STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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

November 15, 2000

J. Brendan Sharkey, Esq.
VoiceStream Wireless Corporation
100 Filley Street
Bloomfield, CT 06002

RE: **TS-VOICESTREAM-124-001030** - VoiceStream Wireless Corporation request for an order to approve tower sharing at an existing telecommunications facility located at Progress Avenue, Seymour, Connecticut.

Dear Attorney Sharkey:

At a public meeting held November 14, 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 October 30, 2000.

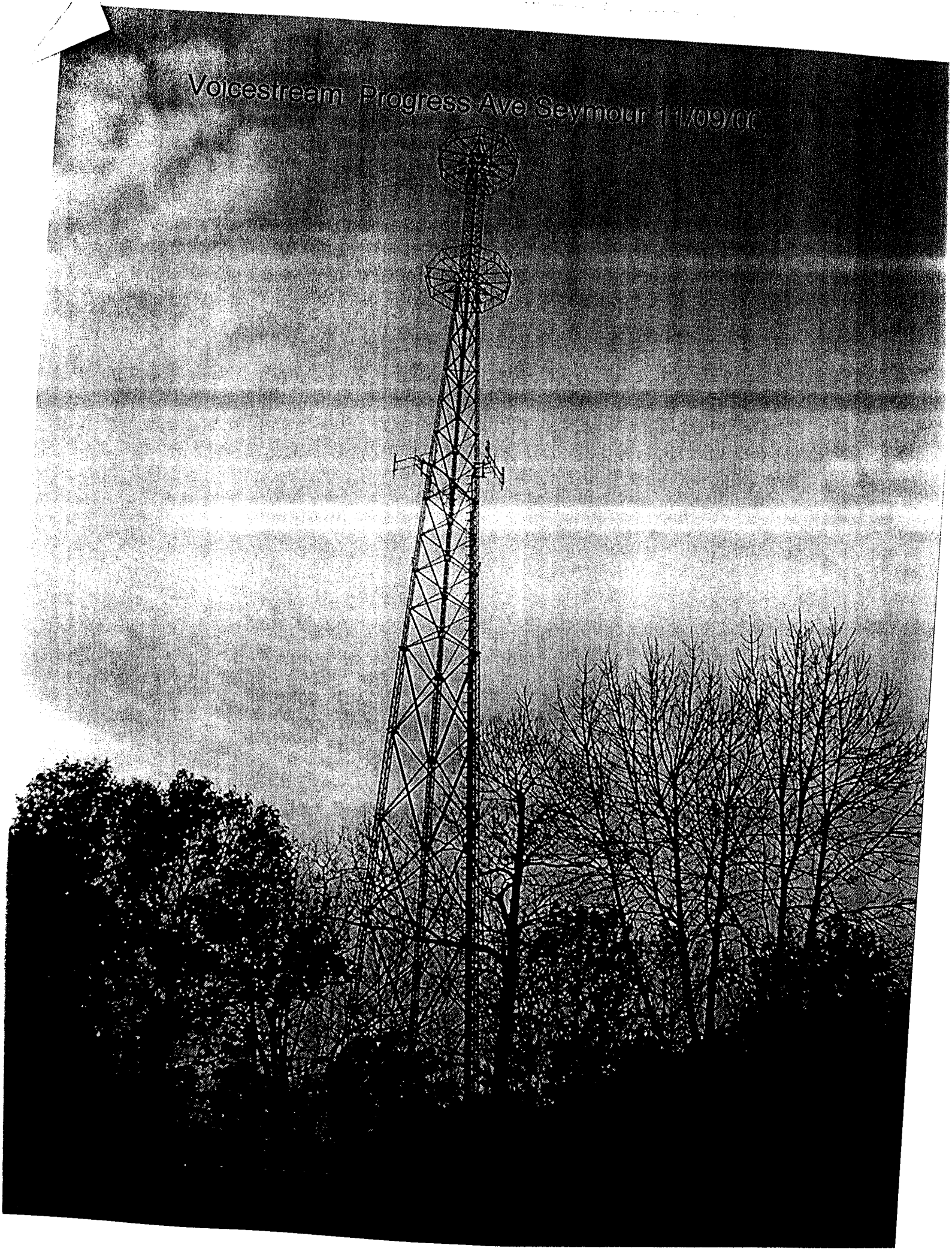
Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/RKE/laf

c: Honorable Scott A. Barton, First Selectman, Town of Seymour
Edward H. MacConnie
Julie M. Cashin, Esq., Hurwitz & Sagarin LLC


Voicestream Progress Ave Seymour 11/09/0

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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

November 3, 2000

Honorable Scott A. Barton
First Selectman
Town of Seymour
Town Hall
One First Street
Seymour, CT 06483

RE: **TS-VOICESTREAM-124-001030** - VoiceStream Wireless Corporation request for an order to approve tower sharing at an existing telecommunications facility located at Progress Avenue, Seymour, Connecticut.

Dear Mr. Barton:

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 November 14, 2000, at 11:00 a.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/RKE/laf

Enclosure: Notice of Tower Sharing

I:\siting\em\voicestream\seymour\barton.doc

TS- VoiceStream WIRELESS -124-001030

100 Filley Street, Seymour, CT 06002
(860) 692-7154 phone
(860) 692-7159 fax

30 October, 2000

Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
Seymour, CT 06051

Re: Request by VoiceStream Wireless for an Order to Approve the Shared Use of a Tower Facility
Progress Avenue, Seymour, Connecticut

Dear Chairman Gelston and Members of the Council:

Pursuant to Connecticut General Statutes §16-50aa, VoiceStream Wireless ("VoiceStream") hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed shared use by the applicant of an existing tower located at Progress Avenue in Seymour, Connecticut. The tower is privately owned and operated by Edward H. MacConnie. VoiceStream proposes to install antennas on the existing tower, and the equipment associated with this facility would be located near the base of the tower within the existing compound (see "Exhibit A"). VoiceStream requests that the Council find that the proposed shared use of the tower satisfies the criteria stated in §16-50aa and issue an order approving the proposed use.

Background

In February, 2000, VoiceStream acquired from Omnipoint Communications, Inc. the "A block" "Wideband PCS" license for the 2-GH_Z PCS frequencies for the Greater New York City area, including the entire State of Connecticut. VoiceStream provides PCS wireless telephone service in the State of Connecticut, which includes the area to be served by this proposed installation.

The tower on Progress Avenue in Seymour is a 280-foot lattice tower located on an approximately 60' x 60' or 3600 sq. ft. leased compound off Progress Avenue. The coordinates for the site are **41-23-30 N** and **73-03-12 W**. The tower currently holds Sprint's antennas with centerlines at 170 feet above ground level ("AGL"). At the top of the tower are receive-only whip antennas that are currently not functioning, and a future antenna installation is planned for the 235-foot level. VoiceStream and Mr. MacConnie have agreed to the proposed shared use of this tower pursuant to mutually acceptable terms and conditions, and Mr. MacConnie has authorized VoiceStream to act on his behalf to apply for all necessary local, state and federal permits and authorizations which may be required for the proposed shared use of this facility.

VoiceStream proposes to install twelve (12) EMS RR 90-1702 DP antennas with centerlines at the 250-foot level. The radio transmission equipment associated with these antennas, a Nortel S8000 cabinet, would be located near the base of the tower on an existing concrete pad. Exhibit B contains specifications for the proposed antennas and equipment cabinet.

C.G.S. §16-50aa (c) (1) 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." The shared use of the tower satisfies those criteria as follows:

A. **Technical Feasibility** - The existing tower was designed to accommodate multiple carriers, and VoiceStream is the second carrier to propose co-location (in addition to the non-functioning whip antennas at the top). A structural analysis of the tower with the proposed VoiceStream installation has been performed and is attached as Exhibit C. 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 orders approving the proposed shared use of an existing tower facility such as the facility on Progress Avenue in Seymour. 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) vests exclusive jurisdiction over these facilities in the Council, which shall "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing towers facilities. Under this statutory authority vested in the Council, 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. In particular, the proposed installations would not increase the height of the existing tower, and would not extend the boundaries of the existing compound area.

2. The proposed installations would not increase the noise levels at the existing facility by six decibels or more.

3. Operation of antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the American National Standards Institute ("ANSI"). The "worst-case" exposure calculated for operation of this facility (i.e., calculated at the base of the tower, which represents the closest publicly accessible point within the broadcast field of the antennas), with the Sprint and VoiceStream antennas, would be 7.35% of the ANSI standard. These calculations are attached as Exhibit D.

4. The proposed installations, would not require any water or sanitary facilities, or generate air emissions or discharges to water or sanitary facilities, or generate air emissions or discharges to water bodies. After construction is complete (approximately two weeks), the proposed installations 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.

E. Economic Feasibility As previously mentioned, Mr. MacConnie and VoiceStream have entered into a mutual agreement to share the use of the existing tower on terms agreeable to the parties. The proposed tower sharing is therefore economically feasible.

F. Public Safety Concerns As stated above, the existing tower is structurally capable of supporting the proposed VoiceStream antennas. The tower stands on a compound accessible from an existing access drive off Progress Avenue. VoiceStream is not aware of any other public safety concerns relative to the proposed sharing of the existing tower. In fact, the provision of new or improved phone service through shared use of the existing tower will enhance the safety and welfare of area residents.

Conclusion

For the reasons discussed above, the proposed shared use of the existing tower facility at Progress Avenue in Seymour, Connecticut satisfies the criteria stated in C.G.S. §16-50aa, and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of towers in Connecticut. VoiceStream therefore requests that the Siting Council issue an order approving the proposed shared use of this tower.

Thank you for your consideration of this matter.

Sincerely,

J. Brendan Sharkey
for VoiceStream Wireless, Inc.

Attachments
cc: Scott Barton, First Selectman, Town of Seymour

Exhibit A

Design Drawings

Progress Avenue

Seymour, CT

VoiceStream WIRELESS
100 FILLEY STREET
BLOOMFIELD, CT. 06002
PHONE (860) 242-7780
FAX (860) 242-7784

PROJECT INFORMATION:
SEYMOUR
CT-11-332
ED MACONNIE
PROGRESS AVE.
SEYMOUR, CT. 06483
NEW HAVEN COUNTY

CURRENT ISSUE DATE: 09/26/00

ISSUED FOR: LEASE EXHIBIT

REV.	DATE	DESCRIPTION	BY
B	10/4/00	REVISED PER MARK UP	KT
A	09/26/00	ISSUED FOR LEASE EXHIBIT	KT

PLANS PREPARED BY:
SCIENTECH.
44 SHELTER ROCK RD.
DANBURY, CT 06810
TEL: 203-746-5900
FAX: 203-746-5272

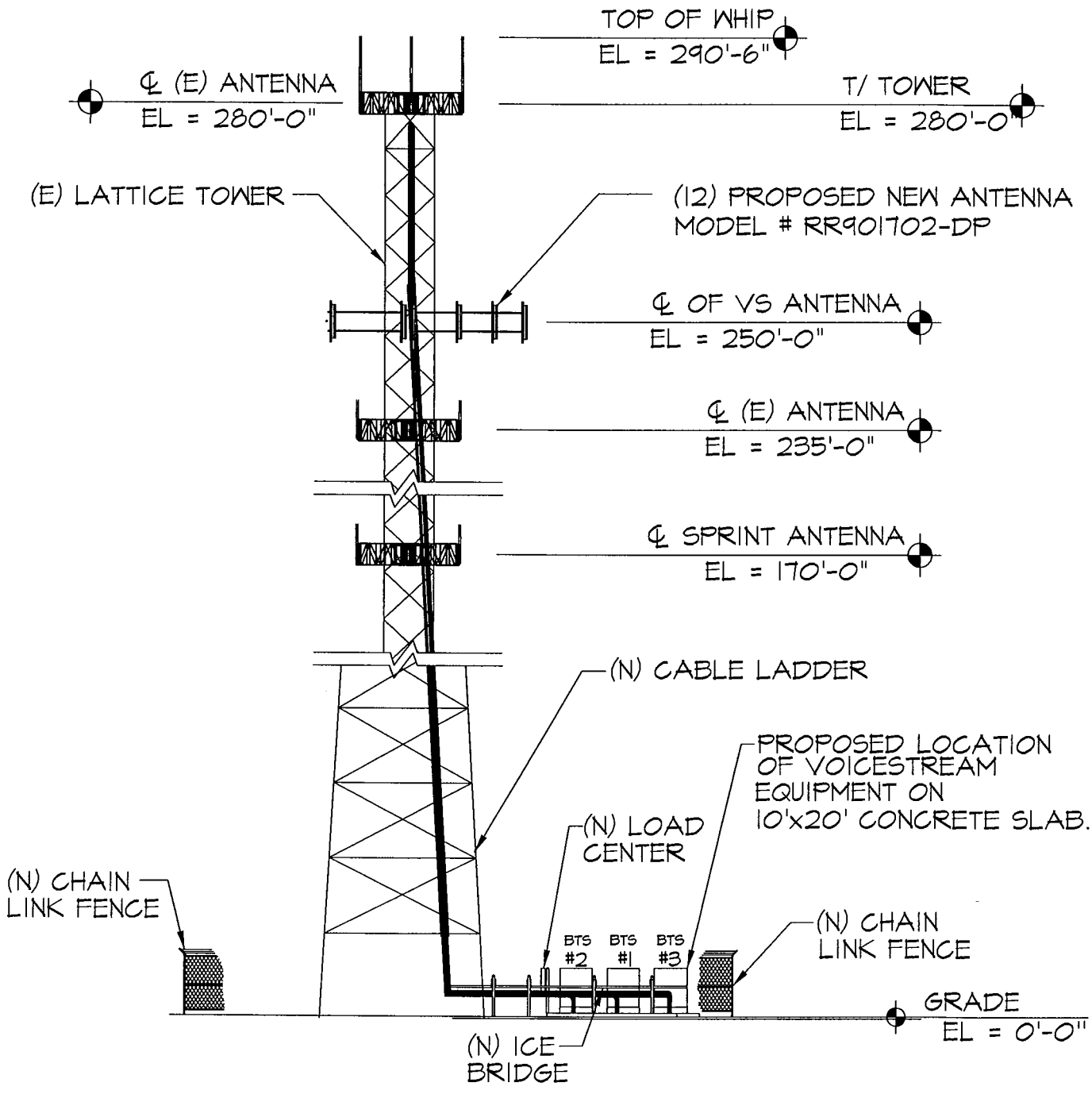
APPROVALS:
PROPERTY OWNER
ZONING
CONSTRUCTION
OPERATIONS
RF
NETWORK
CONTRACTOR

DRAWN BY: RG | CHK.: XXX | APV.: XXX

LICENSURE:

SHEET TITLE: ELEVATION

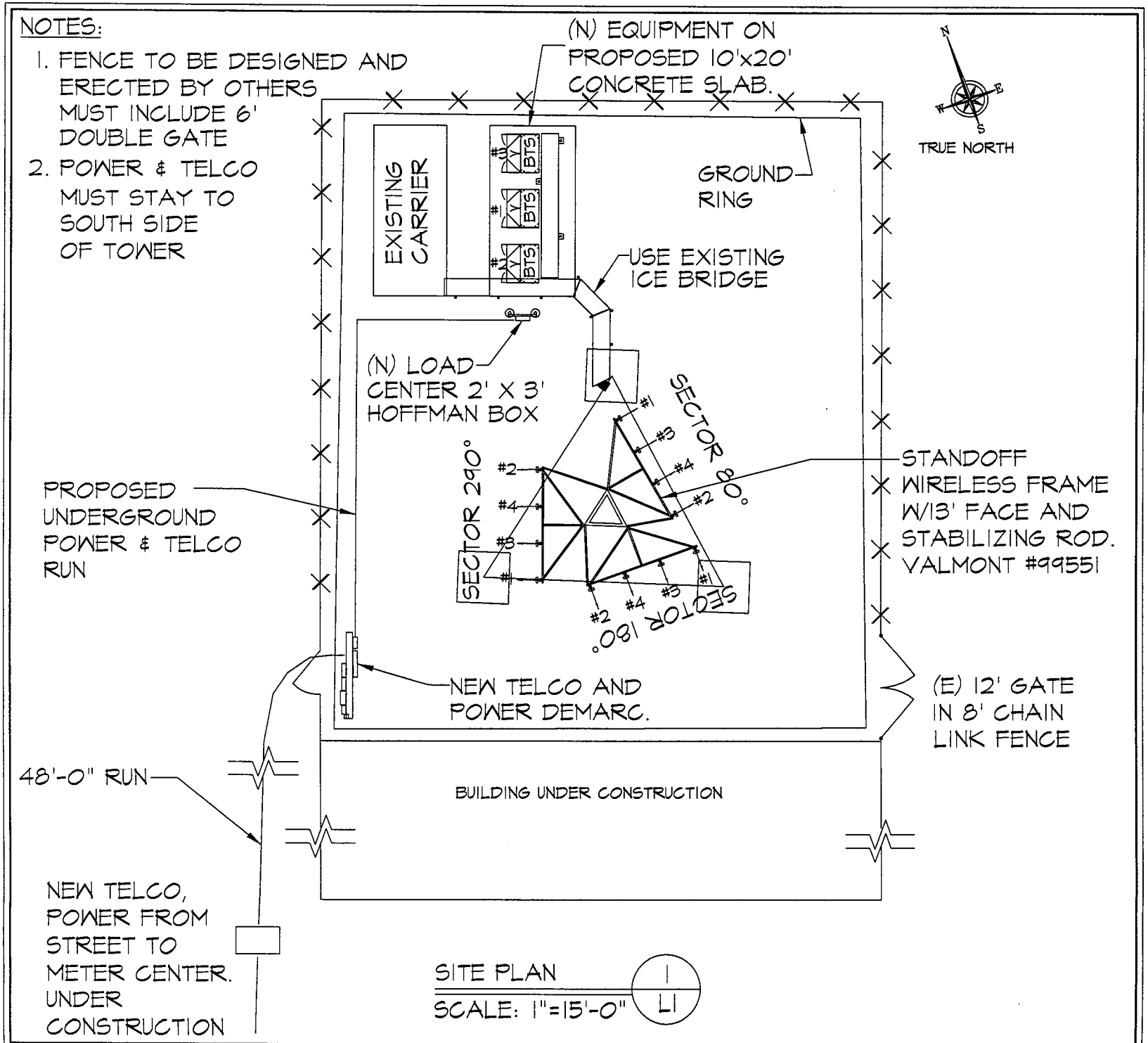
SHEET NUMBER: L2 | REVISION: B | 17193-0014



EAST ELEVATION (LOOKING WEST) 1/L2

NOTES:

1. FENCE TO BE DESIGNED AND ERECTED BY OTHERS MUST INCLUDE 6' DOUBLE GATE
2. POWER & TELCO MUST STAY TO SOUTH SIDE OF TOWER



SITE PLAN — L1

SCALE: 1"=15'-0"

VoiceStream WIRELESS
100 FILLEY STREET
BLOOMFIELD, CT. 06002
OFFICE: (860) 242-7150
FAX: (860) 242-7154

PROJECT INFORMATION:

SEYMOUR
CT-11-332A
PROGRESS AVE
SEYMOUR, CT. 06483
NEW NAVEN COUNTY

CURRENT ISSUE DATE:

09/26/00

ISSUED FOR:

LEASE EXHIBIT

REV.	DATE	DESCRIPTION:	BY:
A	09/26/00	ISSUED FOR LEASE EXHIBIT	KT

PLANS PREPARED BY:

SCIENTECH.
44 SHELTER ROCK RD.
DANBURY, CT 06810
TEL: 203-796-5300
FAX: 203-796-5272

APPROVALS:

PROPERTY OWNER
ZONING
CONSTRUCTION
OPERATIONS
RF
NETWORK
CONTRACTOR

DRAWN BY:	CHK.:	APV.:
XXX	XXX	XXX

LICENSURE:

SHEET TITLE:

LEASE EXHIBIT

SHEET NUMBER:	REVISION:
L1	A

17193-0014

Exhibit B

Equipment Specifications

Progress Avenue

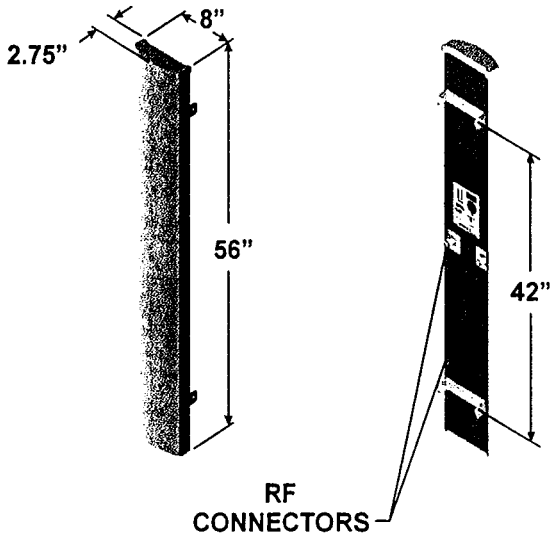
Seymour, CT

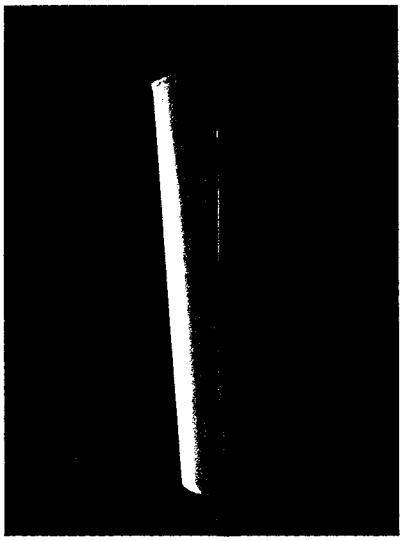
EMS WIRELESS

OptiRange™

RR90-17-XXXP

1850 MHz - 1990 MHz (P)





90° beamwidth

16.5 dBi gain

±45° DualPol™

56 inch

SPECIFICATIONS

Electrical

Azimuth Beamwidth	90°
Elevation Beamwidth	6°
Gain	16.5 dBi (14.4 dBd)
Polarization	Slant, ±45°
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2;Type N or 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	<-147 dBc (2 tone @ +43 dBm {20W} ea.)
Lightning Protection	Chassis Ground

Mechanical

Dimensions (L x W x D)	56in x 8in x 2.75in (142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3.1ft (.29 m)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31 lbs (139 N)
Weight	18 lbs (8.2 kg)

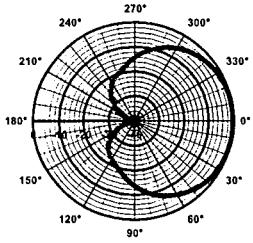
Note: Patent Pending and US Patent number 5, 757, 246.

Values and patterns are representative and variations may occur. Specifications may change without notice due to continuous product enhancements. Digitized pattern data is available from the factory or via the web site www.emswireless.com and reflect all updates.

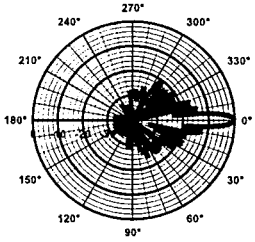
MOUNTING OPTIONS

Model Number	Description	Comments
MTG-P00-10	Standard Mount (Supplied with antenna)	Mounts to Wall or 1.5 inch to 5.0 inch O.D. Pole (3.8 cm to 12.7 cm)
MTG-S02-10	Swivel Mount	Mounting kit providing azimuth adjustment.
MTG-DXX-20*	Mechanical Downtilt Kits	0° - 10° or 0° - 15° Mechanical Downtilt
MTG-CXX-10*	Cluster Mount Kits	3 antennas 120° apart or 2 antennas 180° apart
MTG-C02-10	U-Bolt Cluster Mount Kit	3 antennas 120° apart , 4.5" O.D. pole.
MTG-TXX-10*	Steel Band Mount	Pole diameters 7.5" - 45"

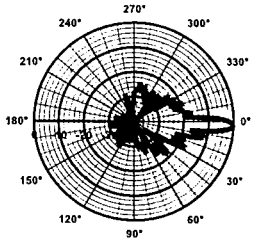
* Model number shown represents a series of products. See mounting options section for specific model number.



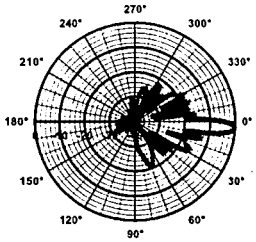
Azimuth



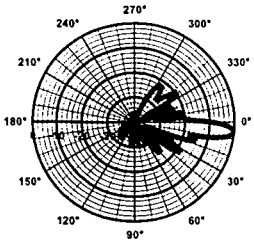
Elevation
0° Downtilt



Elevation
2° Downtilt



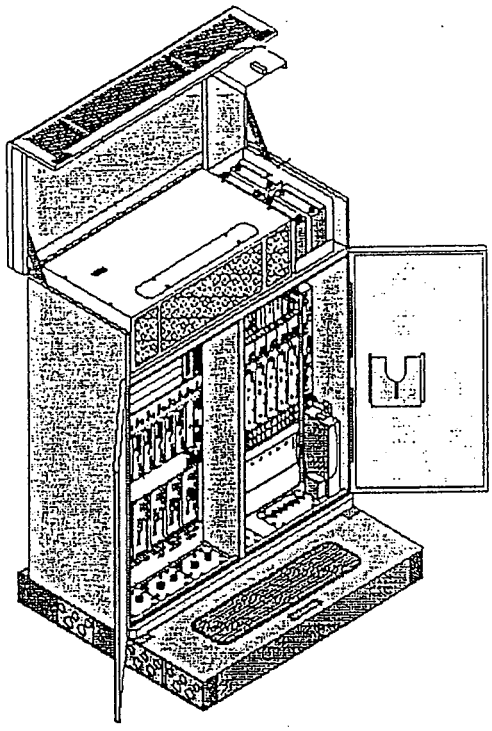
Elevation
4° Downtilt

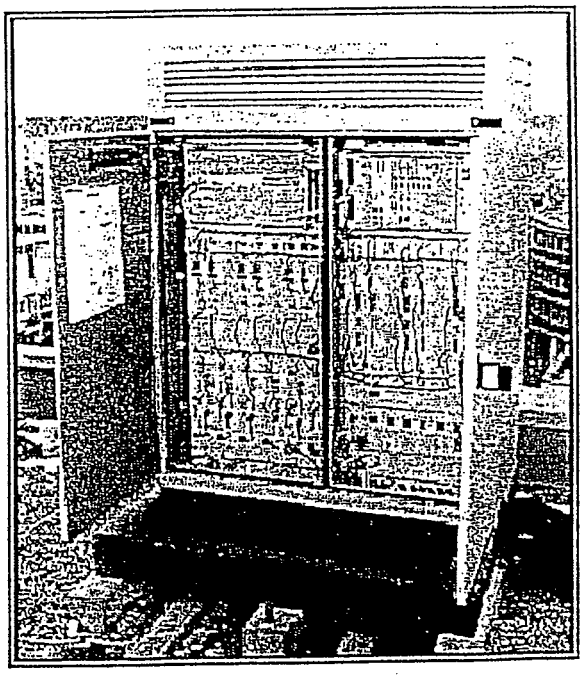


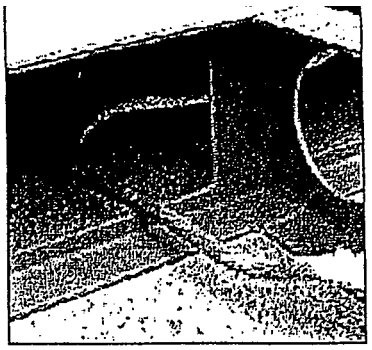
Elevation
6° Downtilt

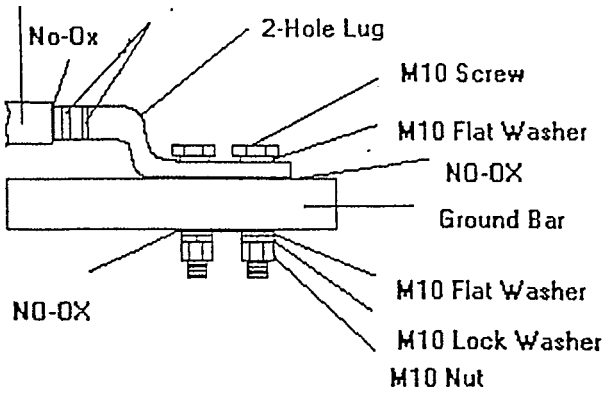
NORTEL NETWORKS™

S8000 BTS
Site Specifications









Apply a light coating of No Oxidation (NO-OX) to the ground bar area.

Dimensions, Weights & Clearances

BTS

Weight: 915 pounds
Dimensions: 53.2"W x 26"D x 63"H

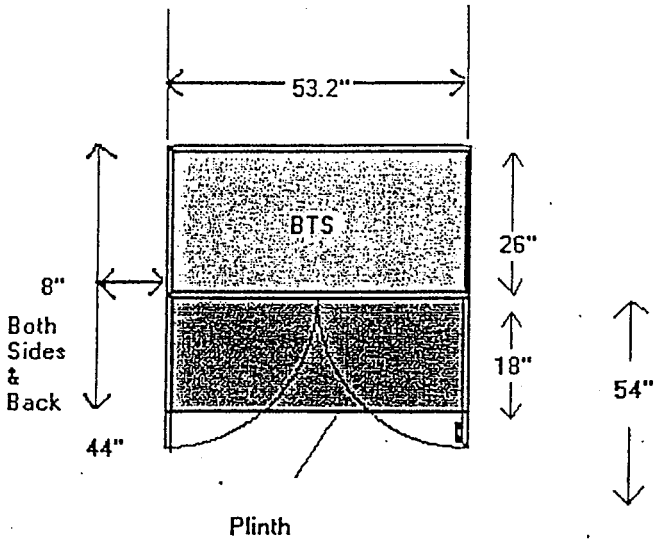
Clearances while transporting in building:
- Door Access:
  - Height: 6.6 feet
  - Width 3 feet
- Corridor Access:
  - Height: 6.6 feet
  - Width: 3.6 feet (straight), 6.6 feet (right angle)

Clearances when installed:
- Above: 28 inches for opening of hood
- Rear: 8 inches for installation of outer skin
- Sides: 8 inches for adjustment of door hinges
- Front: 54 inches to open door and technician access

Plinth

Weight:
87 pounds

Dimensions:
53.2"W x 44"D x 10.2"H



Plinth

Floor Characteristics

Minimum Floor Resistance:
123 pounds/foot^2

Flatness:
¼ inch over 78 inches

Electrical Specifications

Split Single-Phase

3 wires plus ground

L1: Black 6 gauge

L2: Red 6 gauge

Neutral: White 6 gauge

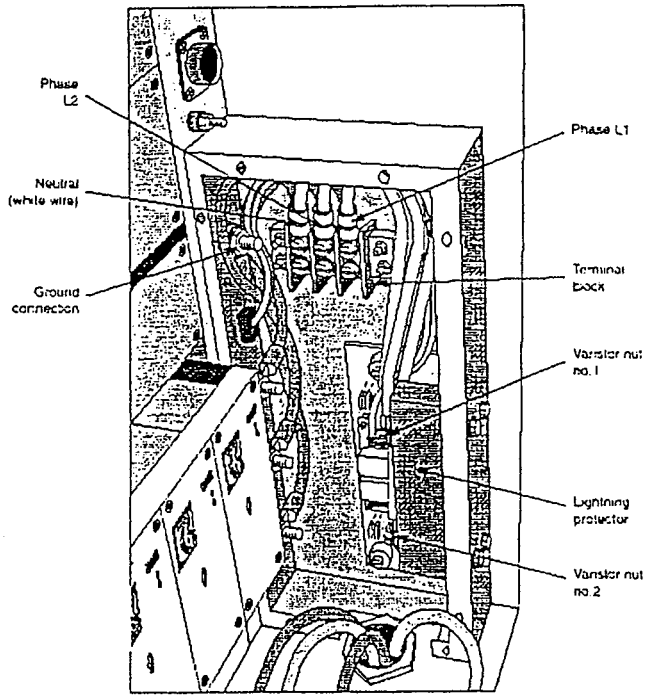
Ground: Yellow/Green 6 gauge

Maximum distance between AC box and BTS: 105 feet

187 ~ 254 VAC between L1 and L2

99 ~ 127 VAC between Neutral and L1 or L2

45 ~ 65 Hertz



AC connection to BTS located at the front, lower, right-hand side of BTS

Circuit Breaker in AC Box

Up to 4 transmitters

30 A, bipolar, C curve

5 or more transmitters

40A, bipolar, C curve

BTS to Ground connection

Minimum 2 AWG, run in most direct route as possible towards true earth, minimizing bends. No bend shall be less than 90 degrees.

Exhibit C

Structural Analysis

Progress Avenue

Seymour, CT

CT-11-332-A

AMB

AMB ENGINEERING, INC.

Ara M. Baltayan, P.E.

President

P.O. Drawer AMB
Amity Station
New Haven, CT 06525-0135

(203) 397-2713
Fax: (203) 389-4069

September 30, 2000

Scientech Inc.
44 Shelter Rock Road
Danbury CT 06810

Attention: Mr. Thomas Keenan, V.P. of Communications

Re: Review/Evaluation and Certification of 12 VoiceStream Antennas mounted
At 250' Elevation on a tower located on Progress Avenue, Seymour, Connecticut
Scientech Project: 17193-0014.

Dear Mr. Keenan:

Per your request I reviewed the specifications and drawings provided by Scientech for the above referenced installation of Voicestream antennas on a 280' Pirod tower in Seymour presently under construction.

Drawing No. 206292-B by the tower manufacturer Pirod Inc. indicates that the design conforms to the Nationally accepted Standard EIA/TIA-222-F for a 90 MPH basic wind with no ice loading and for a wind speed reduced by 25 percent when 0.5" radial ice loading is applied.

The specifications also consider the base reactions on this 280' tower when the following antennas, their mounting hardware and feeder cables are mounted as follows:

30 Antel BCD8707 antennas on a 9-arm Halo mount with cables mounted at 235'
30 Antel BCD8707 antennas on a 9-arm Halo mount with cables mounted at 280'
9 Decibel DB9804 antennas on three T-frames with cables mounted at 200'

This certification is for this tower loaded with only the following antennas:

12 VoiceStream antennas in groups of four antennas per frame mounted at 80°, 180° and 290° respectively as shown on attached diagram and Full Product Specs RR90-17-XX_P. The design specifies 1-5/8" feed lines. These antennas will be located at 250' elevation.

9 Sprint antennas located at 170' elevation.

Scientech Inc.

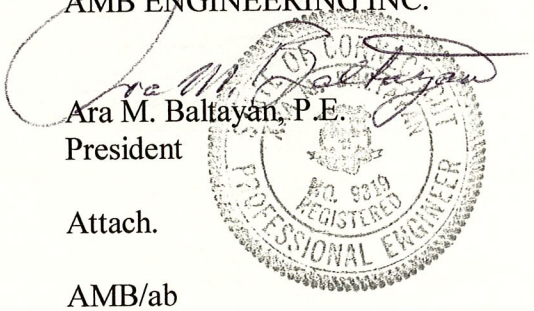
Since only 1 antenna instead of the 30 antennas are presently installed at elevations and 235' and 280' and the 9 Decibel antennas are mounted at 170' instead of the design elevation of 200' there will be a reduction in weight and wind resistance as a result of these changes. The additional weight and moment created by the proposed installation of 12 VoiceStream antennas will be compensated by the above reductions.

It is therefore my professional opinion, that the proposed attachments to the tower under construction will meet the design criteria of the tower under construction. This certification applies only to the above proposed antenna installations. The installation of any additional antennas or attachment to the tower shall be subject to re-evaluation and certification.

Please feel free to call if you need additional information or support.

I appreciate the opportunity to be of service to Scientech in this and future projects.

Sincerely,
AMB ENGINEERING INC.



Ara M. Baltayan, P.E.
President

Attach.

AMB/ab

Filename:scient1.doc

Exhibit D

Power Density Calculations

Progress Avenue

Seymour, CT

VOICESTREAM WIRELESS CORPORATION
100 Filley St, Bloomfield, CT 06002-1853
Phone: 860-692-7124
Fax: (860) 692-7159

Technical Memo

To:
From: **Samson Bockrai**
cc:
Subject: Power Density Report for CT-11-332
Date: 26-Oct-00

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the Voicestream Wireless Corporation PCS antenna installation on a Existing Lattice Tower at Progress Ave., Ceymour, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from several locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from Voicestream Wireless transmitters are in the 1930-1950 MHz frequency band.
2) The antenna cluster consists of three sectors, with 4 antennas per sector. The model number for each antenna is EMS-RR90-17-02DP.
3) The antenna height is 250 Feet center line.
4) The maximum transmit power from each sector is 1283.87 W Effective Isotropic Radiated Power (EiRP) assuming 8 channels per sector.
5) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
6) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
7) The average ground level of the studied area does not significantly change with respect to the transmitting location.

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worse case assumptions, the power density calculations from the VoiceStream Wireless Corporation, PCS antenna installation are on the order of 1,000 to 10,000 times less then the FCC/ANSI/IEEE C95.1-1991 standard of 1000 microwatts per square centimeter (uw/cm2). Details are shown in the attachment. Furthermore, the proposed antenna location for VoiceStream Wireless Corporation on the Existing Lattice Tower at Progress Ave., Ceymour, CT will not interfere with existing public safety telecommunications, AM band, and FM band radio broadcast, TV, Police Communication, HAM radio communications and other signals in the area.

Worst Case Power Density

Region 11 - Connecticut
Power Density Calculation

Site: CT-11-332
Site Address: Progress Ave.
Town: Ceymour
Pole Height: 250FT
Tower Style: Existing Lattice Tower

Base Station TX output	20	W
Number of channels	8	
Antenna Model	EMS-RR90-17-02DP	
Cable Size	7/8	"
Cable Length	260.0	ft
Antenna Height	250.0	ft
Ground Reflection	1	
Frequency	1930.00	MHz
Jumper & Connector loss	2.62	dB
Antenna Gain	16.5	dBi
Cable Loss per foot	0.0186	Loss per/ft
Total Cable Loss	4.836	dB
Total Attenuation	7.456	dB
Total EIRP per channel	52.05	dB
(In Watts)	160.48	W
Total EIRP per sector	61.09	dB
(In Watts)	1283.87	W
nsg	9.044	
Power Density (S) =	**0.004507**	**mW / cm^2**
% MPE =	**0.4507%**	
Sprints calculated %MPE @ Base of the tower = 6.9%		
Total % MPE =	**7.35%**	

Equation Used :

$$S = \frac{(1000)(grf)^2(Power)*10^{(nsg/10)}}{4\pi (R)^2}$$