

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Web Site: www.state.ct.us/csc/index.htm

September 3, 2003

Stephen J. Humes
LeBoeuf, Lamb, Greene & MacRae
Goodwin Square
225 Asylum Street
Hartford, CT 06103

RE: **EM-T-MOBILE-045-030616** - Omnipoint Communications, Inc., notice of intent to modify an existing telecommunications facility located at 93 Roxbury Road, East Lyme, Connecticut.

Dear Attorney Humes:

At a public meeting held on August 26, 2003, 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 with the conditions that the tower be reinforced as per the recommendations of the structural analysis and that an engineer certify to the Council the nature and successful completion of such reinforcements.

The proposed modifications are to be implemented as specified here and in your notice dated June 16, 2003. 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 Wayne L. Fraser, First Selectman, Town of East Lyme
L. Jean Davies, Town Planner Town of East Lyme
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels
Thomas F. Flynn III, Nextel Communications

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.

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CONNECTICUT
SITING COUNCIL

June 16, 2003

EM-T-MOBILE-045-030616

Pamela Katz, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Notice of Exempt Modification
93 Roxbury Road, East Lyme, Connecticut

Dear Chairman Katz and Members of the Council:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc. (hereinafter T-Mobile) in the above-referenced matter. T-Mobile intends to remove its one existing antenna and replace it with nine new antennas on the existing lattice tower facility in East Lyme. Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to East Lyme First Selectman Wayne Fraser.

Background

T-Mobile holds the "A block" "Wideband PCS" license for the 2-GHz PCS frequencies for the greater New York City area, including the entire State of Connecticut. T-Mobile is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation.

Discussion

The existing facility consists of a one hundred fifty foot (150'-0") lattice tower (see design drawing 3, A-1 attached as Exhibit B) and surrounding compound. The coordinates for the site are **Lat: 41.33358** and **Long: 72.22194**. The tower is on the north side of Roxbury Road, approximately forty-three hundred feet (4,300') southeast of Exit 73 of Interstate 95 and roughly one mile north of State Route 156 in the southern portion of East Lyme (see site location map, attached as exhibit A). The site is located on property of the Town of East Lyme landfill and is accessed from that property.

T-Mobile proposes to add nine (9) panel antennas to replace its single antenna setup, creating an antenna array with a total of nine (9) antennas. The proposed configuration is a cluster of three sectors with three antennas per sector mounted on twelve foot sector mounts at the one hundred three foot (103') centerline above ground level ("AGL"). A structure elevation is shown as part of Exhibit B. The model number for the replacement antennas is EMS-RR90-17-02DP. A new structural analysis and design calculations of the tower has been completed and is attached as Exhibit D. As stated in the structural analysis, the existing tower structure requires reinforcement consisting of additional horizontal bracing added to the forty-foot to sixty-foot (40' – 60') section of the tower in order to support the proposed T-Mobile installation. Three (3) new Nortel S8000 equipment cabinets will be installed on two (2) five-foot by ten-foot (5' x 10') concrete pads. One existing Nortel S8000 equipment cabinet will be removed (see pad detail on drawing 1, A-1 attached as part of Exhibit B). A proposed T-Mobile cable bridge would be installed above (not attached to) an existing cable bridge. T-Mobile's existing ice bridge would be removed. The proposed T-Mobile ground equipment would be within a new, reconfigured leased area to accommodate the new equipment cabinets. The existing fenced compound will not be altered in any way by the T-Mobile's installation; however, new material will be put down to level off the T-Mobile work area (compound detail shown on drawing 1, A-1). Utilities will be run via underground conduit from those currently in place.

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

1. The proposed modification will not increase the height of T-Mobile's approved antennas on the tower and will not extend the boundaries of the existing compound area. The enclosed tower drawings confirm that the planned changes will not increase the overall height of the tower.
2. The installation of T-Mobile equipment, as reflected on the attached site plan, will not require an extension of the site boundaries.
3. The proposed modification to the facility will not increase the noise levels at the existing facility by six decibels or more. T-Mobile's equipment is self-contained and requires no additional heating, ventilation or cooling equipment.
4. The operation of the additional antennas will not increase the total radio frequency (RF) power density, measured at the site boundary, to a level at or above the

applicable standard. The "worst-case" RF power density calculations, for a point at the site boundary, are attached hereto as Exhibit F.

For the foregoing reasons, T-Mobile respectfully submits that the proposed addition of antennas and equipment at the East Lyme facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Thank you for your consideration of this matter.

Respectfully submitted,

OMNIPPOINT COMMUNICATIONS, INC.

By: _____


Its Counsel

Stephen J. Humes

cc: First Selectman Wayne Fraser

Exhibit A
Site Map
93 Roxbury Road
East Lyme, Connecticut

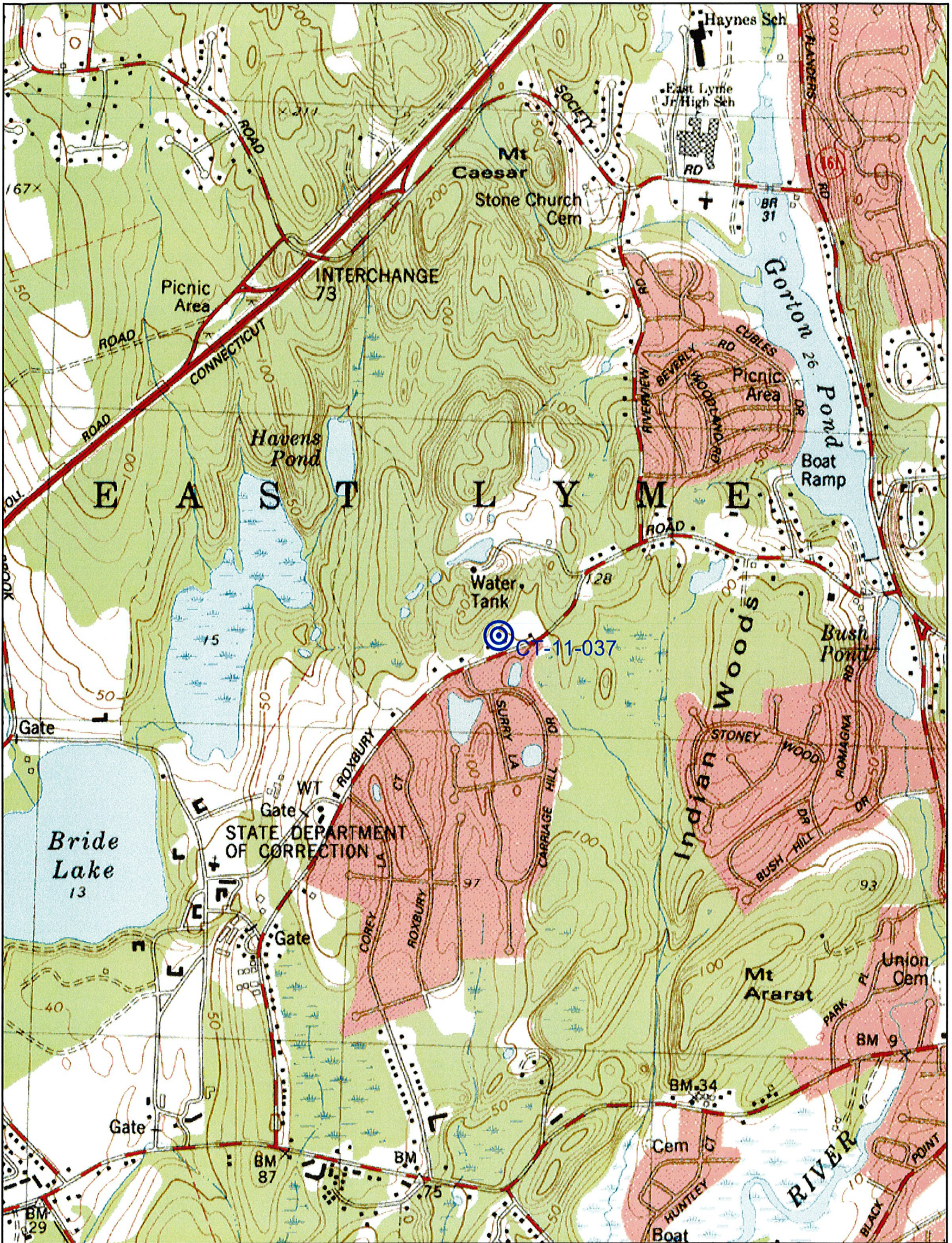
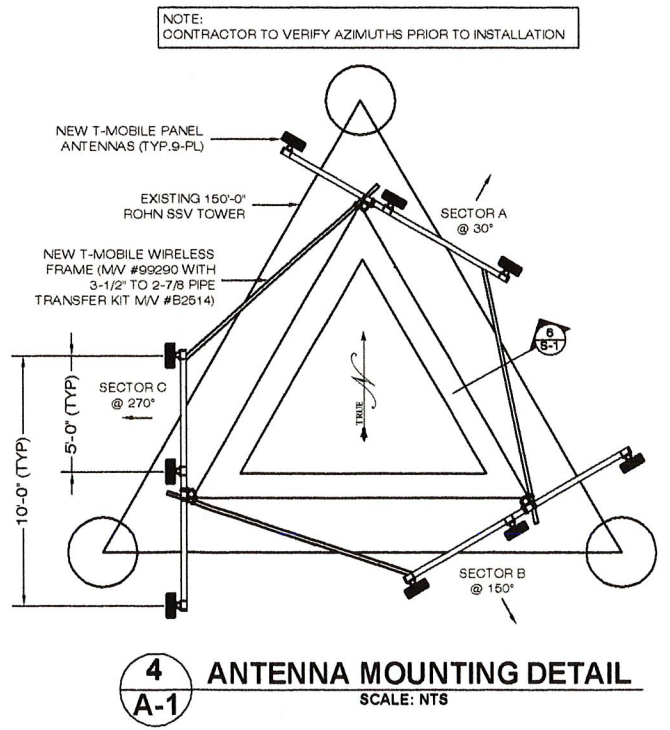
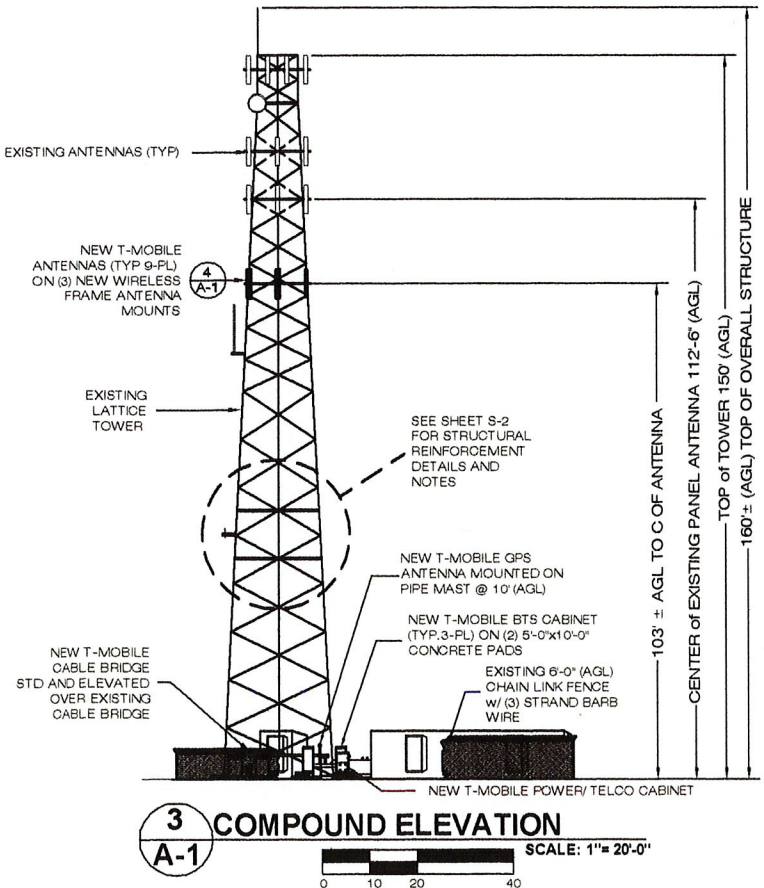
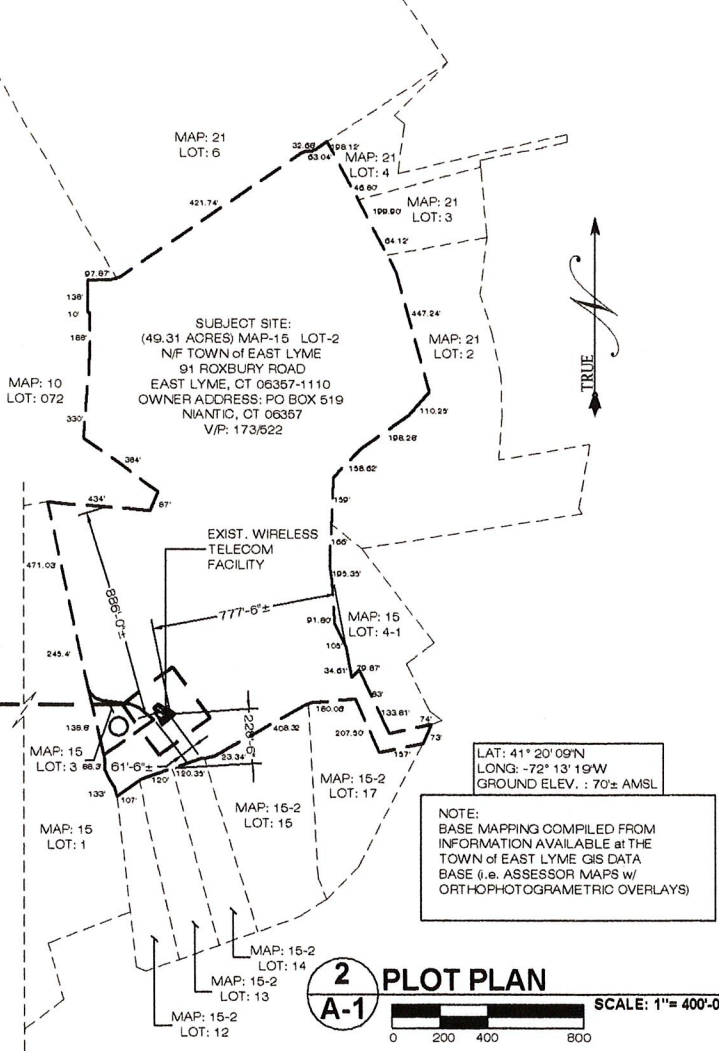
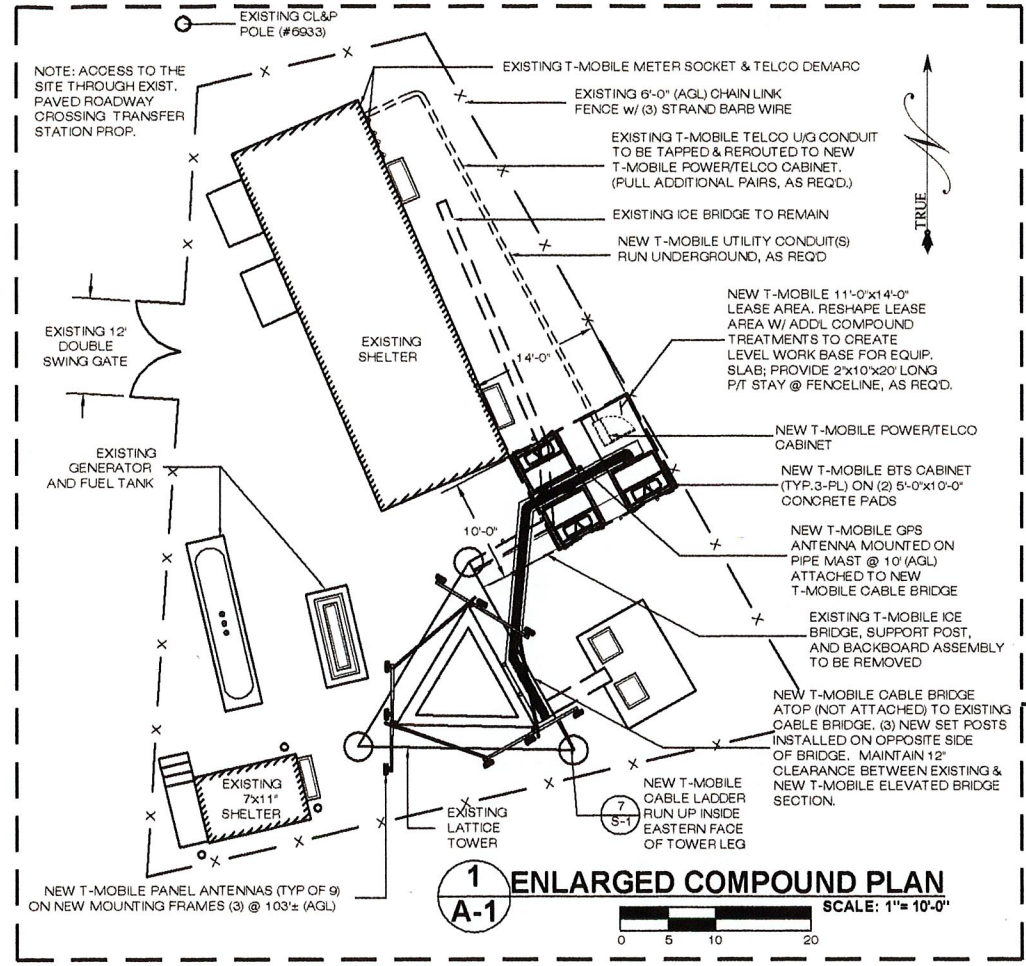


Exhibit B
Design Drawings
93 Roxbury Road
East Lyme, Connecticut



NOTES

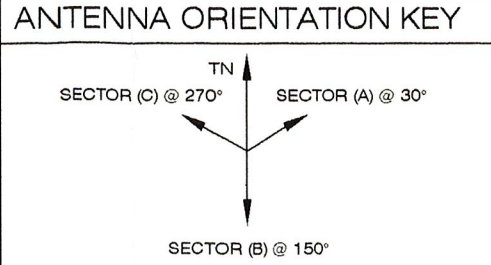
- 1) ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS & ELEVATIONS WHICH EFFECTS THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS w/ OWNER PRIOR TO CONSTRUCTION.
- 2) NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY TRUE NORTH & INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.
- 3) THE GENERAL CONTRACTOR and/or HIS SUB CONSULTANT SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS & INSPECTIONS WHICH MAY BE REQ'D FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTRY or LOCAL GOVERNMENT AUTHORITY.
- 4) ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY & ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES & SUPPORT STRUCTURES.
- 5) COAXIAL CABLE CONNECTORS & TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE OWNER & IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE ATTACHMENT K). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
- 6) ANY EQUIPMENT THAT IS TO BE PAINTED SHALL BE PAINTED TO MATCH EXISTING. PAINT SHALL BE SHERWIN WILLIAMS, COROTHANE II. SURFACE PREPARATION & APPLICATION SHALL BE IN ACCORDANCE w/ MANP'S SPECIFICATIONS & T-MOBILE GUIDELINES.
- 7) COORDINATION, LAYOUT, & FURNISHING OF CONDUIT, CABLE & ALL APPURTENANCES REQ'D FOR PROPER INSTALLATION OF ELECTRICAL & TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 8) EQUIPMENT WILL BE INDEPENDENTLY POWERED w/ SEPARATE METER.
- 9) PRIOR TO EXCAVATION NEAR TOWER, CONTRACTOR TO CONTACT & COORDINATE w/ PROPERTY OWNER.
- 10) ALL ACTIVE SEWER, WATER, GAS, ELECTRIC, & OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, & WHERE REQ'D FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING or PIER DRILLING AROUND or NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
- 11) ALL INACTIVE SEWER, WATER, GAS, ELECTRIC & OTHER UTILITIES, WHICH INTERFERE w/ THE EXECUTION OF THE WORK, SHALL BE REMOVED and/or CAPPED, PLUGGED or OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE w/ THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERING.
- 12) THE AREAS OF THE PROPERTY DISTURBED BY THE WORK & NOT COVERED BY THE EQUIPMENT, DRIVEWAY or GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEED & COVERED w/ MULCH.
- 13) THE CONTRACTOR SHALL ESTABLISH & MAINTAIN SOIL EROSION & SEDIMENTATION CONTROLS AT ALL TIMES DURING CONSTRUCTION.
- 14) ALL UTILITY WORK SHALL BE IN ACCORDANCE w/ LOCAL UTILITY COMPANY REQUIREMENTS & SPECIFICATIONS.
- 15) PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE REQ'D TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. T-MOBILE IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT & ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO or MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. T-MOBILE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO (E911) EQUIPMENT & LOCATION as TECHNOLOGY EVOLVES TO MEET REQ'D SPECIFICATION.

ABBREVIATIONS

SF	SQUARE FOOT	ADJ	ADJUSTABLE
APPROX	APPROXIMATE	SHT	SHEET
CONC	CONCRETE	SIM	SIMILAR C CONDUIT
CONT	CONTINUOUS	STL	STEEL
CJ	CONSTRUCTION JOINT	TOC	TOP OF CONCRETE
DIA	DIAMETER	TOM	TOP OF MASONRY
DWG	DRAWING	TYP	TYPICAL
EGB	EQUIPMENT GROUND BAR	VIF	VERIFY IN FIELD
EA	EACH	UON	UNLESS OTHERWISE NOTED
ELEC	ELECTRICAL	WWF	WELDED WIRE FABRIC
EL	ELEVATION	BTS	BASE TRANSMISSION STATION
EQ	EQUAL	w/	WITH
EQUIP	EQUIPMENT	LNA	LOW NOISE AMPLIFIER
EXT	EXTERIOR	PCS	PERSONAL COMM. SERVICES
FF	FINISHED FLOOR	A-1	ANTENNA MARK NO.
FG	FINISHED GRADE	&	AND
GA	GAUGE	@	AT
GALV	GALVANIZED	⊥	PERPENDICULAR
GC	GENERAL CONTRACTOR	PL	PLATE BAR
LG	LONG	MIN	MINIMUM
MAX	MAXIMUM	MTL	METAL
MECH	MECHANICAL	NIC	NOT IN CONTRACT
MFR	MANUFACTURER	NTS	NOT TO SCALE
MGB	MASTER GROUND	OC	ON CENTER
AGL	ABOVE GROUND LEVEL	OPP	OPPOSITE
ARL	ABOVE ROOF LEVEL		
AFL	ABOVE FLOOR LEVEL		

SYMBOLS AND MATERIALS

NEW ANTENNA	GRID OF PLASTER
EXISTING ANTENNA	BRICK
ASPHALT	MASONRY
NEW ACCESS EASEMENT	CONCRETE
CONCRETE	EARTH
ELECTRIC BOX	GRAVEL
LIGHT POLE	PLYWOOD
FND. MONUMENT	SAND
SPOT ELEVATION	WOOD CONT.
SET POINT	WOOD BLOCKING
REVISION	STEEL
GRID REFERENCE	CENTERLINE
DETAIL REFERENCE	PROPERTY LINE
ELEVATION	STEPPED FOOTING
	MATCH LINE
	WORK POINT
	GROUND WIRE
	COAXIAL CABLE



T-Mobile

100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
FAX: (860)-692-7159

ALL-POINTS TECHNOLOGY CORPORATION, P.C.

3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
PHONE: (860)-663-1697
FAX: (860)-663-0835
www.allpointstech.com

STATE OF CONNECTICUT
SCOTT M. CHASSIN
No. 15728
LICENSED PROFESSIONAL ENGINEER

APPROVALS

LANDLORD _____

LEASING _____

R.F. _____

ZONING _____

CONSTRUCTION _____

AE _____

PROJECT NO: CT-11-037-B

DRAWN BY: GWA

CHECKED BY: SMC

SUBMITTALS

0 06/14/03 CONSTRUCTION: GWA

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CT-11-037-B
NIANTIC I395 (UPGRADE)

91 ROXBURY ROAD
EAST LYME, CT 06357-1110

SHEET TITLE

PLOT & COMPOUND PLAN, ELEVATION & DETAILS

SHEET NUMBER

A-1

T-Mobile
 100 FILLEY STREET
 BLOOMFIELD, CT 06002
 OFFICE: (860)-692-7100
 FAX: (860)-692-7159

ALL-POINTS TECHNOLOGY CORPORATION, P.C.
 3 SADDLEBROOK DRIVE
 KILLINGWORTH, CT 06419
 PHONE: (860)-683-1697
 FAX: (860)-683-0835
 www.allpointstech.com



APPROVALS

LANDLORD _____
 LEASING _____
 R.F. _____
 ZONING _____
 CONSTRUCTION _____
 AE _____

PROJECT NO: CT-11-037-B

DRAWN BY: GWA

CHECKED BY: SMC

SUBMITTALS

NO.	DATE	DESCRIPTION
0	06/14/03	CONSTRUCTION: GWA

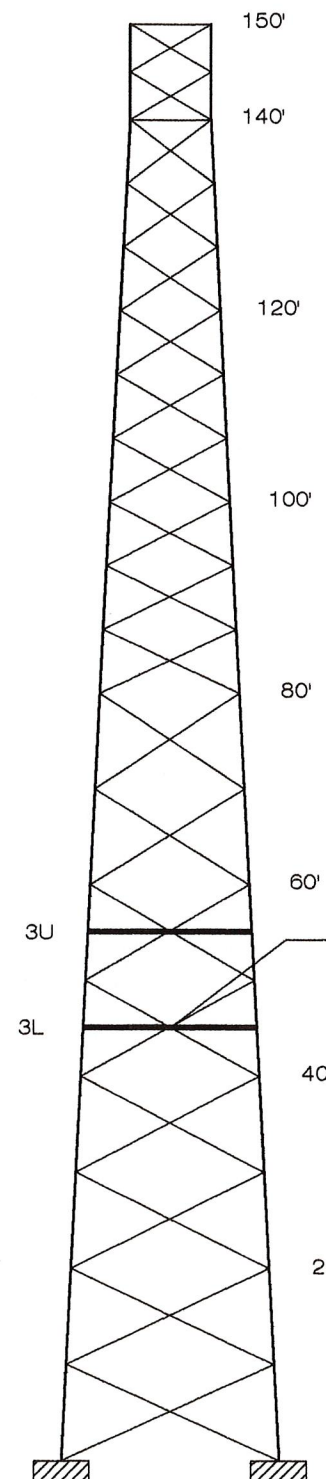
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**CT-11-037-B
 NANTIC 1395 (UPGRADE)**

81 ROXBURY ROAD
 EAST LYME, CT 06867-1110

SHEET TITLE
 STRUCTURAL REINFORCEMENT DESIGN & NOTES

SHEET NUMBER
 S-2

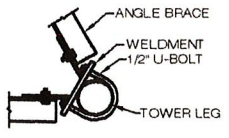


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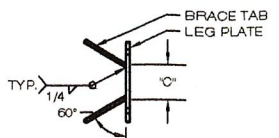
- Coordinate work to minimize disruption of existing facilities.
- Work may require temporary relocation of utilities/hangers.
- 'D' dimension shown is calculated based on information provided. Verify existing dimensions and conditions prior to fabrication. Bring discrepancies to the attention of the Engineer before proceeding with the affected work.
- Provide shoring or temporary bracing as required to complete the work.
- Details shown on any drawing are considered typical for all similar conditions unless otherwise noted.
- All structural steel work shall conform to the requirements of the American Institute of Steel Construction and all applicable building codes.
- Weld in accordance with AWS D1.1 using certified welders and E70XX electrodes.
- Structural steel shapes to be ASTM A36 steel.
- All bolts shall be galvanized ASTM Grade A325 with lock washers. Do not re-use bolts.
- Hot-dip galvanize per ASTM D123 after fabrication.
- Cold galvanize any field cut, welded, or drilled surfaces.

Brace No.	'D' Dim. *	Size
3L	17'-1"	L3 x 3 x 1/4
3U	16'-1"	L3 x 3 x 1/4

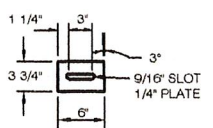
*See Note 3.



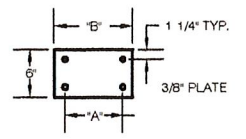
2 ASSEMBLY (6 REQ'D)
 S-2 SCALE: 1" = 1'-0"



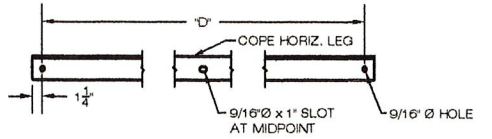
3 BRACKET WELDMENT (6 REQ'D)
 S-2 SCALE: 1" = 1'-0"



4 BRACE TAB (12 REQ'D)
 S-2 SCALE: 1" = 1'-0"



5 LEG PLATE (6 REQ'D)
 S-2 SCALE: 1" = 1'-0"



6 ANGLE BRACE (6 REQ'D)
 S-2 SCALE: 1" = 1'-0"

NOTE:
 U-Bolt number refers to ROHN part number - 2 required per assy.
 Refer to Sheet 1 for approximate 'D' dimension.

Assy Qty	Leg Size	U-Bolt	'A' Dim.	'B' Dim.	'C' Dim.
6	4" X-Sr.	JR 86A	5"	7 1/2"	3"

1 TOWER REINFORCEMENT PLAN
 S-2 SCALE: 1" = 10'-0"



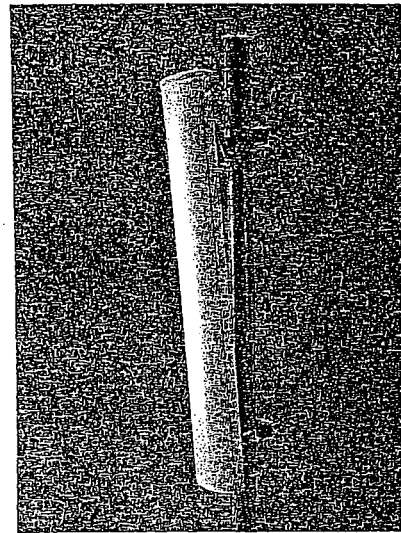
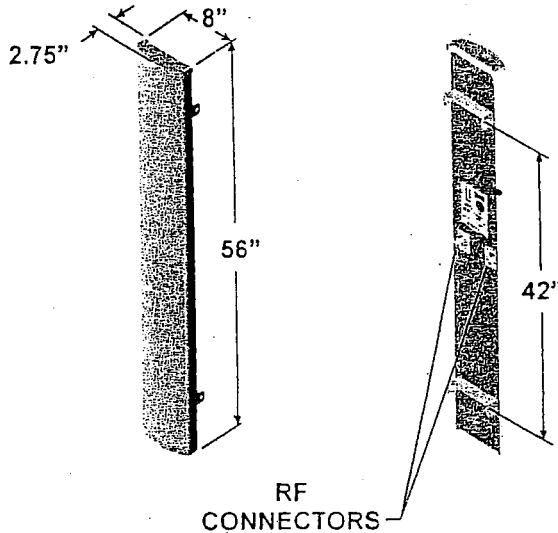
Exhibit C

Equipment Specifications

93 Roxbury Road

East Lyme, Connecticut

1850 MHz - 1990 MHz (P)



90° beamwidth

16.5 dBi gain

±45° DualPol™

56 inch

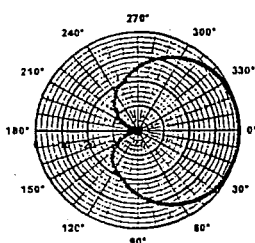
SPECIFICATIONS

Electrical		Mechanical	
Azimuth Beamwidth	90°	Dimensions (L x W x D)	56in x 8in x 2.75in (142 cm x 20.3 cm x 7.0 cm)
Elevation Beamwidth	6°	Rated Wind Velocity	150 mph (241 km/hr)
Gain	16.5 dBi (14.4 dBd)	Equivalent Flat Plate Area	3.1ft ² (.29 m ²)
Polarization	Slant, ±45°	Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Port-to-Port Isolation	≥ 30 dB	Side Wind Load @ 100 mph (161 kph)	31 lbs (139 N)
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)	Weight	18 lbs (8.2 kg)
Electrical Downtilt Options	0°, 2°, 4°, 6°	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.	
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		

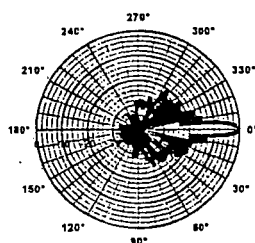
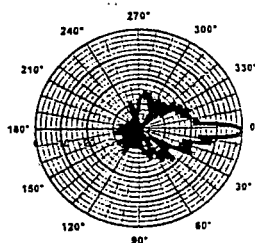
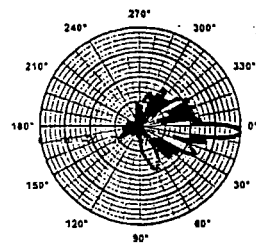
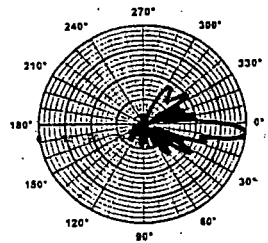
MOUNTING OPTIONS

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

3.7.12 S8000 Outdoor BTS Specifications

Table 107. S8000 Outdoor BTS Cabinet General Specifications

S8000 Outdoor Cabinet	
Height	1.60 m (63")
Width	1.35 m (53")
Depth	0.65 m (25")
Footprint	1.80 m ²
Maximum Weight	480 kg (1058 lbs.)
Empty weight	148 kg (326.2 lbs.)
Maximum Power(240V)	6500 Watts
Voltage	240 V +/- 10%
Normal Power	3238 Watts
Main Circuit Protection	20 Amps 50
Max. Heat Dissipation	22100 Btu/Hour
Normal Heat Dissipation	11006 Btu/Hour
Operating Temperature	-40 ⁰ C to 50 ⁰ C (-40 ⁰ F to 122 ⁰ F)
Maximum Operating Humidity	100%
Max level of acoustic noise	65 dB
Ground Cable	2/0 MCM
Antenna Connectors	DIN
Cabinet output	40.3 dBm
Receive sensitivity	-108 dBm
Output power at cabinet antenna connector (H2D)	38.0 dBm

4.1.1 Dimensions and Weight

Table 1 – Dimensions of the S12000 BTS

	Populated cabinet		Depopulated cabinet	
	(cm)	(in)	(cm)	(in)
Height	191	75.2	172	67.7
Depth	65	25.6	65	25.6
Width	135	53.2	135	53.2

Table 2 – Weight of the S12000 BTS

	Populated cabinet (full configuration)		Depopulated cabinet	
	(kg)	(lb.)	(kg)	(lb.)
S12000	570	1257	200	441

Note: The pallet weights 19kg (42 lb.) and has a height of 13cm (5.1 in)

Note: The height of S12000 Outdoor with the hood open is 256 cm (100.8 in)

The BTS floor print can be found in section 10.2 Appendix B.

4.1.2 Key Cabled Cabinet Components

A low mass, mechanically strong external cabinet housing containing:

- All mechanical sub-racks and mechanical support systems required for the installation, transport and operation of the GSM wireless equipment to be housed within.
- A forced ventilation, low acoustic Direct Ambient Cooling System (DACS)
- An AC/DC power system
- A fixed DC distribution system to power the enclosed electronic equipment
- A Power Amplifier Interconnection module (PA ICO)
- DRX interconnection modules (DRX ICO) (A&B)
- Combiner interconnection modules (COMICO) (A&B)
- A batteries box

Refer to section 10.1 Appendix A for a general overview of the S12000.

Preliminary

4.1.3 Environmental Requirements

Table 3 – Operational Temperature and Humidity

Normal	Range
Optimized operating temperature	-20°C (-4°F) to 40°C (104°F)
Total operating temperature	-40°C (-40°F) to 50°C (122°F)
Normal Operating humidity	15% to 100% relative humidity (non-condensing)
Absolute humidity	0,26 g/m ³ to 36 g/m ³

- Storage requirements

The S12000 meets the requirements of reference document R10 class 1.2

- Transport requirements

The S12000 meets the requirements of reference document R11 class 2.2

- Ingress protection

The cabinet shall be weather resistant to prevent ingress of rain, snow, dust and other solid foreign objects to a minimum level of IP55 as specified by reference document R3. The maximum permitted water ingress under test conditions shall be 5ml.

- Noise

LWAd < 63 dB (A) measured in accordance with reference document R8 if Temp_{ext} < 40°C (104°F)

The maximum sound power level emitted from the S12000 Outdoor cabled cabinet, when fully populated and measured in accordance with the requirements of reference document R8, shall not exceed:

- Normal speed operation: 63 dB (A) (when temperature is < 40°C)
- Maximum speed operation: 70 dB (A) (when temperature is >40°C)

Note: The noise may be higher than the one previously indicated due to the real configuration of the site (proximity of walls or any reflecting surfaces). Specific protections against noise can be added to comply with the local recommendations.

- External air flow rate

Normal speed operation: 800 m³ / hour

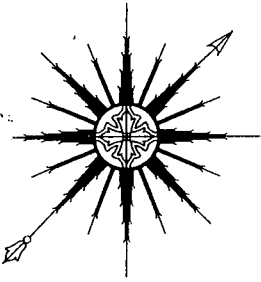
Preliminary

Exhibit D

Structural Analysis

93 Roxbury Road

East Lyme, Connecticut



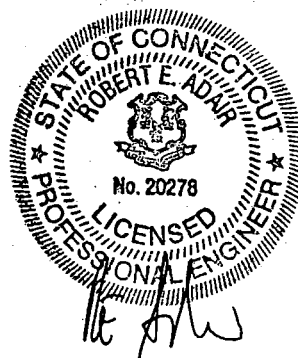
ALL-POINTS TECHNOLOGY CORPORATION, P.C.

**STRUCTURAL ANALYSIS REPORT
150' ROHN SSV TOWER
EAST LYME, CONNECTICUT**

Prepared for
Crown Castle Atlantic

Crown BU #806384

December 2, 2002



APT Project #CT105760

**STRUCTURAL ANALYSIS REPORT
150' ROHN SSV TOWER
EAST LYME, CONNECTICUT
prepared for
Crown Castle Atlantic**

EXECUTIVE SUMMARY:

All-Points Technology Corporation, P.C. (APT) performed a structural analysis of this 150-foot self-supporting ROHN tower. The analysis was performed with T-Mobile's replacement of their existing panel antenna with nine RR90-17-02DP panel antennas installed on three 12-foot sector mounts at 103-feet. Waveguide are to be eighteen 1-5/8" cables, assumed to be installed in an 6-wide by 3-deep stacked arrangement.

Our analysis indicates the tower is not capable of supporting the proposed antennas. Reinforcement of one 20' tower section is needed.

INTRODUCTION:

A structural analysis was performed on the above-mentioned communications tower by All-Points Technology Corporation, P.C. (APT) for Crown Castle Atlantic. The tower is located on Old Quarry Road/Roxbury Road in East Lyme, Connecticut. APT did not visit the tower site. This analysis relied on information provided by Crown Castle, which included photos, existing antenna inventory, antennas proposed by T-Mobile, ROHN tower and foundation drawings, and a structural analysis report by H.E. Bergeron Engineers dated July 13, 1998.

The structure is a 150-foot galvanized steel Model SSV self-supporting tower manufactured by ROHN. The analysis was performed with the following antenna inventory:

Antenna	Elev.	Mount	Coax.
PD1142 whip	150'	On sector mounts below	7/8"
(12) ALP9212 panels	148'	(3) 14' sector mounts	(12) 1-5/8"
6' high performance dish	143'	Pipe on leg	7/8"
(9) DB980H90 panels	122'	(3) 12' sector mounts	(9) 1-5/8"
(9) ALP9011 panels	112'	(3) 12' sector mounts	(9) 7/8"
(9) RR90-17-02 panels	103'	(3) 12' sector mounts	(18) 1-5/8"
DB809 whip	90'	6' sidearm	1-5/8"
GPS	50'	3' sidearm	7/8"

All-Points Technology Corporation

150 Old Westside Road
North Conway, NH 03860
(603) 356-5214

711 North Mountain Road
Newington, CT 06111
(860) 953-4444

STRUCTURAL ANALYSIS:

Methodology: The structural analysis was done in accordance with EIA/TIA-222-F (EIA), Structural Standards for Steel Antenna Towers and Antenna Supporting Structures; 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 85 miles per hour and one-half inch of radial ice over the entire structure and all appurtenances. The EIA/TIA Standard requires a minimum wind speed of 85 miles per hour for New London County, Connecticut. The tower was analyzed by calculating the resultant wind loading and associated maximum bending moments, shear forces, and axial loads. The moments and forces were used to calculate compressive stresses in leg members, and compression and tension stresses in the bracing members, which were compared to allowable stresses according to AISC.

Two loading conditions were evaluated in accordance with EIA 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 TIA/EIA 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: Analysis of the tower was conducted in accordance with the criteria outlined herein with existing and proposed antennas as previously described. Our analysis determined the tower is not capable of supporting the proposed antennas. The following table summarizes the results of the analysis based on compressive stresses of leg members:

Elevation	Capacity
0-20'	101%
20'-40'	87%
40'-60'	116%
60'-80'	92%
80'-100'	89%
100'-120'	89%
120'-140'	43%
140'-150'	12%

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Bracing Members:

Bracing is installed in an X-brace configuration, with each compression member paired with a corresponding tension member. Diagonal bracing was evaluated by calculating bracing members' allowable compression and tension forces and assessing each tower section's ability to resist calculated shear forces.

Bracing members were determined to be appropriately sized based on comparison of calculated vs. allowable tower shear.

Base Foundations:

Evaluation of the existing pier and pad foundations was performed using ROHN design drawings. Evaluation of the foundations reveals that they are adequate for the proposed loads.

Base reactions imposed with the additional antennas were calculated as follows:

Tension:	163.6 kips
Compression:	180.1 kips
Total Shear:	39.0 kips
Overturning Moment:	3380 ft-kips

CONCLUSIONS AND RECOMMENDATIONS:

Our structural analysis indicates the 150-foot ROHN Tower located in East Lyme, Connecticut is not capable of supporting the antenna loading proposed by T-Mobile.

Reinforcement of the tower would consist of additional horizontal bracing added to the 40' to 60' tower section. Design of such reinforcement is beyond the scope of this analysis, however we would be happy to provide this service to you.

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.

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4. All bolts are in place and are properly tightened.
5. Tower is in plumb condition.
6. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.

All-Points Technology Corporation, P.C. (APT) is not responsible for any modifications completed prior to or hereafter which APT is not or was not directly involved. Modifications include but are not limited to:

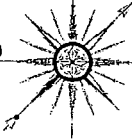

1. Replacing or strengthening bracing members.
2. Reinforcing leg members in any manner.
3. Installing antenna mounts or side arms.
4. Extending tower.

APT 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 is contrary to that which is contained herein, or you are aware of any defects arising from the original design, material, fabrication and erection deficiencies, you should disregard this report and immediately contact APT. APT disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

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All-Points Technology Corp., P.C. 150 OLD WESTSIDE ROAD NORTH CONWAY, NH 03860 PHONE/FAX: (603) 356-5214 MOBILE: (603) 496-5853 www.allpointstech.com		Tower Reinforcement		 CROWN CASTLE INTERNATIONAL shaping the wireless world™ 500 West Cummings Park Suite 3400 Woburn, MA 01801	CROWN CASTLE BU #806384
		SHEET: 1 OF 2			150' ROHN SSV EAST LYME, CT
		SCALE: 1" = 20'	DESIGNED BY: REA		
		DATE: 16 JAN 03	APT JOB #CT105761		

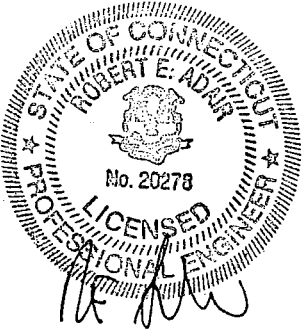
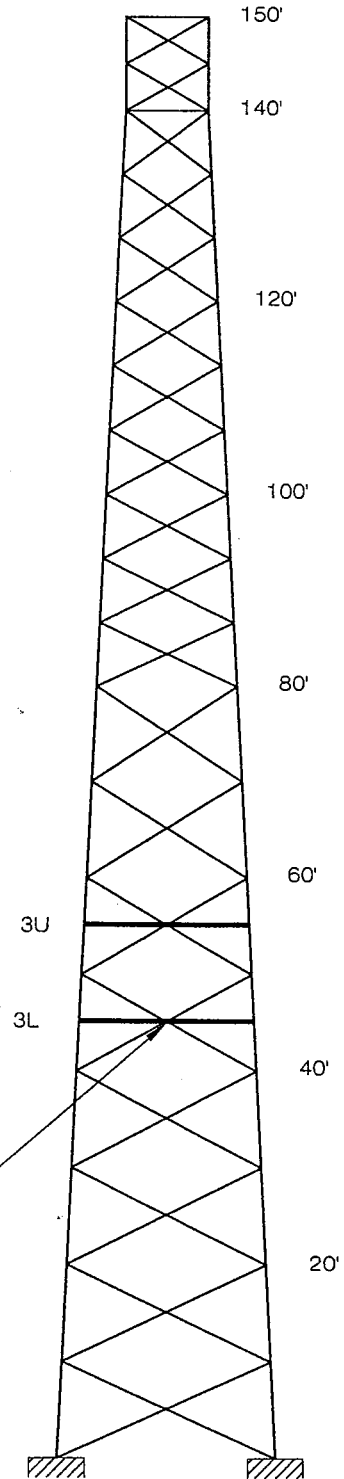
NOTES:

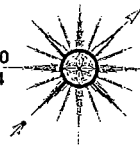
1. Coordinate work to minimize disruption of existing facilities.
2. Work may require temporary relocation of utilities/hangers.
3. 'D' dimension shown is calculated based on information provided. Verify existing dimensions and conditions prior to fabrication. Bring discrepancies to the attention of the Engineer before proceeding with the affected work.
4. Provide shoring or temporary bracing as required to complete the work.
5. Details shown on any drawing are considered typical for all similar conditions unless otherwise noted.
6. All structural steel work shall conform to the requirements of the American Institute of Steel Construction and all applicable building codes.
7. Weld in accordance with AWS D1.1 using certified welders and E70XX electrodes.
8. Structural steel shapes to be ASTM A36 steel.
9. All bolts shall be galvanized ASTM Grade A325 with lock washers. Do not re-use bolts.
10. Hot-dip galvanize per ASTM D123 after fabrication.
11. Cold galvanize any field cut, welded, or drilled surfaces.

Brace No.	~"D" Dim.*	Size
3L	17'-1"	L3 x 3 x 1/4
3U	16'-1"	L3 x 3 x 1/4

*See Note 3.

Remove ring fills at intersection of existing X-braces and install new horiz. bracing at 2 locations per face as shown. Cope horizontal leg of new angle brace to fit. See sheet 2 for details.





Reinforcement Details

SHEET: 2 OF 2

SCALE: 1" = 1'-0"

DESIGNED BY: REA

DATE: 16 JAN 03

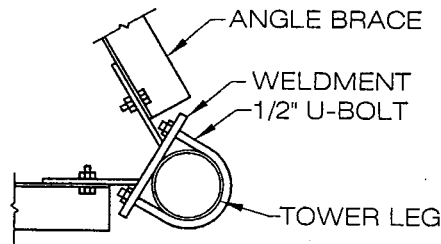
APT JOB #CT105761



500 West Cummings Park
Suite 3400
Woburn, MA 01801

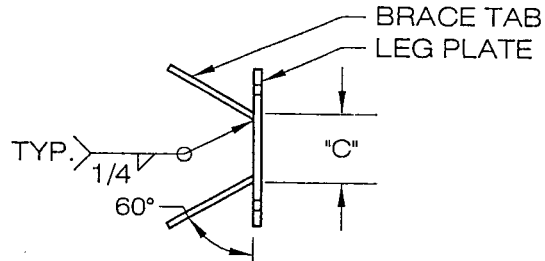
CROWN CASTLE
BU #806384

150' ROHN SSV
EAST LYME, CONNECTICUT



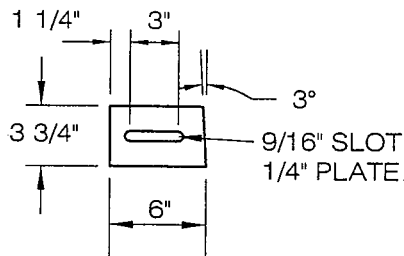
ASSEMBLY

6 REQUIRED



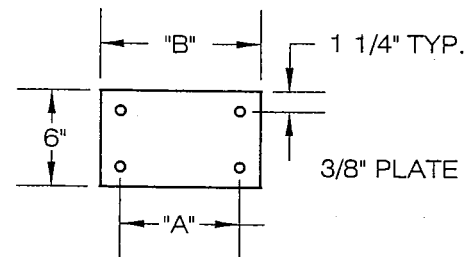
BRACKET WELDMENT

6 REQUIRED



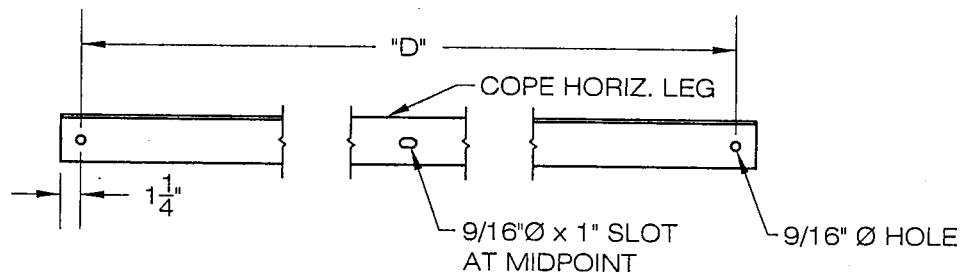
BRACE TAB

12 REQUIRED



LEG PLATE

6 REQUIRED



ANGLE BRACE

6 REQUIRED

<u>Assy Qty</u>	<u>Leg Size</u>	<u>U-Bolt</u>	<u>"A" Dim.</u>	<u>"B" Dim.</u>	<u>"C" Dim.</u>
6	4" X-Str.	JR 85A	5"	7 1/2"	3"

U-Bolt number refers to ROHN part number - 2 required per assy.
Refer to Sheet 1 for approximate "D" dimension.

Exhibit E

Power Density Calculations

93 Roxbury Road

East Lyme, Connecticut



T-Mobile USA
100 Filley St, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Marie Burbank
From: Jeetendra Ghare - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CT11037
Date: May 19, 2003

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 93 Roxbury Rd., East Lyme, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from 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 1935-1945 MHz frequency band.
- 2) The antenna array consists of three sectors, with 3 antennas per sector.
- 3) The model number for each antenna is EMS RR90-17-02DP.
- 4) The antenna center line height is 103 ft.
- 5) The maximum transmit power from any sector is 3131.71 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
- 6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
- 7) 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.
- 8) The average ground level of the studied area does not change significantly 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 worst case assumptions, the power density calculation from the VoiceStream Wireless Corporation PCS antenna installation on a Existing Lattice Tower at 93 Roxbury Rd., East Lyme, CT, is 0.07302 mW/cm². This value represents 7.302% of the Maximum Permissible Emission (MPE) standard of 1 milliwatt per square centimeter (mW/cm²) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for VoiceStream Wireless will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.

The combined Power Density from other carriers is 9.7926%. The combined Power Density for the site is 17.095% of the M.P.E. standard.

New England Market

Connecticut

Worst Case Power Density



Site:	CT11037
Site Address:	93 Roxbury Rd.
Town:	East Lyme
Tower Height:	150 ft.
Tower Style:	Existing Lattice Tower
Base Station TX output	15 W
Number of channels	8
Antenna Model	EMS RR90-17-02DP
Cable Size	1 5/8 in.
Cable Length	115 ft.
Antenna Height	103.0 ft.
Ground Reflection	1.6
Frequency	1935.0 MHz
Jumper & Connector loss	1.00 dB
Antenna Gain	16.5 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	1.3340 dB
Total Attenuation	2.3340 dB
Total EIRP per Channel	55.93 dBm
(In Watts)	391.46 W
Total EIRP per Sector	64.96 dBm
(In Watts)	3131.71 W
nsg	14.1660
Power Density (S) =	0.073023 mW/cm²
T-Mobile Worst Case % MPE =	7.3023%
<i>Equation Used :</i>	$S = \frac{(1000 (grf)^2 (Power)^* 10^{(nsg/10)})}{4 \pi (R)^2}$
<small>Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997</small>	

Co-Location Total	
Carrier	% of Standard
Sprint/Nextel	9.7926 %
Total Excluding T-Mobile	9.7926 %
T-Mobile	7.3023
Total % MPE for Site	17.0949%