74			0	0					
		0.00000	1.00	20.74			0	0					
		0.00000	1.00	20.74			0	0					
		0.00000	1.00	20.74			0	0			0		
		0.00000	1.00	20.74			0	0			0		

Proposed Antennae													
(12) ALP9011	180	1.4	1.62	33.67	55.8	70.5	2938	3710	1800	2670			
on 15' gate booms			1.00	20.74			0	0					
		0.00000	1.00	20.74			0	0			0		

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(603) 356-6936

Client: Verizon Wireless
Job: Ashford, CT
Calculated By: R. Adair
Checked By:

Job No.: 99188A
Date: 09-Jun-00
Date:

Existing Wind Load Without Ice

Section	Midpoint Height	Areas					Factors			Rr	Kz	Qz	Gh	e	Cf	Wind Load	Section Length	Uniform Load
		Gross	Flats	Rounds	Ae	Aa	Df	Dr	Ca									
1	10	495.6	34.7	29.2	51.5	62.51	1	1	1.2	0.58	1.00	20.74	1.12	0.13	2.85	5139 lbs.	20	257 lbs/ft.
2	30	456.4	32.2	29.2	49.1	62.51	1	1	1.2	0.58	1.00	20.74	1.12	0.13	2.83	4953 lbs.	20	248 lbs/ft.
3	50	414.7	29.5	29.2	46.4	62.51	1	1	1.2	0.58	1.13	23.35	1.12	0.14	2.80	5346 lbs.	20	267 lbs/ft.
4	70	369.0	27.3	22.1	40.1	62.51	1	1	1.2	0.58	1.24	25.71	1.12	0.13	2.83	5409 lbs.	20	270 lbs/ft.
5	90	328.5	21.9	22.1	34.7	62.34	1	1	1.2	0.58	1.33	27.62	1.12	0.13	2.83	5334 lbs.	20	267 lbs/ft.
6	110	285.0	23.0	18.5	33.7	60.84	1	1	1.2	0.58	1.41	29.25	1.12	0.15	2.79	5454 lbs.	20	273 lbs/ft.
7	130	241.0	16.9	15.0	25.6	60.84	1	1	1.2	0.58	1.48	30.68	1.12	0.13	2.84	4986 lbs.	20	249 lbs/ft.
8	150	197.3	14.6	11.7	21.4	57.54	1	1	1.2	0.58	1.54	31.96	1.12	0.13	2.83	4626 lbs.	20	231 lbs/ft.
9	170	156.0	13.2	9.6	18.8	47.64	1	1	1.2	0.58	1.60	33.12	1.12	0.15	2.79	4047 lbs.	20	202 lbs/ft.
10	186	81.8	7.8	5.8	11.2	19.56	1	1	1.2	0.58	1.64	33.99	1.12	0.17	2.72	2040 lbs.	12	170 lbs/ft.
top	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.
	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.

Existing Wind Load With Ice

Section	Midpoint Height	Areas					Factors			Rr	Kz	Qz	Gh	e	Cf	Wind Load	Section Length	Uniform Load
		Gross	Flats	Rounds	Ae	Ai	Df	Dr	Ca									
1	10	495.6	43.3	32.5	62.2	71.94	1	1	1.2	0.58	1.00	20.74	1.12	0.15	2.76	5977 lbs.	20	299 lbs/ft.
2	30	456.4	40.3	32.5	59.2	71.94	1	1	1.2	0.58	1.00	20.74	1.12	0.16	2.74	5750 lbs.	20	288 lbs/ft.
3	50	414.7	36.8	32.5	55.8	71.94	1	1	1.2	0.58	1.13	23.35	1.12	0.17	2.71	6194 lbs.	20	310 lbs/ft.
4	70	369.0	34.1	25.4	48.9	71.94	1	1	1.2	0.58	1.24	25.71	1.12	0.16	2.73	6311 lbs.	20	316 lbs/ft.
5	90	328.5	28.1	25.4	43.0	71.61	1	1	1.2	0.58	1.33	27.62	1.12	0.16	2.72	6259 lbs.	20	313 lbs/ft.
6	110	285.0	30.6	21.9	43.4	68.61	1	1	1.2	0.59	1.41	29.25	1.12	0.18	2.65	6449 lbs.	20	322 lbs/ft.
7	130	241.0	23.6	18.3	34.4	68.61	1	1	1.2	0.59	1.48	30.68	1.12	0.17	2.68	5980 lbs.	20	299 lbs/ft.
8	150	197.3	20.5	15.0	29.3	65.03	1	1	1.2	0.59	1.54	31.96	1.12	0.18	2.66	5569 lbs.	20	278 lbs/ft.
9	170	156.0	19.8	12.9	27.4	54.58	1	1	1.2	0.59	1.60	33.12	1.12	0.21	2.56	5024 lbs.	20	251 lbs/ft.
10	186	81.8	12.2	7.8	16.8	23.31	1	1	1.2	0.60	1.64	33.99	1.12	0.24	2.46	2630 lbs.	12	219 lbs/ft.
top	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.
	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.

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2605 White Mountain Highway, PO Box 440
North Conway, NH 03860
(603) 356-6936

Client: Verizon Wireless
Job: Ashford, CT
Calculated By: R. Adair
Checked By:

Job No.: 99188A
Date: 09-Jun-00
Date:

Proposed Wind Load Without Ice

Section	Midpoint Height	Areas					Factors			Rr	Kz	Qz	Gh	e	Cf	Wind Load	Section Length	Uniform Load
		Gross	Flats	Rounds	Ae	Aa	Df	Dr	Ca									
1	10	495.6	34.7	29.2	51.5	72.51	1	1	1.2	0.58	1.00	20.74	1.12	0.13	2.85	5417 lbs.	20	271 lbs/ft.
2	30	456.4	32.2	29.2	49.1	72.51	1	1	1.2	0.58	1.00	20.74	1.12	0.13	2.83	5231 lbs.	20	262 lbs/ft.
3	50	414.7	29.5	29.2	46.4	72.51	1	1	1.2	0.58	1.13	23.35	1.12	0.14	2.80	5659 lbs.	20	283 lbs/ft.
4	70	369.0	27.3	22.1	40.1	72.51	1	1	1.2	0.58	1.24	25.71	1.12	0.13	2.83	5754 lbs.	20	288 lbs/ft.
5	90	328.5	21.9	22.1	34.7	72.34	1	1	1.2	0.58	1.33	27.62	1.12	0.13	2.83	5705 lbs.	20	285 lbs/ft.
6	110	285.0	23.0	18.5	33.7	70.84	1	1	1.2	0.58	1.41	29.25	1.12	0.15	2.79	5846 lbs.	20	292 lbs/ft.
7	130	241.0	16.9	15.0	25.6	70.84	1	1	1.2	0.58	1.48	30.68	1.12	0.13	2.84	5397 lbs.	20	270 lbs/ft.
8	150	197.3	14.6	11.7	21.4	67.54	1	1	1.2	0.58	1.54	31.96	1.12	0.13	2.83	5055 lbs.	20	253 lbs/ft.
9	170	156.0	13.2	9.6	18.8	57.64	1	1	1.2	0.58	1.60	33.12	1.12	0.15	2.79	4491 lbs.	20	225 lbs/ft.
10	186	81.8	7.8	5.8	11.2	19.56	1	1	1.2	0.58	1.64	33.99	1.12	0.17	2.72	2040 lbs.	12	170 lbs/ft.
top	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.
	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.

Proposed Wind Load With Ice

Section	Midpoint Height	Areas					Factors			Rr	Kz	Qz	Gh	e	Cf	Wind Load	Section Length	Uniform Load
		Gross	Flats	Rounds	Ae	Ai	Df	Dr	Ca									
1	10	495.6	43.3	32.5	62.2	86.94	1	1	1.2	0.58	1.00	20.74	1.12	0.15	2.76	6394 lbs.	20	320 lbs/ft.
2	30	456.4	40.3	32.5	59.2	86.94	1	1	1.2	0.58	1.00	20.74	1.12	0.16	2.74	6167 lbs.	20	308 lbs/ft.
3	50	414.7	36.8	32.5	55.8	86.94	1	1	1.2	0.58	1.13	23.35	1.12	0.17	2.71	6663 lbs.	20	333 lbs/ft.
4	70	369.0	34.1	25.4	48.9	86.94	1	1	1.2	0.58	1.24	25.71	1.12	0.16	2.73	6828 lbs.	20	341 lbs/ft.
5	90	328.5	28.1	25.4	43.0	86.61	1	1	1.2	0.58	1.33	27.62	1.12	0.16	2.72	6814 lbs.	20	341 lbs/ft.
6	110	285.0	30.6	21.9	43.4	83.61	1	1	1.2	0.59	1.41	29.25	1.12	0.18	2.65	7037 lbs.	20	352 lbs/ft.
7	130	241.0	23.6	18.3	34.4	83.61	1	1	1.2	0.59	1.48	30.68	1.12	0.17	2.68	6597 lbs.	20	330 lbs/ft.
8	150	197.3	20.5	15.0	29.3	80.03	1	1	1.2	0.59	1.54	31.96	1.12	0.18	2.66	6211 lbs.	20	311 lbs/ft.
9	170	156.0	19.8	12.9	27.4	69.58	1	1	1.2	0.59	1.60	33.12	1.12	0.21	2.56	5690 lbs.	20	285 lbs/ft.
10	186	81.8	12.2	7.8	16.8	23.31	1	1	1.2	0.60	1.64	33.99	1.12	0.24	2.46	2630 lbs.	12	219 lbs/ft.
top	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.
	192	0.0	0.0	0.0	0.0	0.00	1	1	1.2	0.57	1.65	34.30	1.12	0.00	3.40	0 lbs.	0	#DIV/0! lbs/ft.

H. E. BERGERON ENGINEERS, P.A.
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Client:	Verizon Wireless		
Job:	Ashford, CT	Job No.:	99188A
Calculated By:	R. Adair	Date:	09-Jun-00
Checked By:		Date:	

Uplift Due to Moment Minus 1/3 Dead & Ice Loads

	Existing			*Proposed*		
	W_o-DL	.75W_I-DL-I	W_I-DL-I	W_o-DL	.75W_I-DL-I	W_I-DL-I
Elev.	Force	Force	Force	Force	Force	Force
0	245.0	204.5	287.4	284.2	244.2	340.4
20	219.3	184.2	257.9	255.7	221.1	307.1
40	191.6	162.0	226.2	225.1	195.6	271.0
60	166.7	142.0	197.5	197.5	172.8	238.5
80	137.8	118.0	163.8	165.1	145.2	200.0
100	109.1	93.9	130.2	132.7	117.3	161.3
120	79.7	69.0	95.6	99.2	88.2	121.1
140	48.8	42.6	59.1	63.5	56.9	78.1
160	31.8	28.4	39.2	32.4	29.1	40.1
180	5.2	4.3	6.3	5.2	4.3	6.3
192	0.0	0.0	0.0	0.0	0.0	0.0
1000	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Tension in Bolts

		Existing			*Proposed*		
		W_o-DL	.75W_I-DL-I	W_I-DL-I	W_o-DL	.75W_I-DL-I	W_I-DL-I
Elev.	# of Bolts	Tension/Bolt	Tension/Bolt	Tension/Bolt	Tension/Bolt	Tension/Bolt	Tension/Bolt
0	10	24.50	20.45	28.74	28.42	24.42	34.04
20	6	36.54	30.70	42.99	42.62	36.84	51.18
40	6	31.94	27.00	37.69	37.52	32.61	45.17
60	6	27.79	23.67	32.91	32.91	28.79	39.75
80	6	22.97	19.67	27.30	27.52	24.20	33.33
100	6	18.18	15.65	21.70	22.12	19.54	26.89
120	4	19.91	17.26	23.90	24.80	22.04	30.28
140	4	12.21	10.65	14.78	15.89	14.22	19.54
160	4	7.96	7.11	9.80	8.11	7.27	10.03
180	4	1.29	1.08	1.57	1.29	1.08	1.57
192		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
1000		#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Maximum Shear in Bolts

		Existing			*Proposed*		
Elev.	Bolt Size (dia.)	W_o	.75W_I	W_I	W_o	.75W_I	W_I
0	1	1.92	1.71	2.28	2.12	1.92	2.56
20	1	3.20	2.85	3.79	3.54	3.20	4.27
40	1	3.20	2.85	3.79	3.54	3.20	4.27
60	1	3.08	2.74	3.65	3.43	3.09	4.13
80	1	2.86	2.53	3.37	3.18	2.86	3.81
100	1	2.60	2.29	3.06	2.90	2.60	3.46
120	1	3.48	3.07	4.09	3.89	3.48	4.64
140	7/8	2.78	2.45	3.26	3.16	2.83	3.77
160	5/8	2.18	1.93	2.57	2.53	2.27	3.03
180	5/8	1.50	1.32	1.76	1.57	1.40	1.87
192		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
1000		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

H. E. BERGERON ENGINEERS, P.A.
2605 White Mountain Highway, PO Box 440
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Client: **Verizon Wireless**
Job: **Ashford, CT** Job No.: **99188A**

Calculated By: **R. Adair** Date: **09-Jun-00**
Checked By: Date:

Evaluation of Bracing Members

Center Bolted? Yes

Section	Member	K Value	Length (ft.)	r_x (in.)	r_z (in.)	kL/r_x	kL/r_z
1	L4 x 3/8	1.0	25.78	1.230	0.788	188.6	196.3
2	L4 x 5/16	1.0	23.88	1.240	0.791	173.3	181.1
3	L4 x 5/16	1.0	21.68	1.240	0.791	157.4	164.5
4	L4 x 1/4	1.0	20.35	1.250	0.795	146.5	153.6
5	L3.5 x 1/4	1.0	18.65	1.090	0.694	154.0	161.2
6	L3 x 1/4	1.0	15.73	0.930	0.592	152.2	159.4
7	L2.5 x 1/4	1.0	14.03	0.769	0.491	164.1	171.4
8	L2.5 x 1/4	1.0	12.31	0.769	0.491	144.1	150.4
9	L2 x 3/16	1.0	9.46	0.617	0.394	138.0	144.1
10	L1.75 x 3/16	1.0	6.96	0.537	0.343	116.7	121.8

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Client: Verizon Wireless
Job: Ashford, CT Job No.: 99188A

Calculated By: R. Adair Date: 09-Jun-00
Checked By: Date:

Evaluation of Leg Members

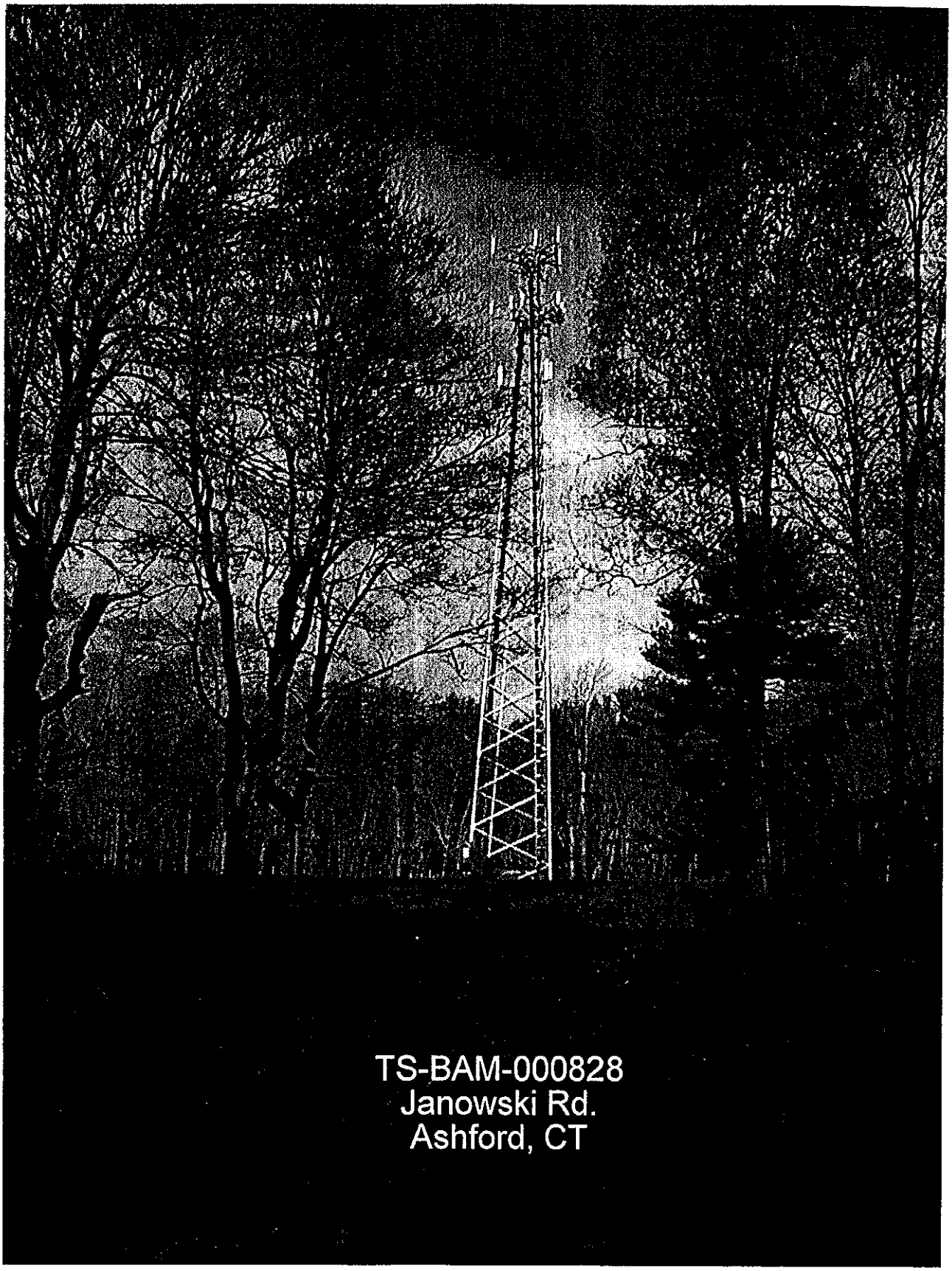
						Existing		*Proposed*	
Section	Size	Kl/r	Cc	Fa allow	133% Allow	$D+W_o$	D+.75Wl+l	$D+W_o$	D+.75Wl+l
1	8" E.H.S.	40.49	106.94	25.76	34.35	29.30	27.20	33.40	31.50
2	8" E.H.S.	40.49	106.94	25.76	34.35	25.94	24.13	29.77	28.11
3	8" E.H.S.	40.49	106.94	25.76	34.35	22.49	20.96	26.01	24.61
4	6" E.H.	54.79	106.94	23.58	31.44	22.73	21.22	26.52	25.14
5	6" E.H.S.	53.93	106.94	23.72	31.63	23.39	21.92	27.61	26.24
6	5" E.H.	43.48	106.94	25.33	33.77	20.30	19.10	24.33	23.20
7	4" E.H.	54.05	106.94	23.70	31.60	20.54	19.44	25.16	24.11
8	3" E.H.	70.18	106.94	20.90	27.86	18.46	17.69	23.59	22.84
9	2.5" STD.	63.36	106.94	22.13	29.51	21.18	20.47	21.94	21.51
10	2.5" STD.	50.69	106.94	24.24	32.32	4.06	4.04	4.06	4.04
top	0.00	#DIV/0!	106.94	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	0.00	#DIV/0!	106.94	#DIV/0!	#DIV/0!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Percent Capacity

		Existing			*Proposed*			*Maximum*	
Section	Elev.	$D+W_o$	D+.75Wl+l	Secondary	$D+W_o$	D+.75Wl+l	Secondary	Existing	Proposed
1	0	85%	*79%*	0%	*97%*	*92%*	0%	***85%***	***97%***
2	20	76%	*70%*	0%	*87%*	*82%*	0%	***76%***	***87%***
3	40	65%	*61%*	0%	*76%*	*72%*	0%	***65%***	***76%***
4	60	72%	*68%*	0%	*84%*	*80%*	0%	***72%***	***84%***
5	80	74%	*69%*	0%	*87%*	*83%*	0%	***74%***	***87%***
6	100	60%	*57%*	0%	*72%*	*69%*	0%	***60%***	***72%***
7	120	65%	*62%*	0%	*80%*	*76%*	0%	***65%***	***80%***
8	140	66%	*63%*	0%	*85%*	*82%*	0%	***66%***	***85%***
9	160	72%	*69%*	0%	*74%*	*73%*	0%	***72%***	***74%***
10	180	13%	*12%*	0%	*13%*	*12%*	0%	***13%***	***13%***
top	192	#DIV/0!	*#DIV/0!*	#DIV/0!	*#DIV/0!*	*#DIV/0!*	#DIV/0!	***#DIV/0!***	***#DIV/0!***
	1000	#VALUE!	*#VALUE!*	#DIV/0!	*#VALUE!*	*#VALUE!*	#DIV/0!	***#VALUE!***	***#VALUE!***

Maximum Reactions:

Uplift: 284.2 kips
Compression: 329.7 kips
Total Shear: 63.7 kips
Overturning Moment: 6839.3 ft-kips



TS-BAM-000828
Janowski Rd.
Ashford, CT

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

September 8, 2000

Honorable John M. Zulick
First Selectman
Town of Ashford
Knowlton Memorial Town Hall
25 Pompey Hollow Road
P.O. Box 38
Ashford, CT 06278

RE: **TS-BAM-003-000828** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at Janoski Road (Ference Road - Sky Hill Tower), Ashford, Connecticut.

Dear Mr. Zulick:

The Connecticut Siting Council (Council) received this request for tower sharing, pursuant to Connecticut General Statutes § 16-50aa.

The Council will consider this item at the next meeting scheduled for September 19, 2000, at 2:30 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,

Joel M. Rinebold
Executive Director

JMR/laf

Enclosure: Notice of Tower Sharing

facsimile
transmittal

verizon wireless

RECEIVED
SEP 18 2000
CONNECTICUT
SITING COUNCIL

To: Bob Erling | Fax: 860 827-2950

From: Sandy Carter | Date: 9-18-00

Re: Ashford Filing Power Density | Pages: 2

CC:

☑ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

I am sorry for the delay. Please call if you have any questions, etc.

Sandy Carter

FREQUENCY	POWER DENSITY	HEIGHT	STANDARD LIMITS (mW/cm2)	% OF STANDARD
SNET Wireless 880 - 894	0.0383730	140'	0.5867	6.5409%
Sprint PCS – 1962.5	0.0135910	195'	1.0000	1.3591%
Nextel - 851	0.0102616	174'	0.5673	1.8087%
Omnipoint – 1,945	0.0104871	150'	1.0000	1.0487%
TOTAL	N/A		N/A	10.76% → 14.38%
VERIZON ~875MHz	0.0211	180'	0.583	3.6151%

As the table demonstrates, SCLP's proposed antennas would contribute 6.5409% of the ANSI standard for the cellular frequency range. Shown above, the total power density is 10.76% as calculated for a mixed frequency site.

Statutory Considerations. C.G.S. §16-50aa provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the Council shall issue an order approving such shared use." (C.G.S. §16-50aa(c)(1).

The shared use of the tower satisfied the criteria stated in C.G.S. §16-50aa as follows:

A. **Technical Feasibility**. The existing tower has been designed and constructed to be structurally sound and capable of supporting all the existing and proposed antennas. The proposed shared use of this tower therefore is technically feasible.

B. **Legal Feasibility**. Under C.G.S. §16-50aa, the Council has been authorized to issue an order approving the proposed-shared use of an existing facility. (C.G.S. §16-50aa(c)(1) This authority complements the Council's prior-existing authority under C.G.S. §16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. §16-50x(a) directs the Council to "give such consideration to other state laws and municipal regulations as it shall deem appropriate" on ruling of requests for the shared use of tower facilities. Under the authority vested in the Council by C.G.S. §16-50aa, order by the Council approving the shared use would permit the applicant to obtain a building permit for the proposed installation.

C. **Environmental Feasibility**. The proposed shared use would have a minimal environmental effect, for the following reasons:

1. The proposed antenna installation would have an insignificant incremental visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics in or around the tower site. In particular, the proposed installation would not increase the height of the existing tower, and would be within Sprint Sites USA's existing leased boundaries of the tower site.