STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

July 25, 2003

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

RE: **TS-T-MOBILE-025-030714** - Omnipoint Communications, Inc. request for an order to approve tower sharing at an existing telecommunications facility located at 490 Highland Avenue, Cheshire, Connecticut.

Dear Attorney Humes:

At a public meeting held July 22, 2003, 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 July 14, 2003.

Thank you for your attention and cooperation.

Very truly yours,

Pamela B. Katz

Pamela B. Katz, P.E.
Chairman

PBK/laf

c: Honorable Sandra R. Mouris, Council Chairman, Town of Cheshire
Richard A. Pfurr, Town Planner, Town of Cheshire
Christopher B. Fisher, Esq., Cuddy & Feder LLP
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP

I:\siting\em\t-mobile\cheshire\dc072203.doc

LeBoeuf, Lamb, Greene & MacRae

L.L.P.

A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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HOUSTON
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LOS ANGELES
NEWARK
PITTSBURGH
SALT LAKE CITY
SAN FRANCISCO

GOODWIN SQUARE
225 ASYLUM STREET, 13TH FLOOR
HARTFORD, CT 06103
(860) 293-3500
FACSIMILE: (860) 293-3555
E-MAIL ADDRESS: KZSHEATH@LLGM.COM
WRITER'S DIRECT DIAL: (860) 293-3565

LONDON
(A LONDON-BASED MULTINATIONAL PARTNERSHIP)
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(PTY) LTD.
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(AFFILIATED OFFICE)
TASHKENT
BISHKEK
ALMATY
BEIJING

July 16, 2003

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

Re: TS - T-MOBILE 025-030714 - Cheshire, Connecticut

Dear Chairman Katz:

On July 14, 2003, T-Mobile filed a Tower Share application for an existing facility at 490 Highland Avenue, Cheshire, Connecticut. Due to a typographical error, we hereby submit this corrected page to the above-referenced tower sharing application ("Application"). On page 2 of the Application, in the section entitled "Background", it is stated that "the tower is owned by Tower Ventures II, LLC, with the underlying landowner being the town of Cheshire." In fact, the tower, all appurtenances, and the land where it is located is owned by the Town, with Tower Ventures II, LLC acting only as manager of the facility. In this regard, the tower is in compliance with the criteria established by the Connecticut Siting Council for municipal facilities. The original exhibits will remain the same. I apologize for any inconvenience this may cause the Council.

Please contact me with any questions you may have concerning this matter.

Sincerely,

Kurt Sheathelm
Paralegal

cc: Town Council Chairman Thomas Stretton
Town Manager Michael Milone
Scott Penner, Hurwitz & Sagarin, LLC

Background

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

When construction is completed on the new tower to be built for the Town of Cheshire Police Department public safety communications system needs, the tower at 490 Highland Avenue in Cheshire will be a one hundred sixty foot (160') monopole. The tower is located at the Cheshire Police Department building, approximately one hundred fifty feet east of Highland Avenue and roughly three quarters of a mile north of Route 10's intersection with Routes 69 and 70. The coordinates for the site are **Lat 41°-30'-40.30" N** and **Long 72°-53'-54.45" W.** The tower and the underlying land is owned by the town of Cheshire. Tower Ventures has already received local town approval to remove Cheshire's existing one hundred forty foot (140') Rohn tower and replace it with a new monopole within the same compound.[1] T-Mobile and the owner have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower, and the owner has authorized T-Mobile to act on its behalf to apply for all necessary local, state and federal permits, approvals and authorizations which may be required for the proposed shared use of this facility. The tower is designed and built to hold multiple carrier antennas at multiple elevations AGL.

T-Mobile proposes to install an antenna cluster comprised of three (3) sectors, with three (3) antennas per sector for a total of nine (9) antennas. The model number for each antenna is EMS RR90-17-02 DP. The antennas would be mounted on a low profile platform. The proposed T-Mobile antennas would be located at the one hundred forty-seven foot six inch (147'-6") centerline AGL. The radio transmission equipment associated with these antennas, three (3) Nortel S8000 BTS cabinets and one (1) power/telco cabinet, would be located near the base of the tower within a proposed leased ten foot by twenty foot (10' x 20') square area. A new cable bridge would be installed to run the coaxial cables to the tower. The tower and all of the equipment for all existing and proposed carriers is within an existing compound surrounded by a gated eight foot (8') high chain link fence with three strands of barbed wire (shown on drawing , C-2, attached as part of Exhibit B). Access to the compound is via the Police Department facility (see drawings 1, A-1 and 2, A-1). Utilities will be run from existing utility sources approved by the owner via underground conduits (shown in drawing C-2, attached as part of Exhibit B).

C.G.S. §16-50aa (c) (1) provides, in pertinent part, 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 proposed tower and compound were designed to accommodate multiple carriers. As shown in Exhibit E, structural calculations certified by a

[1] Tower Ventures has informed T-Mobile that it will be filing a letter with the Council documenting that the tower at issue is subject to municipal jurisdiction for the reasons to be set forth in the letter expected to be filed with the Council on July 11, 2003.

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

July 17, 2003

Honorable Sandra R. Mouris
Council Chairman
Town of Cheshire
Town Hall
84 South Main Street
Cheshire, CT 06410

RE: **TS-T-MOBILE-025-030714** - Omnipoint Communications, Inc. request for an order to approve tower sharing at an existing telecommunications facility located at 490 Highland Avenue, Cheshire, Connecticut.

Dear Ms. Mouris:

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 July 22, 2003, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

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

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ld

Enclosure: Notice of Tower Sharing

c: Richard A. Pfurr, Town Planner, Town of Cheshire

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.
A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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SALT LAKE CITY
SAN FRANCISCO

GOODWIN SQUARE
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HARTFORD, CT 06103
(860) 293-3500
FACSIMILE: (860) 293-3555
E-MAIL ADDRESS: STEPHEN.HUMES@LLGM.COM
WR[illegible]
WRIT

LONDON
(A LONDON-BASED
MULTINATIONAL PARTNERSHIP)
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(PTY) LTD.
MOSCOW
RIYADH
('LIATED OFFICE)
TASHKENT
BISHKEK
ALMATY
BEIJING

TS-T-MOBILE-025-030714

July 14, 2003

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

Re: Request by T-Mobile for an Order to Approve the Shared Use of a Tower Facility at 490 Highland Avenue, Cheshire, 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. Pursuant to Connecticut General Statutes §16-50aa, T-Mobile hereby requests an order from the Connecticut Siting Council ("Council") approving T-Mobile's proposed shared use of an existing tower facility; specifically an existing police communications tower that is to be rebuilt by others, located at 490 Highland Avenue (Route 10) in Cheshire, Connecticut. T-Mobile proposes to install antennas on the rebuilt tower, and the equipment associated with this facility would be located near the base of the tower within the existing compound (see drawing C-1 attached as part of Exhibit B). T-Mobile requests that the Council find that the proposed shared use of the tower satisfies the criteria stated in C.G.S. §16-50aa and issue an order approving the proposed use. Thomas Stretton, Chairman of the Town Council and Michael Milone, the Town Manager, have been notified via First Class Mail.

Background

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

When construction is completed on the new tower to be built for the Town of Cheshire Police Department public safety communications system needs, the tower at 490 Highland Avenue in Cheshire will be a one hundred sixty foot (160') monopole. The tower is located at the Cheshire Police Department building, approximately one hundred fifty feet east of Highland Avenue and roughly three quarters of a mile north of Route 10's intersection with Routes 69 and 70. The coordinates for the site are **Lat 41°-30'-40.30" N** and **Long 72°-53'-54.45" W.** The tower is owned by Tower Ventures II, LLC, with the underlying landowner being the town of Cheshire. Tower Ventures has already received local town approval to remove Cheshire's existing one hundred forty foot (140') Rohn tower and replace it with a new monopole within the same compound.[1] T-Mobile and the owner have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower, and the owner has authorized T-Mobile to act on its behalf to apply for all necessary local, state and federal permits, approvals and authorizations which may be required for the proposed shared use of this facility. The tower is designed and built to hold multiple carrier antennas at multiple elevations AGL.

T-Mobile proposes to install an antenna cluster comprised of three (3) sectors, with three (3) antennas per sector for a total of nine (9) antennas. The model number for each antenna is EMS RR90-17-02 DP. The antennas would be mounted on a low profile platform. The proposed T-Mobile antennas would be located at the one hundred forty-seven foot six inch (147'-6") centerline AGL. The radio transmission equipment associated with these antennas, three (3) Nortel S8000 BTS cabinets and one (1) power/telco cabinet, would be located near the base of the tower within a proposed leased ten foot by twenty foot (10' x 20') square area. A new cable bridge would be installed to run the coaxial cables to the tower. The tower and all of the equipment for all existing and proposed carriers is within an existing compound surrounded by a gated eight foot (8') high chain link fence with three strands of barbed wire (shown on drawing , C-2, attached as part of Exhibit B). Access to the compound is via the Police Department facility (see drawings 1, A-1 and 2, A-1). Utilities will be run from existing utility sources approved by the owner via underground conduits (shown in drawing C-2, attached as part of Exhibit B).

C.G.S. §16-50aa (c) (1) provides, in pertinent part, 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 proposed tower and compound were designed to accommodate multiple carriers. As shown in Exhibit E, structural calculations certified by a

[1] Tower Ventures has informed T-Mobile that it will be filing a letter with the Council documenting that the tower at issue is subject to municipal jurisdiction for the reasons to be set forth in the letter expected to be filed with the Council on July 11, 2003.

Connecticut-licensed professional engineer verify that the tower is designed to accommodate multiple carriers, including the proposed T-Mobile installation. The proposal 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 at Highland Avenue in Cheshire. 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 tower 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 minimal environmental effects, if any, for the following reasons:

1. The proposed installations (i.e., three (3) sectors with three (3) antennas per sector) 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 proposed tower, and would not extend the boundaries of the existing compound area. The tower is designed to accommodate multiple carriers.

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) will be 0.03473 mW/cm2, which is 3.473% of the Maximum Permissible Emission (MPE). T-Mobile's calculations are based on three (3) sectors of three (3) antennas (or a total of nine antennas) and are attached as part of Exhibit D. Also attached as part of Exhibit D is a report prepared by radio frequency engineers working for Tower Ventures, C Squared Systems, which have performed an analysis of all antennas proposed for the tower. According to this analysis, the cumulative power density calculation, including T-Mobile and all other proposed carriers, will result in emissions that are only 17.39% of the MPE.

4. The proposed installations would not require any water or sanitary facilities, or generate air emissions or discharges to water or sanitary facilities or to water bodies. After construction

is complete (approximately two (2) 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, if any, and is environmentally feasible.

D. **Economic Feasibility** As previously mentioned, the owner and T-Mobile 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.

E. **Public Safety Concerns** As stated above, the reconstructed tower will be structurally capable of supporting the proposed T-Mobile antennas. The tower stands on a compound accessible from Highland Avenue via the Cheshire Police Station. T-Mobile is not aware of any 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 and the public.

Conclusion

For the reasons discussed above, the proposed shared use of the existing tower facility at Highland Avenue in Cheshire, Connecticut satisfies the criteria stated in C.G.S. §16-50aa, and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. T-Mobile therefore respectfully requests that the Council issue an order approving the proposed shared use of this tower.

Thank you for your consideration of this matter.

Respectfully submitted,

T-MOBILE USA, INC.

By: _____

Its Counsel
Stephen J. Humes

Attachments

cc: Town Council Chairman Thomas Stretton and Town Manager Michael Milone

Exhibit A

Site Map
490 Highland Avenue
Cheshire, Connecticut

Exhibit B

Design Drawings

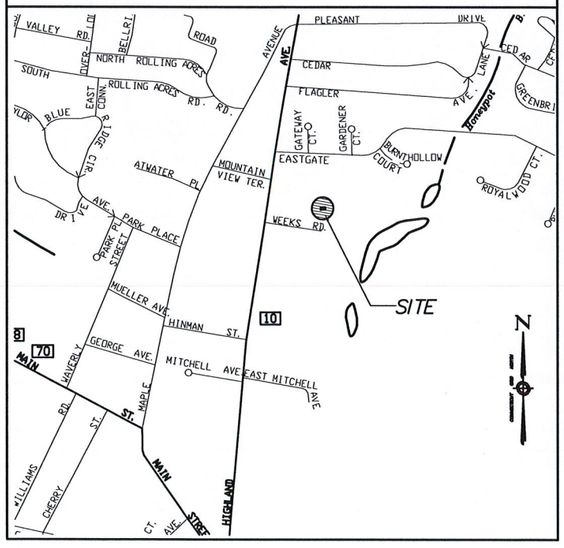
490 Highland Avenue
Cheshire, Connecticut

tower
VENTURES II, LLC

UNMANNED WIRELESS COMMUNICATIONS EQUIPMENT SITE

CHESHIRE POLICE DEPARTMENT
500 HIGHLAND AVENUE (ROUTE 10)
CHESHIRE, CONNECTICUT 06410

LOCATION MAP — SCALE: N.T.S.



SHEET INDEX

SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
S-1	SURVEY
C-1	SITE PLAN
C-2	PARTIAL SITE PLAN, DETAILS, SILT FENCE
	SPECIFICATIONS AND LEGEND
C-3	MONOPOLE ELEVATION AND CML DETAILS

PROJECT DESCRIPTION

PROPOSED REPLACEMENT OF AN EXISTING 140'-0" LATTICE TOWER WITH A 160'-0" MONOPOLE. RELOCATION OF EXISTING TOWN ANTENNAS TO NEW TOWER AND CONSTRUCTION OF COMPOUND AREAS TO ACCOMMODATE SIX CARRIERS.

PROJECT SUMMARY

SITE NAME:	CHESHIRE POLICE DEPARTMENT
SITE ADDRESS:	500 HIGHLAND AVENUE (ROUTE 10) CHESHIRE, CONNECTICUT 06410
CONTACT PERSON	CHRIS CIOLFI TOWER VENTURES 374 SOUTH STREET SUITE 202 PITTSFIELD, MA 01201 PHONE NUMBER: (413) 447-7712 FAX NUMBER: (413) 447-9009
PROPERTY OWNER:	TOWN OF CHESHIRE 500 HIGHLAND AVENUE CHESHIRE, CONNECTICUT 06410
CONTACT PERSON: **CONTACT TELEPHONE:**	DEPT. CHIEF SIDORUK (203) 271-5552
ASSESSOR'S PARCEL NO.:	MAP 50, LOT 2
LATITUDE: **LONGITUDE:**	41° 30' 40.30" 72° 53' 54.45"
JURISDICTION:	TOWN OF CHESHIRE
ARCHITECT:	URS CORPORATION A.E.S. 795 BROOK STREET ROCKY HILL, CT 06067
M/E/P ENGINEER:	URS CORPORATION A.E.S. 795 BROOK STREET ROCKY HILL, CT 06067
SURVEYOR:	URS CORPORATION A.E.S. 500 ENTERPRISE DRIVE ROCKY HILL, CT 06067

tower
VENTURES II, LLC
170 WESTMINSTER STREET
SUITE 701
PROVIDENCE, RI 02903

A&E FIRM
URS CORPORATION AES
795 BROOK STREET
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

A&E SEAL
STATE OF CONNECTICUT
IGNACIO C ARTIGAS
No. 8704
LICENSED ARCHITECT

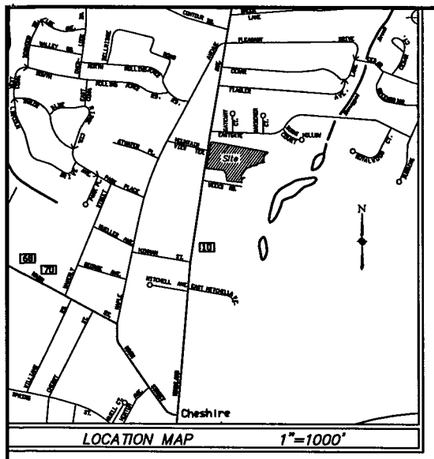
PROJECT NO:	36923410/TV1003
DRAWN BY:	LMM
CHECKED BY:	
APPROVED BY:	

ISSUED FOR	
06-27-03	REVIEW
07-11-03	ISSUED FOR FINAL

CHESHIRE POLICE DEPARTMENT
RT.10, HIGHLAND AVENUE
CHESHIRE, CONNECTICUT

TITLE SHEET

T-1



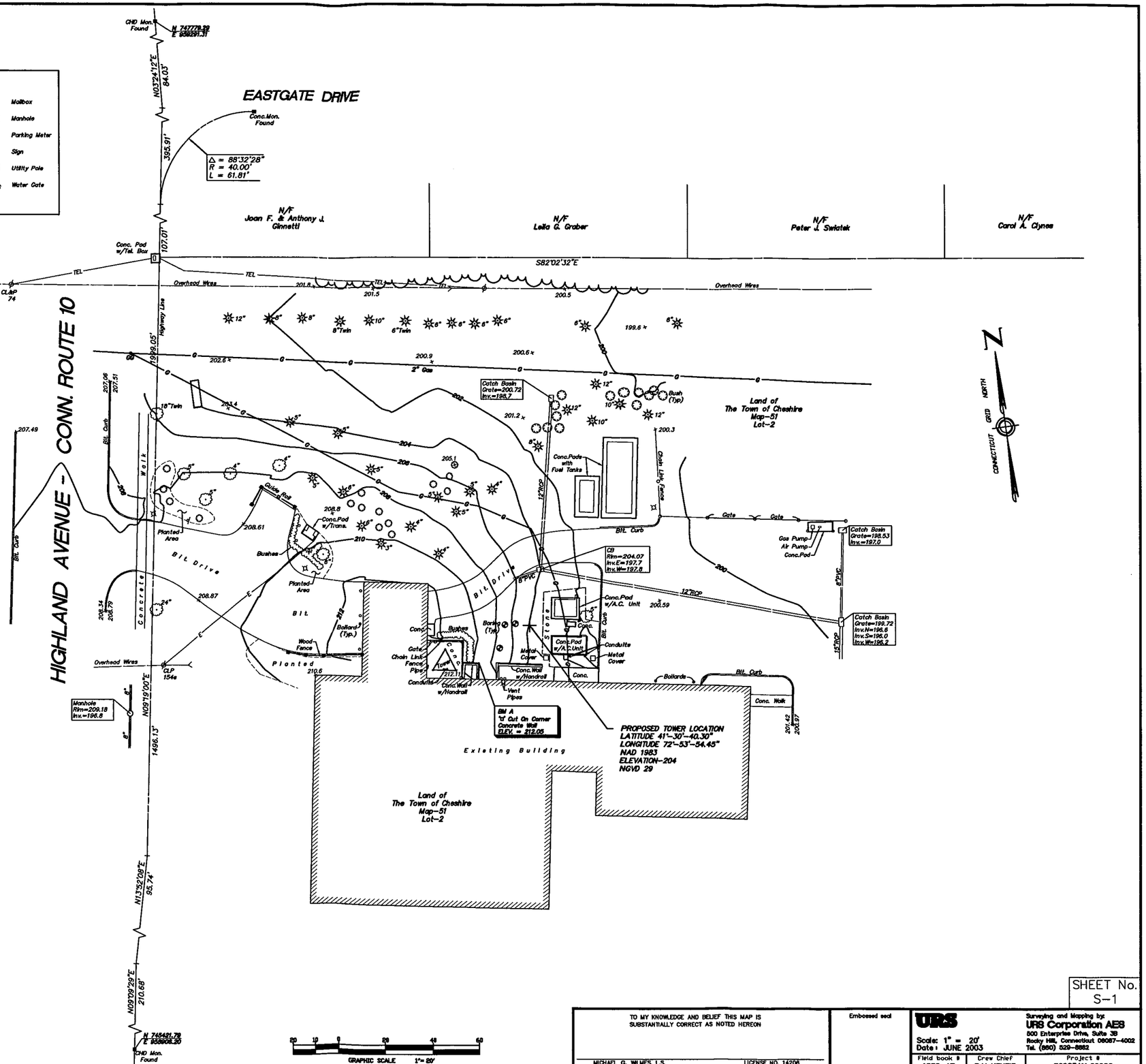
LEGEND

- Bush
- Catch Basin
- Coniferous Tree
- Deciduous Tree
- Gas Gate
- Hydrant
- Light Pole
- Mailbox
- Manhole
- Parking Meter
- Sign
- Utility Pole
- Water Gate

NOTES:

1. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20, AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996. THE TYPE OF SURVEY IS AN IMPROVEMENT LOCATION SURVEY AND A T-2 TOPOGRAPHIC SURVEY. THE BOUNDARY DETERMINATION CATEGORY IS A RESURVEY. THE HORIZONTAL AND VERTICAL ACCURACY CONFORMS TO CLASS A-2 & V-2 ACCURACY.
2. BEARINGS REFER TO THE CONNECTICUT COORDINATE SYSTEM, NAD 83/87, BASED UPON CGS MONUMENTS 1820X & 5834 HOLDING THE FOLLOWING PUBLISHED COORDINATE VALUES:

   CGS 1820X N 748,764.991 E 959,448.289 CGS 5834 N 746,286.303 E 959,038.827
3. ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, NGVD 29, BASED UPON CGS MONUMENT 5834 HOLDING THE PUBLISHED ELEVATION OF 219.65 FEET.
4. REFERENCE IS MADE TO THE FOLLOWING MAPS:
   A. "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF CHESHIRE HIGHLAND AVE. FROM MAIN STREET NORTHERLY TO FLAGLER AVE. ROUTE No. 10.", SCALE 1"=40', DATED MAY 28, 1937, REVISED JULY 19, 1966, NUMBER 25-06, SHEET 2 OF 2.
   B. "EASTGATE ESTATES CHESHIRE, CONNECTICUT OWNED AND DEVELOPED BY WELCH CONSTRUCTION CO. INC. CHESHIRE, CONN". BY CAHN ENGINEERS INC., SCALE 1"=100', DATED OCTOBER 1971, REVISED TO 9/11/73.
5. THE PROPERTY IS SUBJECT TO EASEMENTS AND RIGHTS OF WAY AS OF RECORD MAY APPEAR.
6. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE. THE EXISTENCE OF WHICH ARE UNKNOWN TO URS CORPORATION AES. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.



IMPROVEMENT LOCATION & TOPOGRAPHIC SURVEY
LAND OF
THE TOWN OF CHESHIRE
500 HIGHLAND AVENUE
CHESHIRE, CONNECTICUT
PREPARED FOR
TOWER VENTURES II, LLC

SHEET No. S-1

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON

MICHAEL G. WILMES, L.S. LICENSE NO. 14206

TRUE AND VALID COPIES OF THIS MAP OR PLAN MUST BEAR THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR. UNAUTHORIZED REPRODUCTION OR ALTERATION IS FORBIDDEN.

Embossed seal

URS

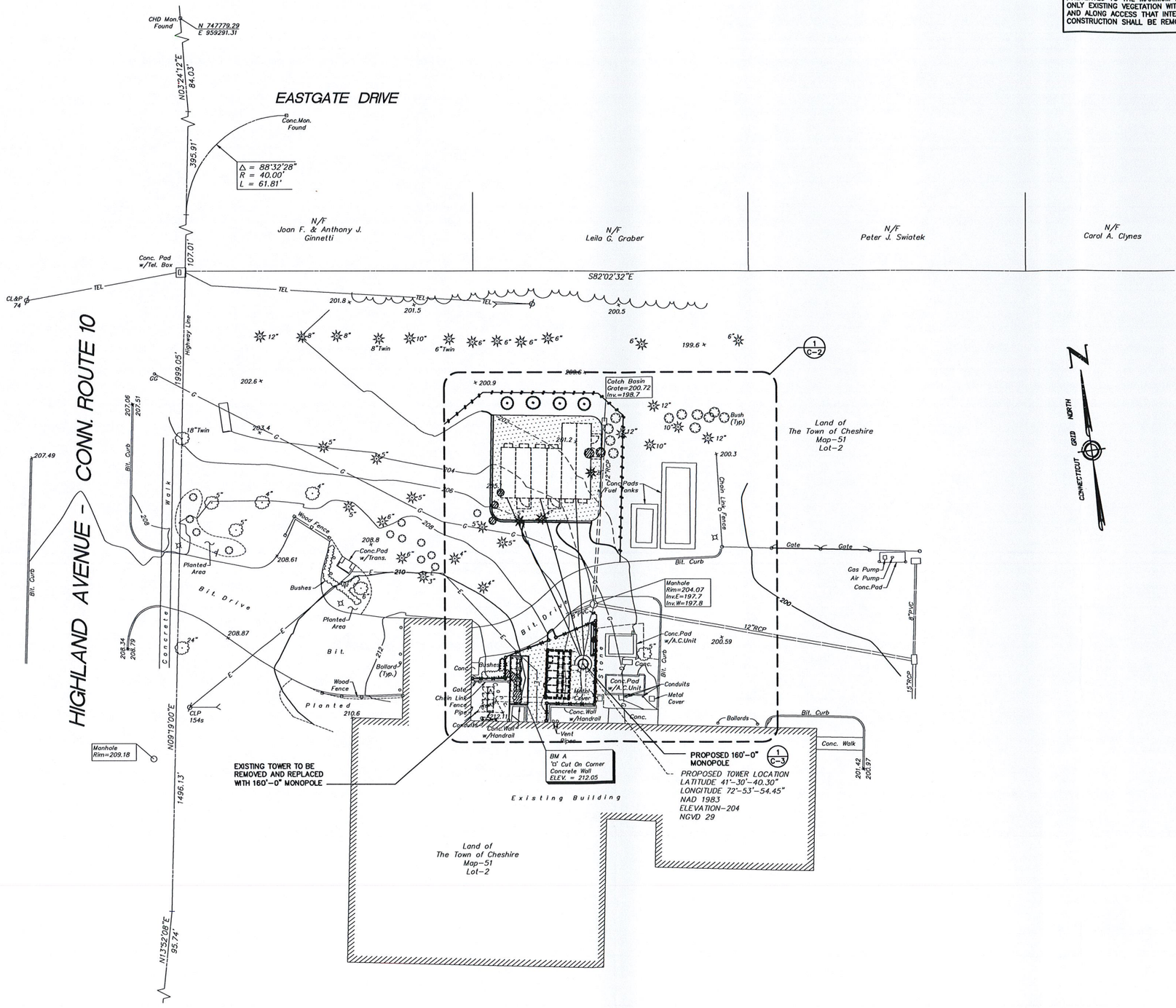
Surveying and Mapping by: URS Corporation AES, 500 Enterprise Drive, Suite 3B, Rocky Hill, Connecticut 06067-4002, Tel. (860) 529-8882

Scale: 1" = 20'
Date : JUNE 2003

Field book #	Crew Chief	Project #
1532-17	B.McKENZIE	36923411.00000
Search #	Drawn by	Checked by / Map file #
3846	K.COOLBETH	T149-44

P:\SURVEY\TOWER_VENTURES\36923411\DWG\36923411.DWG

EXISTING ON-SITE VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. ONLY EXISTING VEGETATION WITHIN COMPOUND AND ALONG ACCESS THAT INTERFERE WITH CONSTRUCTION SHALL BE REMOVED.



1 C-1 SITE PLAN
SCALE: 1"=20'-0"

0 10' 20' 40'
SCALE: 1" = 20'

tower VENTURES II, LLC
170 WESTMINSTER STREET
SUITE 701
PROVIDENCE, RI 02903

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URS CORPORATION AES
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ROCKY HILL, CONNECTICUT
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A&E SEAL
STATE OF CONNECTICUT
No. 8704
LICENSED ARCHITECT

PROJECT NO:	36923410/TV1003
DRAWN BY:	LMM
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ISSUED FOR

06-27-03	REVIEW
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CHESHIRE POLICE DEPARTMENT
RT.10, HIGHLAND AVENUE
CHESHIRE, CONNECTICUT

SITE PLAN

C-1

SILT FENCE SPECIFICATIONS

MAINTENANCE

1) SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2) IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3) SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT, THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATION.

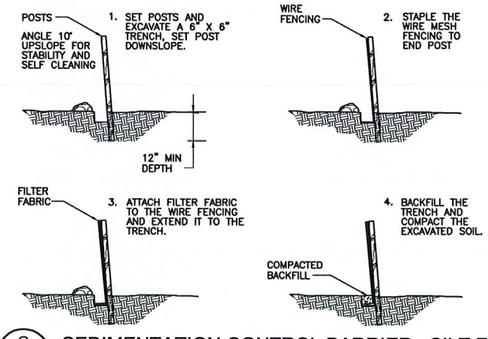
CONSTRUCTION SEQUENCE

1) THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES
2) THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3) WOVEN WIRE FENCES SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4) FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION, AND BOTTOM.
5) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
6) FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7) MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

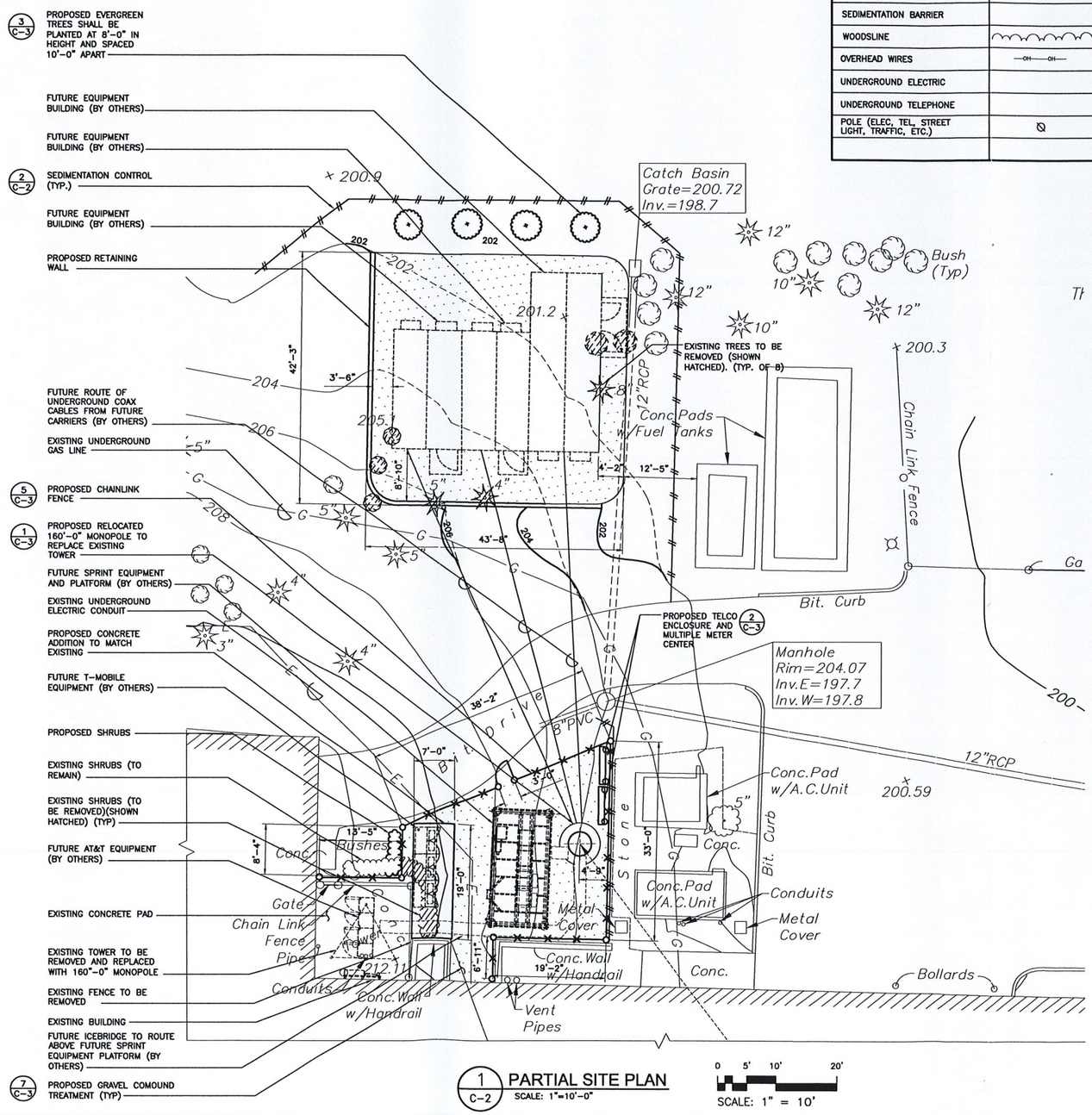
EROSION CONTROL NOTES

1) DURING CONSTRUCTION AND THEREAFTER EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. NOT GREATER THAN 80,000 SQ. FT. OF LAND SHALL BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME AND SHALL NOT EXCEED 90 DAYS. LAND SHOULD NOT BE LEFT EXPOSED DURING THE WINTER MONTHS.
2) SILTATION FENCING SHALL BE INSTALLED WHERE SHOWN PRIOR TO ANY ON SITE GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. IT SHOULD BE MAINTAINED DURING AND AFTER DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER AND FROM LAND UNDERGOING DEVELOPMENT. WHERE POSSIBLE NATURAL DRAINAGE-WAYS SHOULD BE UTILIZED AND LEFT OPEN TO REMOVE EXCESS SURFACE WATER.
3) ALL DISTURBED AREAS AND SIDE SLOPES WHICH ARE FINISH GRADED WITH NO FURTHER CONSTRUCTION TO TAKE PLACE SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4" OF LOAM SHALL BE INSTALLED.
4) ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION. HAY OR STRAW MULCH SHALL BE APPLIED TO ALL FRESHLY SEEDED AREAS AT A RATE OF 2 TONS PER ACRE. BALES SHALL BE UNSPOILED, AIR-DRIED, AND FREE FROM WEED, SEEDS AND ANY COARSE MATERIAL.

EXISTING ON-SITE VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. ONLY EXISTING VEGETATION WITHIN COMPOUND AND ALONG ACCESS THAT INTERFERE WITH CONSTRUCTION SHALL BE REMOVED.



2 / C-2 SEDIMENTATION CONTROL BARRIER - SILT FENCE
SCALE: N.T.S.



1 / C-2 PARTIAL SITE PLAN
SCALE: 1"=10'-0"
0 5' 10' 20'
SCALE: 1" = 10'

GENERAL LEGEND

DESCRIPTION	EXISTING	PROPOSED
BASE LINE OR CENTER LINE		7+00
PROPERTY LINE/STREET LINE/ R.O.W. LINE		
BUILDINGS		
FENCE		
CONTOUR LINES	436	440
SETBACK LINES		
SPOT ELEVATION	40.56 X 40.56	X 441.6
CURVE RADIUS		R=30'
SEDIMENTATION BARRIER		
WOODSLINE		
OVERHEAD WIRES	OH OH	OH OH
UNDERGROUND ELECTRIC		E
UNDERGROUND TELEPHONE		T
POLE (ELEC, TEL, STREET LIGHT, TRAFFIC, ETC.)		

tower VENTURES II, LLC
170 WESTMINSTER STREET
SUITE 701
PROVIDENCE, RI 02903

A&E FIRM
URS CORPORATION AES
795 BROOK STREET
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

A&E SEAL
STATE OF CONNECTICUT
IGNACIO C ARTEAGA
No. 8704
LICENSED ARCHITECT

PROJECT NO:	36923410/TV1003
DRAWN BY:	LMM
CHECKED BY:	
APPROVED BY:	

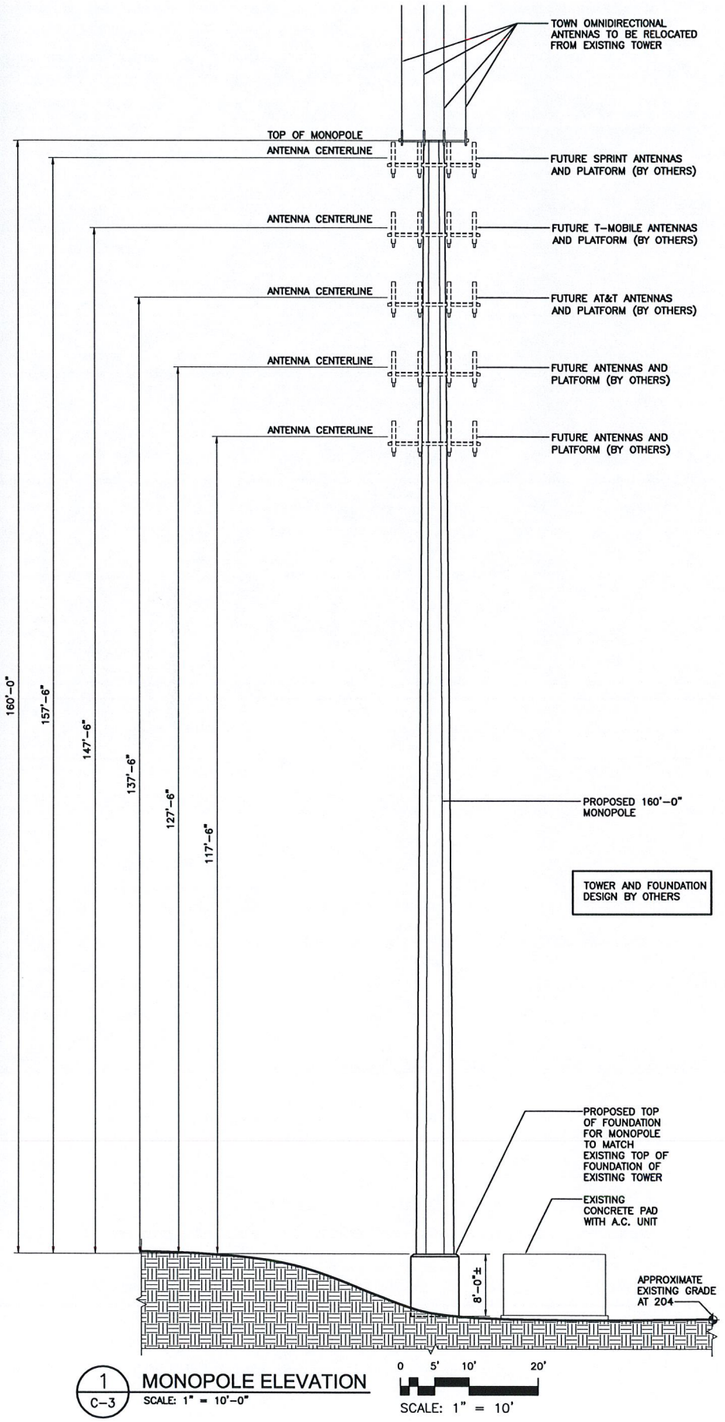
ISSUED FOR

06-27-03	REVIEW
07-11-03	ISSUED FOR FINAL

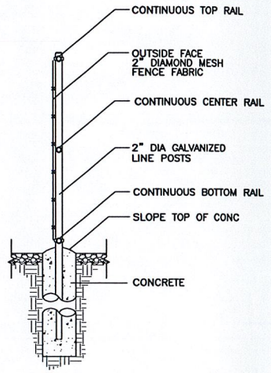
CHESHIRE POLICE DEPARTMENT
RT.10, HIGHLAND AVENUE
CHESHIRE, CONNECTICUT

PARTIAL SITE PLAN, DETAILS, SILT FENCE, SPECIFICATIONS AND LEGEND

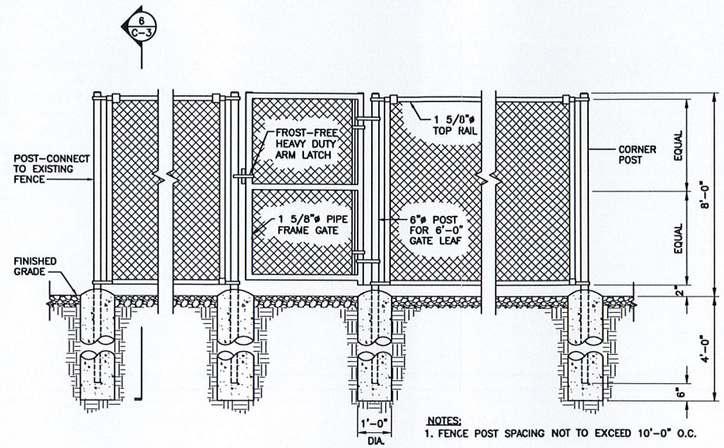
C-2



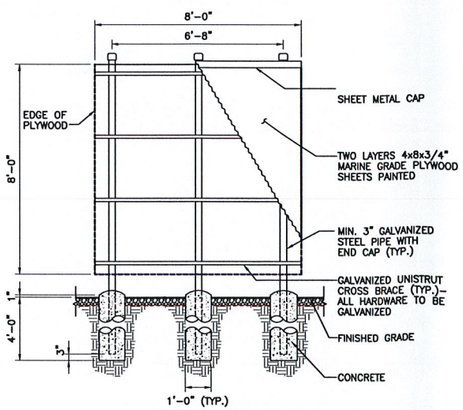
1 C-3 MONOPOLE ELEVATION
SCALE: 1" = 10'-0"



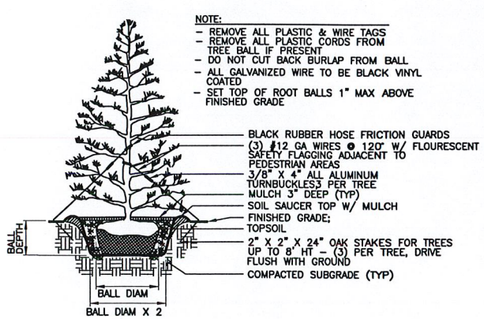
6 C-3 TYPICAL CHAIN LINK FENCE SECTION
SCALE: N.T.S.



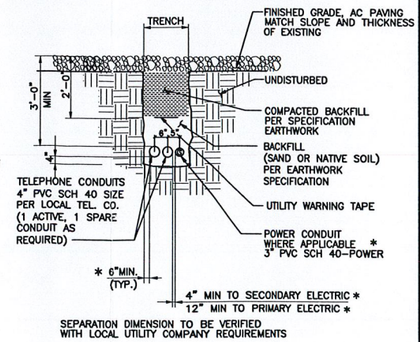
5 C-3 CHAIN LINK FENCE DETAIL
SCALE: N.T.S.



2 C-3 ELECTRICAL/TELEPHONE SERVICE FRAME DETAIL
SCALE: NTS



3 C-3 TREE PLANTING - EVERGREEN
SCALE: N.T.S.



4 C-3 UTILITY TRENCH
SCALE: NTS

tower
VENTURES II, LLC
170 WESTMINSTER STREET
SUITE 701
PROVIDENCE, RI 02903

A&E FIRM
URS CORPORATION AES
795 BROOK STREET
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

A&E SEAL
STATE OF CONNECTICUT
IGNAGIO C ARTIACO
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LICENSED ARCHITECT

PROJECT NO: 36923410/TV1003
DRAWN BY: LMM
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ISSUED FOR

06-27-03	REVIEW
07-11-03	ISSUED FOR FINAL

CHESHIRE POLICE DEPARTMENT
RT.10, HIGHLAND AVENUE
CHESHIRE, CONNECTICUT

MONOPOLE ELEVATION AND CIVIL DETAILS

C-3

Exhibit C

Equipment Specifications

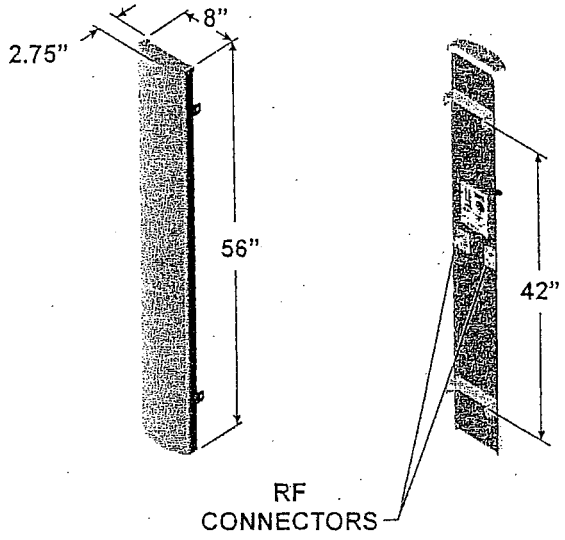
490 Highland Avenue
Cheshire, Connecticut

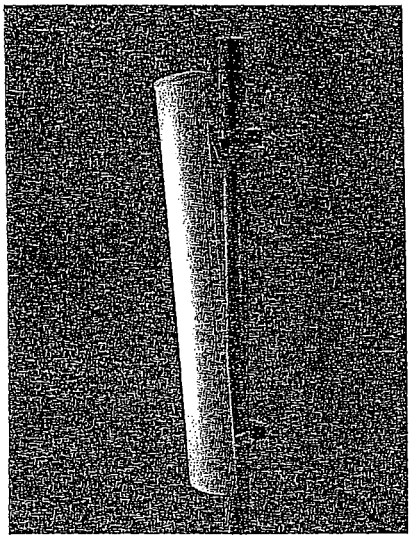
EMS WIRELESS

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	3.1ft² (.29 m²)
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)

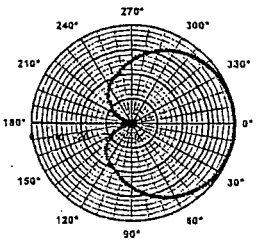
Note: Patent Pending and US Patent number 5, 757, 246.

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.

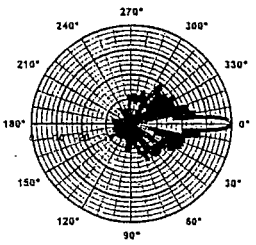
MOUNTING OPTIONS

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"

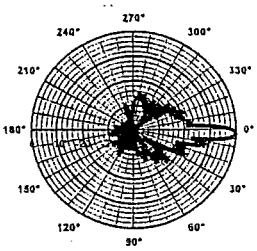
* Model number shown represents a series of products. See mounting options section for specific model number.



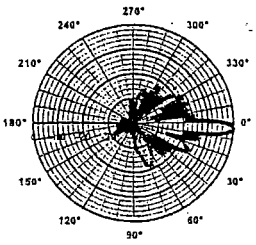
Azimuth



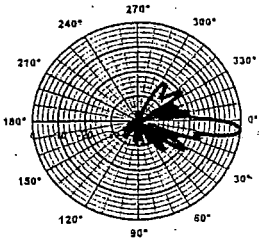
Elevation
0° Downtilt



Elevation
2° Downtilt



Elevation
4° Downtilt



Elevation
6° Downtilt

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.

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/m3 to 36 g/m3

- 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 m^3 / hour

Exhibit D

Power Density Calculations

490 Highland Avenue
Cheshire, Connecticut

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

Technical Memo

To: Karina Hansen
From: Jeetendra Ghare - Radio Frequency Engineer
cc: Overbey Jason
Subject: Power Density Report for CT11308D
Date: July 7, 2003

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a New Monopole at 490 Highland, Cheshire, 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 T-Mobile 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 147 ft.
5) The maximum transmit power from any sector is 3147.31 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 T-Mobile PCS antenna installation on a New Monopole at 490 Highland, Cheshire, CT, is 0.03473 mW/cm^2. This value represents 3.473% of the Maximum Permissible Emission (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile 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.

New England Market
Connecticut
Worst Case Power Density

Site:	**CT11308D**
Site Address:	**490 Highland**
Town:	**Cheshire**
Tower Height:	**170 ft.**
Tower Style:	**New Monopole**
Base Station TX output	17 W
Number of channels	8
Antenna Model	EMS RR90-17-02DP
Cable Size	1 5/8 in.
Cable Length	160 ft.
Antenna Height	147.0 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	1.8560 dB
Total Attenuation	2.8560 dB
Total EIRP per Channel	55.95 dBm
(In Watts)	393.41 W
Total EIRP per Sector	64.98 dBm
(In Watts)	3147.31 W
nsg	13.6440
Power Density (S) =	**0.034731 mW/cm^2**
T-Mobile USA Worst Case % MPE =	**3.4731%**

Equation Used :

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

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	% of Standard
Verizon	
Cingular	
Sprint PCS	
AT&T Wireless	
Nextel	
Total Excluding T-Mobile USA	**0.0000 %**
T-Mobile USA	3.4731
Total % MPE for Site	**3.4731%**

C Squared Systems, LLC
13 Forest Drive
East Kingston, NH 03827
Phone 603-758-1013
E-mail: Kevin.Mosher@csquaredsystems.com

Calculated Radio Frequency Emissions

Site Name: Cheshire, CT

Tower Ventures

Table of Contents

1. Introduction

The purpose of this report is to investigate compliance with applicable federal, state and local EMF regulations for a telecommunications facility at 500 Highland Avenue in Cheshire CT.

Power density values provided are values at the base of the tower. These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. These assumptions result in calculated values that will be significantly higher than the actual signal levels will be from the finished installation.

The results will be listed as a percentage of current Maximum Permissible Exposure (% MPE) limits as listed in the FCC OET Bulletin 65 Edition 97-01. Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The number of mW/cm^2 emitted is called the power density.

2. Site Data

Existing and proposed antenna information is shown in Table 1 below.

Carrier	Freq (MHz)	Antenna Centerline (Feet)	Total Transmit Power (Watts ERP)
Emergency Services	450	167.5	1200
Sprint PCS	1900	157.5	2750
T-Mobile	1900	147.5	1796
AT&T	1900	137.5	3000
Cellular	869	127.5	371
iDEN	851	117.5	400

Table 1: Proposed Antenna Information

3. RF Exposure Prediction Methods

Power density is calculated in accordance with FCC OET Bulletin 65 formula (6):

$$\textbf{Power Density} = \frac{2.56*(1.64)*ERP}{(4*\pi*R^2)}$$

Where:
ERP = Effective Radiated Power
R = Radial distance = $\sqrt{(H^2 + V^2)}$
H = Horizontal distance from antenna
*V = Vertical distance from antenna**

**6 foot offset used*

4. FCC Guidelines for Evaluating RF Radiation Exposure Limits

The Federal Communications Commission (FCC) OET Bulletin 65, Edition 97-01 dated August 1997 outlines requirements for radio frequency exposure and provides guidelines for determining whether proposed or existing transmitting facilities, operations or devices comply with limits for radio frequency exposure. These requirements include limits for Maximum Permissible Exposure (MPE) for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

Radiation can be broadly broken into two groupings; ionizing and non-ionizing. Ionizing means that there is enough energy to cause electrons to be stripped from atoms "ionizing" the atom and changing its characteristics. Non-ionizing radiation means that there is not enough energy to create ions. It only causes vibrations or oscillations of the atoms, which results in heat but does not strip electrons from atoms. Non-ionizing radiation is usually absorbed as heat in the human body and its parts. Ionizing radiation occurs at frequencies exceeding 1,000,000,000 MHz. All PCS and Cellular providers operate within a much lower frequency band than those associated with ionizing.

Based on thorough scientific review of the studies and papers, various groups have developed exposure limits below which no health effects are known to occur. Two of the primary groups in the United States are the Institute of Electrical and Electronic Engineers (IEEE) and the National Council on Radiation Protection and Measurement (NCRP). As mentioned previously, the FCC limits are based on exposure limits recommended by these groups. The limits incorporate a safety factor of 50 for the general public populations. This means that the exposure limit set is at least 50 times below the level where any changes are noticeable. The impact of human exposure to levels equivalent to the limit set by the FCC is practically indistinguishable from the impact of normal ambient temperature variation, exposure to the sun, exercise, etc.

Attachment A outlines maximum exposure limits as outlined in OET Bulletin 65. As shown in this attachment, each frequency band has different exposure limits, requiring power density to be reported as a Percentage of Maximum Permissible Exposure (MPE) when dealing with carriers transmitting in different frequency bands.

5. Calculation Results

The calculated results indicate that radio frequency emissions expected from this installation are significantly less than the regulatory emission limits for public exposure.

Table 2 below shows contribution of the percentage of Maximum Permissible Exposure of the FCC limit for each operator for the general public as outlined in FCC OET Bulletin 65 Edition 97-01.

Technology	Max % Limits
Emergency Sevices	5.52
Sprint PCS	4.31
T-Mobile	3.23
AT&T	6.25
Cellular - CDMA	1.56
iDEN	2.04
Total	**17.39**

Table 2: Percent of Maximum Permissible Exposure

6. Conclusion

This report details percentage of FCC limits using measured values for the existing antennas and calculated values for the proposed antennas in Cheshire, CT. As can be seen from the above tables, the expected aggregate radio frequency emissions are well below the regulatory emission limits for general public exposure, even when using very conservative assumptions. The highest aggregate percent Maximum Permissible Exposure at the base of the tower is 17.39% of the FCC limits for the general public as outlined in FCC OET Bulletin 65 Edition 97-01. Power density decreases by the square of the distance from the source (every time the distance is doubled, the power density is reduced by a factor of four). Therefore, even at small distances from the tower, power density values will be significantly lower than the levels at the base of the tower.

7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations were computed in accordance with and using techniques in compliance with ANSI/IEEE Std. C95.3, ANSI/IEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Kevin Mosher

Kevin Mosher
C Squared Systems, LLC

7/10/03
Date

References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment A - Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*($900/f^2$)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz
*= Plane-wave equivalent power density

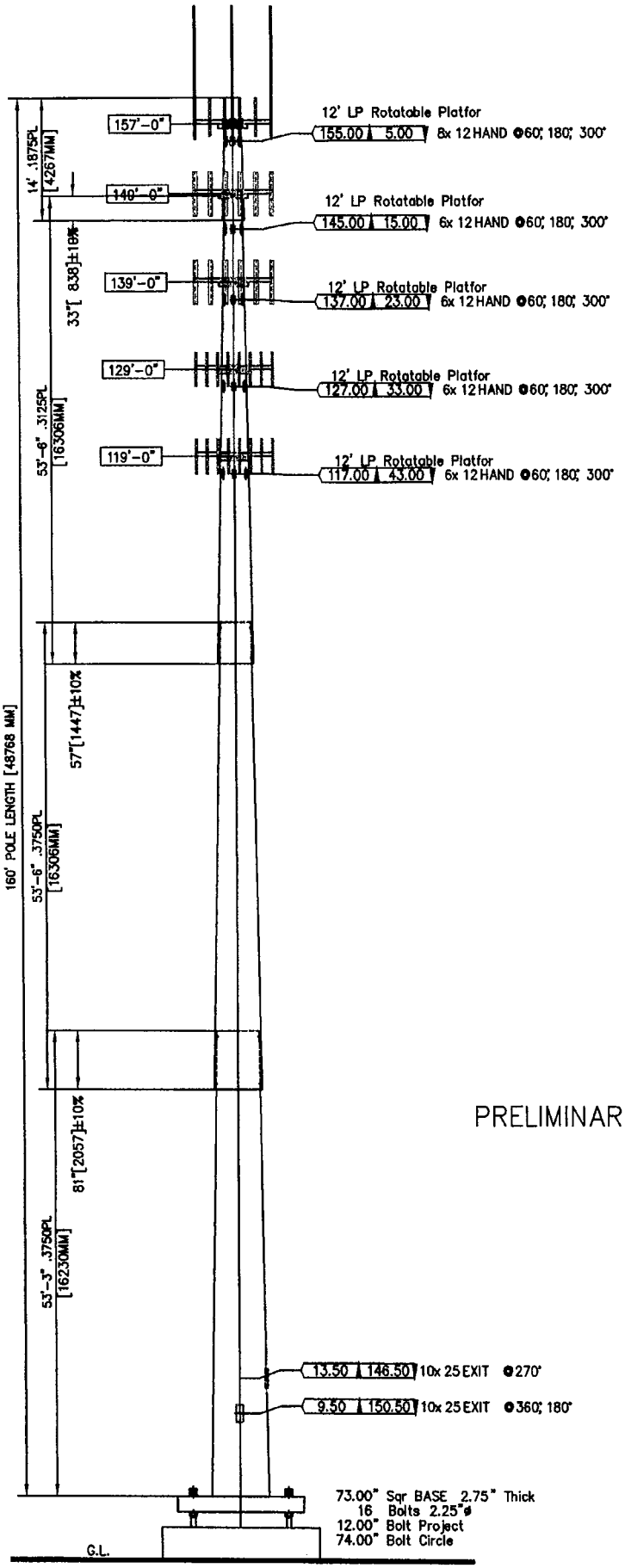
Note 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Exhibit E

Structural Calculations

490 Highland Avenue
Cheshire, Connecticut



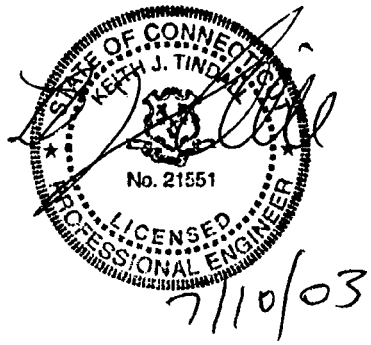
POLE SPECIFICATIONS		
POLE HEIGHT	160.00	FEET
TAPER	.3232	IN/FT
POLE SHAPE	18	SIDED POLYGON
ORIENTATION		

Lev	Qty	Elev ft.	Fut	APPURTENANCE / ANTENNA DESCRIPTION
1	3	157.00	f	12' LP Rotatable Platfor
	6	159.00	f	20' WHIP
	9	159.00	F	58000
2	1	149.00	F	12' LP Rotatable Platfor
	9	149.00	F	5' X 1'
3	1	139.00	F	12' LP Rotatable Platfor
	9	139.00	F	5' X 1'
4	1	129.00	F	12' LP Rotatable Platfor
	12	129.00	F	DB844H90
5	1	119.00	F	12' LP Rotatable Platfor
	12	119.00	F	DB844H90

LOAD CASE DESCRIPTION	WIND (mph)	O.L.F. VERT.	RAD. ICE	FACTORS GUST	FACTORS Cf	WIND (psf)
1) Max Wind	85.00	1.00		1.69	.65	31.26
2) Max Wind Load x.75	73.61	1.00	.50	1.69	.65	23.44
3) Everyday Operating	50.00	1.00		1.69	.65	10.82

LOAD CASE DESCRIPTION	RES. BASE REACT Axial (kips)	Shear (kips)	Mom (ft-k)	DISP @TOP DEFL. (ft)	SWAY (deg)
1) Max Wind	46.0	39.1	4836	9.9	7.57
2) Max Wind Load x.75	53.1	31.8	4024	8.3	6.43
3) Everyday Operating	45.4	13.5	1679	3.4	2.63

1) FULL HEIGHT STEP BOLTS
2) ANTENNA FEED LINES RUN INSIDE POLE



PRELIMINARY – NOT FOR CONSTRUCTION

ESTIMATED STRUCTURE WEIGHT= 35.21 Kips

Tower Ventures

Sabre Communications Corporation

Cheshire Police, CT

167.50 MONOPOLE

00-00000		SIZE	DRAWING NO.	REV
DATE	10Jul03	A	04-1173-01	–
DRAWN BY	–			
CHECKED BY	REH	–	SCALE N.T.S.	PAGE 1