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June 6, 1996

RECEIVED

JUN 06 1996

**CONNECTICUT
SITING COUNCIL**

VIA HAND DELIVERY

Joel M. Rinebold, Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

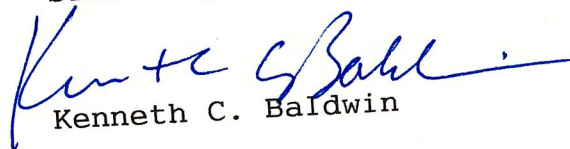
Re: Application by Bell Atlantic NYNEX Mobile for a
Certificate of Environmental Compatibility and Public
Need for the Construction, Maintenance and Operation of
a Cellular Telecommunications Facility in the Town of
Groton, Connecticut

Dear Joel:

Enclosed you will find the original and twenty (20) copies of the above-referenced application, together with the appropriate application fee of \$1,000. Also enclosed are two copies of the Groton Zoning Regulations and Zoning Map, submitted as Bulk File Exhibit 1; the Groton Inland Wetland Regulations and Wetlands Maps submitted as Bulk File Exhibit 2; and the Groton Plan of Development submitted as Bulk File Exhibit 3.

If you have any questions regarding this information, please contact me immediately.

Sincerely,


Kenneth C. Baldwin

KCB/nwh
Enclosures

Copy to:
Jennifer Young Gaudet (w/enc.)

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JUN 06 1996

CONNECTICUT
SITING COUNCIL

Cellco Partnership
d/b/a Bell Atlantic NYNEX Mobile

Connecticut Siting Council

Application of
Cellco Partnership d/b/a
Bell Atlantic NYNEX Mobile

Groton Site

Docket No. _____

June 6, 1996

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Mobile

TABLE OF CONTENTS

I.	INTRODUCTION	1
A.	Authority, Purpose and Background	1
B.	The Applicant	3
C.	Application Fee	4
II.	SERVICE AND NOTICE REQUIRED BY C.G.S. Section 16-501(b)	5
III.	REQUIRED INFORMATION: PROPOSED CELLULAR FACILITY . . .	5
A.	General Information	5
B.	Public Need and System Design	8
1.	Public Need	8
2.	System Design and Equipment	9
a.	System Design	9
b.	Cellular System Equipment	10
3.	Technological Alternatives	10
C.	Site Selection	11
D.	Cell Site Information	12
1.	Site Facilities	12
2.	Overall Costs and Benefits	13
3.	Environmental Compatibility	14
a.	Council's Solicitation of Agency Comments	15
b.	Non-Ionizing Radio Frequency Radiation	15
4.	Consistency with Local Land Use Controls . . .	16
a.	Planned and Existing Land Uses	17
b.	Plan of Development	17

c.	Zoning Regulations	18
d.	Inland Wetland and Watercourse Regulations	19
5.	Local Input	20
6.	Consultations With State and Federal Officials	21
a.	Federal Communications Commission	21
b.	Federal Aviation Administration	22
E.	Estimated Cost and Schedule	22
1.	Overall Estimated Costs	22
2.	Overall Scheduling	23
IV.	CONCLUSION	23

LIST OF ATTACHMENTS

1. Factual Outline - Groton Site
2. Pre-Filed Testimony of David S. Malko, P.E.
3. Composite Coverage Maps - Groton Cell Site
4. Certificate of Service of Application on Government Officials and List of Officials Served
5. Legal Notice in the Hartford Courant
6. Notice to Landowners; List of Abutting Landowners; Certificate of Service
7. Federal Communications Commission Authorization
8. Specifications for Cellular Equipment
9. Connecticut Siting Council Application Guide

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:

APPLICATION OF CELLCO PARTNERSHIP)	DOCKET NO. _____
d/b/a BELL ATLANTIC NYNEX MOBILE)	
FOR A CERTIFICATE OF ENVIRONMENTAL)	
COMPATIBILITY AND PUBLIC NEED FOR)	
THE CONSTRUCTION, MAINTENANCE AND)	
OPERATION OF A CELLULAR)	
TELECOMMUNICATIONS FACILITY)	
AT THE GROTON MUNICIPAL SERVICES)	
COMPLEX IN THE TOWN OF GROTON TO)	
PROVIDE CELLULAR SERVICE)	
IN THE NEW LONDON NECMA)	JUNE 6, 1996

APPLICATION FOR CERTIFICATE OF
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

I. INTRODUCTION

A. Authority, Purpose and Background

This Application and the accompanying attachments (collectively, the "Application") is submitted by Cellco Partnership d/b/a Bell Atlantic NYNEX Mobile ("BANM" or the "Company"), pursuant to Chapter 277a, Sections 16-50g et seq. of the Connecticut General Statutes ("C.G.S."), as amended, and Sections 16-50j-1 et seq. of the Regulations of Connecticut State Agencies ("R.C.S.A."), as amended. The Application requests a Certificate of Environmental Compatibility and Public Need ("Certificate") for the construction, maintenance, and operation of a cellular telecommunications facility ("proposed cell site") at the Groton Police Headquarters, Groton Long Point Road, Groton, Connecticut (the "Site") which will replace an existing cell site at the same location.

A new 148-foot telecommunications tower, antennas and associated equipment are proposed at this facility. The new tower will accommodate antennas of the Town, BANM and Springwiche Cellular Limited Partnership ("Springwiche"). Upon completion of the new tower, a 60-foot tower on the Site and antennas on the roof of the Police Department building will be removed.

The proposal was the subject of Petition No. 350, recently before the Council, in which BANM requested a ruling from the Council that the proposal would not have a substantial adverse environmental effect and did not require a Certificate. At the time of its review, the Council declined to make the requested ruling. Because the information presented in Petition is directly relevant to this Application, the Company requests that the Council take Administrative Notice of the entire record of Siting Council Petition No. 350. The proposed facility would replace an existing BANM facility at this location. The site provides cellular telecommunication service within the New London, Connecticut, New England County Metropolitan Area (the "New London NECMA"), which comprises New London County. The Groton facility is necessary to provide increased coverage in the Groton area and will allow the Company to meet the current projected demand for mobile telephone communications service in the area.

The Site is the location of the Town of Groton's municipal services complex, and includes three existing telecommunications towers and associated antenna structures, with overall heights of approximately 130 feet ("Tower #1"), 100 feet ("Tower #2"), and 60

feet ("Tower #3"), (see Attachment 1, p. 3) as well as numerous antennas mounted on the roof of the police station building. These towers and antennas currently provide telecommunication service to the town police department and other emergency service agencies. Pursuant to prior Council acknowledgements, BANM and Springwicheach utilize the complex as a cell site.

Included in this Application as Attachment 1 is a factual summary of the proposed cell site. This summary, along with the other attachments submitted as part of this Application and Petition No. 350, contain all of the site-specific information required by statute and the regulations of the Connecticut Siting Council (the "Council").

In accordance with Paragraph I(F) of the Council's "Application Guide" for Community Antenna Television and Telecommunication Towers, a copy of the Application Guide is included as Attachment 9. The Application Guide contains references to the specific pages of this Application and the attachments where the information required under Section VI of the Application Guide may be found.

B. The Applicant

Cellco Partnership is a Delaware partnership, with an administrative office at 20 Alexander Drive, Wallingford, Connecticut 06492. The Company is licensed by the Federal Communications Commission (FCC) to construct and to operate a cellular system within the meaning of C.G.S. Section 16-50i(a)(6).

Operation of the cellular system and related activities are the Company's sole business in the State of Connecticut.

The Managing General Partner of Cellco Partnership is Bell Atlantic NYNEX Mobile, Inc., a Delaware corporation with its principal place of business at 180 Washington Valley Road, Bedminster, New Jersey. Bell Atlantic NYNEX Mobile, Inc. has extensive national experience in the development, construction, and operation of cellular telephone systems and the provision of cellular telephone service to the public. Correspondence and/or communications regarding this Application may be addressed to:

Bell Atlantic NYNEX Mobile
20 Alexander Drive
Wallingford, CT 06492
(203) 269-8858

Attention: Mr. David S. Malko, P.E., Director -
Engineering; or
Ms. Jennifer Young Gaudet, Manager -
Regulatory

A copy of all such correspondence or communications should also be sent to the applicant's attorneys:

Robinson & Cole
One Commercial Plaza
Hartford, Connecticut 06103-3597
(203) 275-8200
Attention: Kenneth C. Baldwin, Esq.
Brian C. S. Freeman, Esq.

C. Application Fee

The estimated total construction cost at the proposed cell site is Five Hundred Two Thousand, Three Hundred Dollars (\$502,300). Pursuant to Section 16-50v-1a(b) of the Regulations of Connecticut State Agencies, an application fee of \$1,000

accompanies this Application in the form of a check payable to the Connecticut Siting Council.

II. SERVICE AND NOTICE REQUIRED BY C.G.S. Section 16-501(b)

Copies of this Application have been sent by certified mail, return receipt requested, to municipal, regional, state, and federal officials, pursuant to C.G.S. Section 16-501(b). A certificate of service, along with a list of the parties served with a copy of the Application, is included as Attachment 4.

Notice of the Company's intent to submit this Application was published on two separate occasions by BANM in the New London Day pursuant to C.G.S. Section 16-501(b). A copy of the published legal notice is included as Attachment 5. A copy of the publisher's affidavit of publication will be submitted to the Siting Council as soon as it is available.

Attachment 6 contains a certification that notices were sent to each person appearing of record as an owner of property which may be considered to abut the Site in accordance with C.G.S. Section 16-501(b), as well as a list of the property owners to whom such notice was sent and a sample notice letter.

III. REQUIRED INFORMATION: PROPOSED CELLULAR FACILITY

The purpose of this section is to provide an overview and general description of the cellular facility proposed to be installed at the proposed cell site.

A. General Information

Prior to the 1980's, mobile telephone service was characterized by insufficient frequency availability, inefficient use of available frequencies, and poor quality of service. These limitations generally resulted in problems of congestion, blocking of transmissions, interference, lack of coverage, and relatively high cost.

Consequently, the FCC, in its Report and Order released May 4, 1981 in FCC Docket No. 79-318, recognized the public need for technical improvement, wide-area coverage, high quality service, and a degree of competition in mobile telephone service. To encourage the development of a competitive cellular service nationwide, the FCC has issued two licenses for the provision of cellular service at the wholesale level in each market area.

More recently, the federal Telecommunications Act of 1996 (the "Act") emphasized and expanded on these aspects of the FCC's 1981 decision. Among other things, the Act recognized an important nationwide public need for high-quality wireless telecommunication services of all varieties, including cellular. The Act also expressly promotes competition and seeks to reduce regulation in all aspects of the telecommunications industry in order to foster lower prices for consumers and to encourage the rapid deployment of new telecommunications technologies.

BANM's proposed cellular facility in Groton would be part of the expanding cellular telecommunications network envisioned by the Act, and has been developed to help meet these nationwide goals.

In particular, BANM's system has been designed, and the cell site proposed in this Application has been selected, so as to maximize the geographical coverage and quality of service while minimizing the total number of cell sites required.

Because the FCC and now the United States Congress has determined that there is a pressing public need for high-quality telecommunications service nationwide, the federal government has preempted the determination by the states, including the Connecticut Siting Council, with respect to public need for the cellular service to be provided by the proposed facility. In addition, the FCC has promulgated regulations containing technical standards for cellular systems, including design standards, in order to ensure the technical integrity of each system and nationwide compatibility among all systems. State regulation of these matters is likewise preempted. The FCC has also exercised its jurisdiction over and preempted state regulation with respect to radio frequency interference issues by providing for the establishment of regulations in this area as well.

Pursuant to FCC authorizations, BANM has constructed and currently operates cellular systems in, among others, the Fairfield County, New Haven, Hartford, and New London NECMAs and the Windham Rural Service Area (RSA) in Connecticut. This system, together with BANM's system throughout its east coast markets, has been designed and constructed to operate as one integrated, contiguous system, consistent with BANM's business policy of developing compatibility and continuity of service on a regional basis.

Included as Attachment 7 is the authorization issued by the FCC to Metro Mobile CTS of New London, Inc. for the New London NECMA, along with the FCC's subsequent authorization transferring this license to Cellco Partnership. The FCC's Rules permit a licensee to modify its system, including through the addition of new cell sites, without prior approval by the FCC, as long as the licensee's authorized service area is not enlarged. The facility proposed in this Application would not enlarge BANM's authorized service area.

B. Public Need and System Design

1. Public Need

As noted above, the Telecommunications Act of 1996 has preempted the determination of public need. In the New London NECMA, which includes Groton, BANM holds the FCC license as the "nonwireline" cellular service provider, in competition with Springwiche. Pursuant to its FCC license, BANM has developed and continues to develop a network of cell sites to serve the demand for cellular service in the area.

The purpose of the Groton site is to provide cellular coverage and traffic handling capacity to the Groton area. The replacement cell site proposed in this Application is designed to provide additional coverage and to improve the site's capacity to "off-load" traffic from the existing Stonington, North Stonington, Montville and New London facilities.

Attachment 3 contains composite maps showing coverage areas for the existing sites in the Groton area, before and after the

addition of the proposed Groton site. These maps illustrate the coverage benefit and off-loading effect of the proposed site.

2. System Design and Equipment

a. System Design

The overall cellular system and the proposed facility in Groton has been designed and developed to allow BANM to achieve and to maintain high quality service not subject to interruption from dropped calls and interference.

The system design provides for frequency reuse and hand-off, is capable of orderly expansion, and is compatible with other cellular systems. The resulting quality of service compares favorably with the quality of service provided by conventional wireline telephone service. The cellular system is designed to assure a true cellular configuration of base transmitters and receivers in order to cover the proposed service area effectively while providing the highest quality of service possible. Cell site transmissions are carefully tailored to the FCC's technical standards with respect to coverage and interference, and to minimize the amount of power that is radiated. System modulation is narrowband frequency modulation for all voice channels at 30 kilohertz (Khz).

Mobile telephone switching offices ("MTSOs") in Norwalk and Wallingford are interconnected and operate the cellular system in the four NECMAs and one RSA in Connecticut as a single cellular network, offering the subscriber uninterrupted use of the system while traveling throughout these areas. This network is further

interconnected with SNET's public switched landline telephone network at various locations throughout Connecticut.

BANM has designed its cellular system in conformity with applicable standards and constraints for cellular systems. Relevant federal regulations are contained in the Code of Federal Regulations at 47 C.F.R. Part 22, Subpart K. BANM's system is also designed to minimize the need for additional cell sites.

b. Cellular System Equipment

The key elements of the cellular system are the two MTSOs located in Norwalk and Wallingford, and the various connector cell sites around the state.

The major electronic components of each cell site are radio frequency transmission and receiving equipment and cell site controller equipment. BANM's cellular system uses AT&T Autoplex System 1000 Series II cell site equipment to provide complete cell site control and performance monitoring. This equipment is capable of expanding in modules to meet system growth needs. The cell site equipment primarily provides for: message control on the calling channel; call setup and supervision; radio frequency equipment control; internal diagnostics; response to remote and local test commands; data from the mobile or portable unit in both directions and on all channels; scan receiver control; transmission of power control commands; rescanning of all timing; and commands and voice channel assignment. Additional information with respect to the AT&T Autoplex equipment is contained in Attachment 8.

3. Technological Alternatives

BANM submits that there are no equally effective technological alternatives to the proposal contained herein. In fact, the Company's cellular system represents state-of-the-art technology offering high-quality cellular service. BANM is aware of no viable alternatives to its system design for carriers licensed by the FCC under 47 C.F.R. Part 22 which are available now.

C. Site Selection

BANM began searching for a cell site some years ago in Groton to fill a number of coverage holes encountered by its cellular phone customers in the Groton area, especially in the heavily traveled I-95 and Route 1 corridors.

Consistent with its policy of utilizing, to the extent possible, existing towers, BANM first attempted to identify all existing towers or other structures of potentially adequate height in or near the site search area. This initial search identified the Town's Municipal Services Complex as a technically feasible site location. BANM propagation modeling indicated that the existing towers at the site would provide BANM with enough coverage to warrant utilizing an existing tower site.

The proposed facility will continue the tower sharing on the existing tower. Since BANM began operating its cell site, Springwich has also been authorized by the Town to use the existing tower. That shared use will continue on the new tower. The improvement in communications capabilities for the Town, BANM and

Springwich provided by this facility will enhance public safety in the Town of Groton and the surrounding area, including the waters off the Groton shore.

D. Cell Site Information

1. Site Facilities

The Site consists of an approximately 37.6 acre parcel owned by the Town of Groton on Groton Long Point Road, Groton, Connecticut. This property serves as the Town's Municipal Services Complex, and houses the town police department headquarters, a town public works department garage and maintenance facility, a recycling drop-off facility for town residents, and the town dog pound. The Site also includes three existing telecommunications towers. Two of the towers are owned by the town and are located near or adjacent to the police department headquarters. The third tower is owned by a local HAM radio organization and is located in the northwest corner of the Site. (See Attachment 1.) In addition to the towers, whip antennas of varying size are mounted on the roof of the police station. (See Site photographs included in BANM Petition No. 350).

The applicant proposes to construct a new 148-foot high self-supporting lattice tower at the Site. At the top of the tower, BANM would install 12 approximately 4-foot directional antennas, which would be mounted on side arms with their center of radiation at 146 feet above ground level ("AGL"). The total height of the tower with the appurtenances would be 148 feet. Due to its proximity to the Groton-New London Airport, approximately 1.5 miles

to the southwest, the FAA has determined that the proposed tower can be no taller than 148 feet, including appurtenances, and even at this height would need to be lit. An 8-foot high security fence with a gate would be installed around the base of the tower. Attachment 1 contains specifications for the proposed tower.

The Company's equipment would be housed in a 20' x 30' room in a new addition to the existing police department building. The building addition would also house communications equipment for the Town and Springwich.

Vehicular access to the Site would be over existing driveways and parking areas serving the police department. Utility access would extend from existing above-ground utility service along Groton Long Point Road to the cell site.

2. Overall Costs and Benefits

Aside from the limited incremental visual impacts discussed below, BANM believes that there are no significant costs attendant to the construction, maintenance, and operation of the proposed cell site. In fact, the public will benefit substantially from improved emergency service communications in the Town of Groton and its increased ability to receive high-quality mobile and portable cellular service from both licensed cellular providers in the State of Connecticut. The Groton cell site would be a part of a cellular system that addresses the public need identified by the FCC and the United States Congress for high-quality, competitive mobile and portable cellular service. Moreover, the proposed cell site would

be part of a cellular system designed to limit the need for additional cell sites when expanding service in the future.

The overall costs to BANM for site acquisition and construction of the proposed cell site are set forth in Subsection E. of this Section of the Application and in Attachment 1.

3. Environmental Compatibility

Pursuant to Section 16-50p of the General Statutes, in its review of the Application, the Council is required to find and to determine, among other things, the nature of the probable environmental impact, including a specification of every significant adverse effect of the facility, whether alone or cumulatively with other effects, on, and conflicting with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, forests and parks, air and water purity and fish and wildlife.

Construction of a new tower typically involves locating the tower where none had been located before, and assessing issues such as the visual impact of a tower at the property, and potential impacts from site clearing, access road construction, utility service lines, and construction of an equipment building. By contrast, the facility proposed in this Application will have no such impact. The proposed facility will utilize an existing multiple tower site within a highly developed municipal services complex. The visual effect of the new tower will be further minimized by the proximity of the 92.5-foot water tank at the crest

of the same hill. The proposed facility would not require significant site clearing, access road construction, new utility connections or a free-standing equipment building. The proposed development would have at most only a limited incremental effect on the environment.

Weather permitting, BANM will raise a balloon with a diameter of at least three (3) feet at the proposed cell site on the day of the Council's first hearing session on this Application, or at a time otherwise specified by the Council.

a. Council's Solicitation of Agency Comments

Section 16-50j of the General Statutes requires the Council to consult with and to solicit comments on the Application from the Commissioners of the Departments of Environmental Protection, Public Health and Addiction Services, Public Utility Control, Economic Development, and Transportation, the Council on Environmental Quality, and the Office of Policy and Management, Energy Division.

b. Non-Ionizing Radio Frequency Radiation

The American National Standards Institute (ANSI) standard for deriving recommended safety levels for frequencies between 300 Megahertz (Mhz) and 15 Gigahertz (Ghz) in uncontrolled environments yields a maximum safe exposure level of 0.583 milliwatts per square centimeter (Mw/cm²) at frequencies used by cellular telephone (870-

880 Mhz). This standard for frequencies is obtained by the equation:

$$\text{FREQUENCY (in Mhz)} \div 1500 = \text{MAXIMUM} \\ \text{EXPOSURE (Power Density in milliwatts per} \\ \text{centimeter squared (mW/cm}^2\text{))}.$$

This is the maximum allowable exposure (power density) from a facility such as the one proposed in this Application. The ANSI standard was adopted by the State of Connecticut in C.G.S. Section 22a-162 and Section 22a-162a "for the purpose of preventing possible harmful effects in human beings from exposure to electromagnetic fields in the frequency range of 300 Kilohertz (Khz) to 100 Gigahertz (Ghz)...."

BANM's calculations indicate that the maximum power density level from its antennas at the proposed facility would be 0.032 mW/cm² (5.5% of the ANSI Standard). The maximum power density level for Springwichee antennas would be 0.037 mW/cm² (6.3% of the ANSI Standard). The only significant change from the existing installation at the Site will be to relocate existing antennas to generally higher elevations on the new tower. Overall maximum power density levels at the Site should therefore decrease with the proposed installation. Due to the large number of town antennas expected to be relocated to the new tower, the final configuration of the town antennas on the new tower can, as a practical matter, be determined only upon completion of construction of the tower. BANM will provide the Council with more detailed information on

this point once the final configuration of the antennas on the new tower has been determined.

4. Consistency with Local Land Use Controls

The Connecticut Siting Council Application Guide, as amended on February 5, 1992, requires the inclusion of a narrative summary of the project's consistency with the Town's Plan of Development and Zoning Regulations, as well as a description of planned and existing uses of the proposed cell site locations and surrounding properties.

a. Planned and Existing Land Uses

The proposed cell site is located on the 37.6± acre parcel owned by the Town of Groton. This property serves as the town's Municipal Services Complex, and houses the town Police Department headquarters, a Public Works Department garage and maintenance facility, a recycling drop-off facility and the town dog pound.

To the north of the Site is additional Town-owned property, a residential dwelling fronting on Groton Long Point Road, a cemetery and a new cylindrical water tower owned and operated by the City of Groton Department of Utility.¹ To the west of the Site is a residential dwelling, the Robert E. Fitch Senior High School and St. Mary's Church, all fronting on Groton Long Point Road. To the south are existing residential dwellings fronting on Groton Long

¹ The water tower is approximately 92.5 feet above ground level in height and 46 feet in diameter. Due to its bulk and location at the crest of a hill (the same hill on which the Site is located), the water tower is the dominate visual feature in the area (see Site photographs included in Petition No. 350).

Point Road. To the east is the Town's recycling drop-off facility and additional undeveloped wooded land owned by the town.

According to the Groton Planning Department there are currently no known plans to further develop or improve the land surrounding the Site.

b. Plan of Development

The Groton Plan of Development (the "Plan") does not specifically identify a cellular telecommunications facility as a land use that is consistent or inconsistent with the general planning policies of the town. The Plan and its implementation element does not contemplate any changes to existing land uses or development patterns in the area immediately surrounding the town's Municipal Services Complex. Also, the Open Space Preservation Plan, included in Section 8 of the Plan (Map 16) does not identify the municipal services complex as an area targeted for preservation or as existing open space and does not identify any significant "scenic view areas" near the Municipal Services Complex.

The Plan's goal for community facilities and services calls for, among other things, the provision for the municipal service needs of its residents and businesses in a responsible and efficient manner. The maintaining and strengthening of the town's emergency service communications system, as provided for by the proposed tower in this Application, is consistent with this goal.

c. Zoning Regulations

According to the Town of Groton Zoning Regulations ("Zoning Regulations") and Zoning Map (the "Zoning Map"), the municipal

services complex is located in the town's RS-20 zone district. Telecommunications towers are not specifically listed as permitted uses or uses subject to special conditions in any zone in town, including the RS-20 zone.

Pursuant to the height limitations set forth in Section 4.4 Zoning Regulations "towers ... [in general] occupying in the aggregate not more than 10% of the building area ... [of a lot] may be erected to a reasonable and necessary height as determined by the [Zoning] Commission." The tower proposed in this Application would occupy an area equal to approximately 0.14% of the building area at the Site. It is the Applicant's contention that the 148-foot tower proposed in this Application is both reasonable and necessary to accommodate multiple communications providers generally and BANM's specific coverage needs in the Groton area.

The construction of the proposed building addition was the subject of a Site Plan application under Section 8.4 of the Zoning Regulations. The Site Plan application was approved by the Groton Planning Commission on March 12, 1996.

d. Inland Wetland and Watercourse Regulations

According to the Groton Inland Wetland and Watercourses Map, there are no inland wetland areas within or near the proposed cell site location. In addition, prior to the approval of the Site Plan by the Groton Planning Commission, Debra Jones, Groton's Environmental Planner, determined that the activity proposed would not require a wetlands permit. The equipment used at the BANM facility will discharge no pollutants to these wetland areas or to

area groundwater. According to the Federal Emergency Management Agency Flood Insurance Rate Map Community Panel No. 0901290001-0002 (revised January 5, 1984) the proposed Site is located within Flood Zone C, defined as an area of minimal flooding.

5. Local Input

As discussed earlier, the current proposal represents phase II of BANM's arrangement with the Town of Groton regarding use of the Municipal Services Complex for a cell site. Phase I provided for the temporary installation of BANM antennas Tower #1 at the Site. These antennas were installed following favorable acknowledgment by the Council at their meeting of May 20, 1993. Radio equipment associated with these antennas was placed within the existing police station building.

Phase II provides for construction of a new tower and an addition to the police station, both of which will be turned over to the Town upon completion. As currently proposed, the new tower will be used by BANM, the Town and Springwich. In particular, the new tower would support BANM antennas to replace those temporarily located on Tower #1, Springwich antennas also located on the Tower #1 and Town antennas to be relocated from Tower #3 and Tower #1 and/or from the roof of the police station.

Pursuant to Section 8-24 of the Connecticut General Statutes regarding leases of municipal property, the Groton Town Council referred the two-phase lease arrangement to the Groton Planning Commission. At its public meeting on October 12, 1993 the Planning Commission voted in favor of the proposed lease arrangement with

BANM. The agreement was next approved by the Town Council at its public meeting of October 19, 1993. In its approving resolution, the Town Council stated that the proposed agreement would enhance radio transmission and reception, provide the police dispatch center with additional space for its communication antennas and generate a source of revenue for the town. Pursuant to the Groton Town Charter, BANM's request to lease town property was also referred to the Representative Town Meeting ("RTM"). At its public meeting of December 8, 1993 the RTM authorized the Town Manager to enter into the Lease agreement with BANM. Copies of the Planning Commission, RTM and Town Council decisions are attached as Exhibit F to Petition No. 350.

On March 20, 1996, representatives of BANM submitted additional technical information to the Town Manager to satisfy the local input requirements of Section 16-501(e). Although this matter had been before the Groton Town Council on numerous occasions in the past, BANM representatives offered to again meet with the Town Council to answer any questions with respect to the details of the proposed cell site application.

Following submission of this Application, BANM will submit copies of any additional comments received from the Town to the Council as soon as they are available, along with a more complete summary of local consultation, in accordance with C.G.S. § 16-501.

6. Consultations With State and Federal Officials

a. Federal Communications Commission

The FCC did not review this particular proposal. As discussed above, FCC approval is not required where the authorized service area is not enlarged.

b. Federal Aviation Administration

At BANM's request, the FAA reviewed the proposed Groton facility and determined that the proposed tower would not constitute an obstruction and would not be a hazard to air navigation. However, due to the Site's proximity to the Groton-New London Airport, the FAA has recommended that the proposed tower be lighted, in accordance with FAA Advisory Circular 70/7460-1 and limited to 148 feet AGL including appurtenances. The FAA was not willing to make a favorable determination for a tower taller than 148'. A copy of the FAA recommendations are included in Attachment 1 of this Application.

E. Estimated Cost and Schedule

1. Overall Estimated Costs

The total estimated cost of construction for the proposed cell site in Groton is \$502,300. This estimate includes:

- | | |
|--|-----------|
| (1) Cell site radio equipment of approximately | \$322,800 |
| (2) Tower and antenna costs of approximately | 41,000 |
| (3) Power systems costs of approximately | 13,500 |
| (4) Equipment Room costs of approximately | 20,000 |
| (5) Miscellaneous costs (including site preparation and installation) of approximately | 105,000 |

2. Overall Scheduling

It is anticipated that construction of the Police Headquarters building addition would commence immediately following Council approval of this application. Site preparation and engineering for the proposed tower would commence immediately following Council approval of the Company's Development and Maintenance ("D & M") plan, and are expected to be completed within two weeks. Due to the delivery schedules of the manufacturers, construction of the equipment room and tower is expected to take an additional two weeks. Equipment installation is expected to take an additional two weeks after construction of the building and tower. Cell site integration and system testing is expected to require two weeks after equipment installation. A schematic of the proposed schedule for installation and operation of the tower in Groton is included in the description of the site in Attachment 1.

IV. CONCLUSION

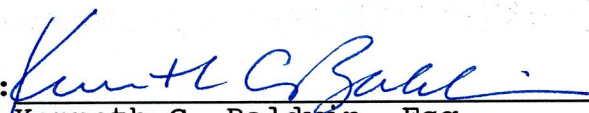
Based on the facts contained in this Application, BANM submits that the proposed cell site will not have any substantial adverse environmental effects. A public need exists for high quality mobile and portable cellular service in the New London NECMA, as determined by the FCC, and a competitive framework for providing such service has been established by the FCC. BANM submits that the public need far outweighs any possible environmental effects resulting from the construction of the proposed additional tower at the Groton Municipal Services Complex. Moreover, the cell site in

Groton proposed in this Application will help to provide a level of service in the area that is commensurate with the public demand now and in the foreseeable future.

WHEREFORE, BANM respectfully requests that the Council grant this Application for a Certificate of Environmental Compatibility and Public Need for the proposed facility in Groton.

Respectfully submitted,

Cellco Partnership d/b/a
Bell Atlantic NYNEX Mobile

By: 
Kenneth C. Baldwin, Esq.
Brian C. S. Freeman, Esq.
Robinson & Cole
One Commercial Plaza
Hartford, Connecticut 06103-3597
(203) 275-8200
Attorneys for the Applicant

GROTON SITE

Groton Long Point
Groton, Connecticut

Description of Proposed Cell Site

Bell Atlantic NYNEX Mobile
20 Alexander Drive
Wallingford, Connecticut 06492

GROTON SITE

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
GENERAL CELL SITE DESCRIPTION	1
CELL SITE JUSTIFICATION STATEMENT	1
ABUTTERS MAP	2
SITE PLAN	3
SITE EVALUATION REPORT	4
FACILITIES AND EQUIPMENT SPECIFICATION	6
TENTATIVE CONSTRUCTION SCHEDULE	7
FAA REPORT	8
TOWER ELEVATION PROFILE	9
EXISTING TOWER LISTING	10
ENVIRONMENTAL ASSESSMENT STATEMENT	11

SITE NAME: GROTON

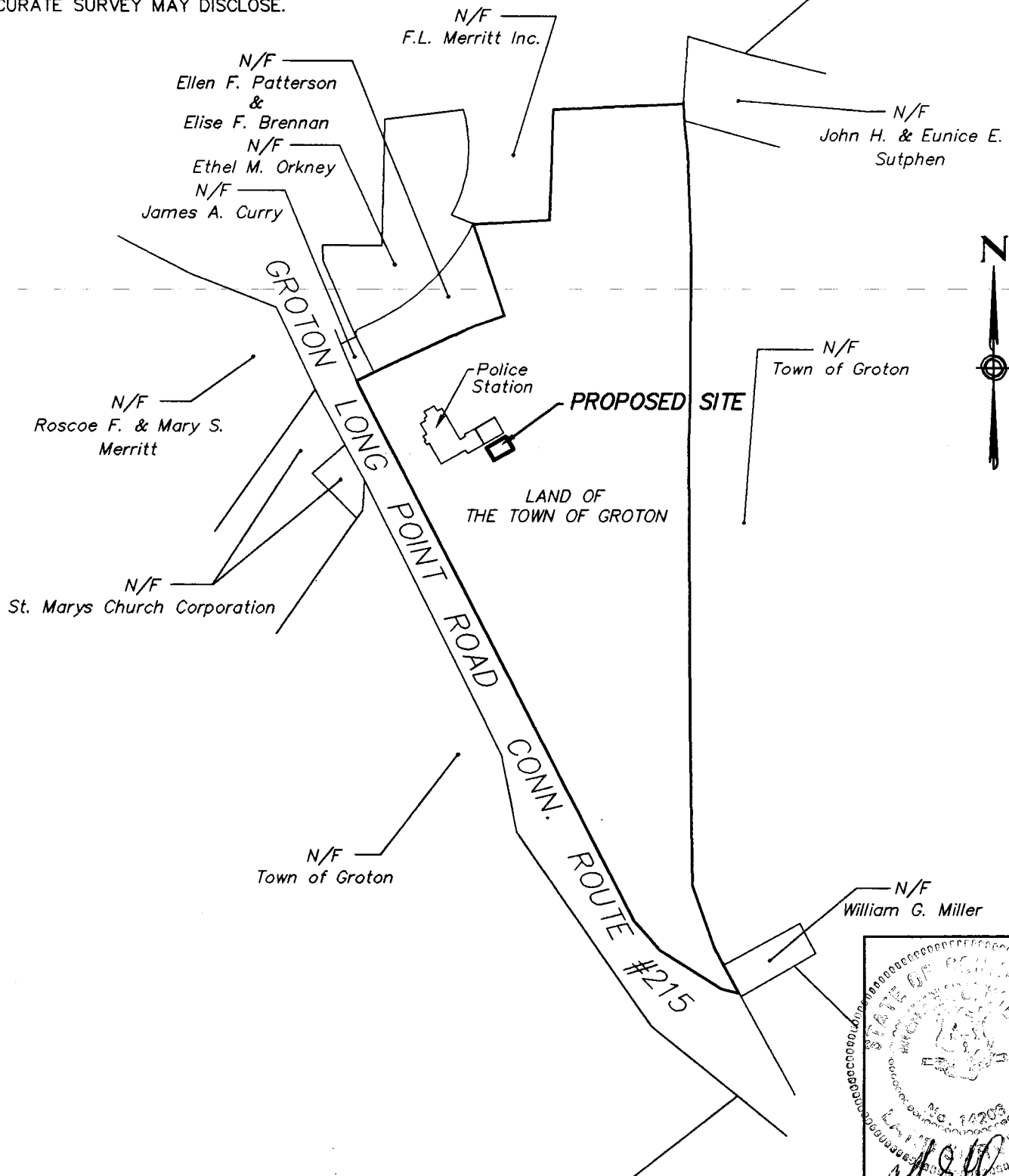
GENERAL CELL SITE DESCRIPTION:

The proposed Groton cell site consists of a 148-foot above ground level ("AGL") self-supporting lattice tower. Cellular equipment associated with the Groton facility would be located within a 20' x 30' equipment room located in a new building addition to the Police Department headquarters. The tower would be enclosed by an 8-foot high security fence and gate. Vehicle access to the site would be over existing driveways and parking areas serving the Police Department headquarters. Utility access would extend from existing above-ground service along Groton Long Point Road to the cell site, a distance of approximately 250 feet. The Police Department headquarters, as well as the existing 130-foot tower ("Tower #1") would be located within 148 feet of the proposed tower.

CELL SITE JUSTIFICATION STATEMENT

The Groton site is necessary to provide cellular coverage and traffic handling capacity in the Groton area. The proposed tower is required as part of the arrangement with the town pursuant to which BANM currently operates a cell site at the same location. The proposed facility would increase BANM's coverage and add traffic handling capacity in the area by allowing implementation of a sectorized configuration.

THIS MAP IS COMPILED FROM OTHER MAPS, DEED DIMENSIONS, AND OTHER SOURCES OF INFORMATION, NOT TO BE CONSTRUED AS AN ACCURATE SURVEY AND SUBJECT TO FINAL CHANGES AS A MORE ACCURATE SURVEY MAY DISCLOSE.



CONNECTICUT SITING COUNCIL APPLICATION

MICHAEL G. WILMES
L.S. NO. 14206

GROTON
PROPERTY OWNERS
GROTON LONG POINT ROAD
CONN. ROUTE #215

GROTON

CONNECTICUT

Greiner

Scale: 1" = 400'
Date: MAY 1996

Surveying and Mapping by:
Greiner, Inc. A-E-S
11 Fairfield Blvd., P.O. Box 787
Wallingford, CT 06492-0787
Tel. (203) 285-8741

Field book #
1347-36

Crew Chief
F. Segaline

Search #
3338

Project #
F080228

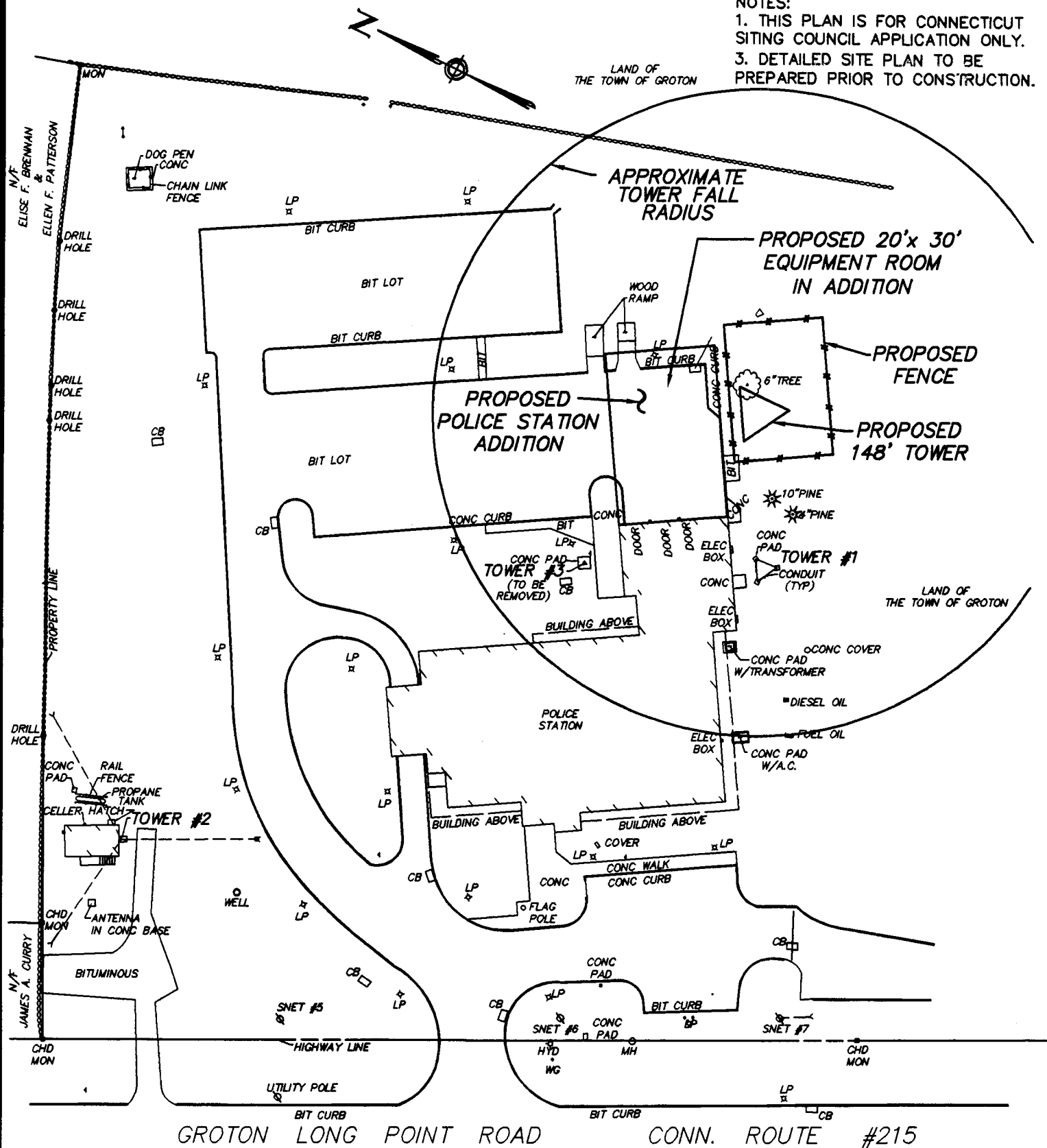
Computed by
M. Wilmes

Drawn by
S. Kalinka

Checked by
M G

Map file #
SK11,524

3. DETAILED SITE PLAN TO BE PREPARED PRIOR TO CONSTRUCTION.



CONNECTICUT SITING COUNCIL APPLICATION

GROTON
SITE LAYOUT
GROTON LONG POINT ROAD

GROTON

CONNECTICUT

Greiner

Scale: 1" = 60'
Date: MAY 1996

Surveying and Mapping by:
Greiner, Inc. A-E-S
11 Fairfield Blvd., P.O. Box 767
Wallingford, CT 06492-0767
Tel. (203) 265-6741

Field book #
1347-36

Crew Chief
F. SEGALINE

Search #
3338

Project #
F080228

Computed by
M. WILMES

Drawn by
S.KALINKA

Checked by
M G W

Map file #
SK11525

SITE EVALUATION REPORT

Site Name: Groton Cell Site

I. LOCATION

- A. COORDINATES: 41° 20' 36" N 72° 00' 37" W
- B. GROUND ELEVATION: 170' AMSL
- C. USGS MAP: New London, CT
- D. SITE ADDRESS: Groton Long Point, Groton, CT
- E. ZONING WITHIN 1/4 MILE OF SITE: Land within a 1/4 mile of the cell site is zoned RS-20, RU-20 and R-12.

II. DESCRIPTION

- A. SITE SIZE: 40' x 60'
LESSOR'S PARCEL: 37.6± ACRES
- B. TOWER TYPE/HEIGHT: SS LATTICE / 148' AGL
- C. SITE TOPOGRAPHY AND SURFACE: The cell site is located adjacent to the Police Department headquarters, at the Groton Municipal Services complex. In addition to the Police Department, the complex is the site of the public works garage, recycling center and dog pound. The site slopes up from a ground elevation of approximately 140' AMSL in a southerly portion of the complex to a ground elevation of approximately 200' AMSL in the northerly portion of the complex. Minimal leveling and clearing for the cell site compound would be required to construct the tower. No clearing or grading will be required for the construction of an access driveway to the cell site.
- D. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER: The area proposed to be used for the cell site tower contains no wetland areas or watercourses. There is an existing wetland area to the east of the recycling drop-off area. The surrounding terrain is irregular but generally slopes up from south to north to the area of the cell site.
- E. LAND USE WITHIN 1/4 MILE OF SITE: The proposed cell site and its surrounding area is generally developed with a mix of uses. To the west is St. Mary's Church and the Robert E. Fitch Senior High School. To the

north is additional Town-owned land, residential dwellings fronting on Groton Long Point Road and a new 92.5-foot cylindrical water tower, owned and operated by the City of Groton, Department of Public Utility. To the south is additional Town-owned land (public works garage) and residential lots fronting on Groton Long Point Road. To the east is undeveloped wooded land.

III. FACILITIES

- A. POWER COMPANY: Connecticut Light & Power
- B. POWER PROXIMITY TO SITE: Along Groton Long Point Road approximately 250 feet west of the proposed cell site.
- C. TELEPHONE COMPANY: SNET
- D. PHONE SERVICE PROXIMITY: Same as power.
- E. VEHICLE ACCESS TO SITE: Vehicular access to this site will extend over existing driveways and parking areas adjacent to the Groton Police Department headquarters.
- F. OBSTRUCTION: None
- G. CLEARING AND FILL REQUIRED: The tower site would need to be leveled, partially filled and cleared. Detailed plans would be developed after approval of the Groton site by the Connecticut Siting Council.

IV. LEGAL

- A. PURCHASE [] LEASE [X]
- B. OWNER: Town of Groton
- C. ADDRESS: Town Hall, 45 Foot Hill Road, Groton, CT.
- D. DEED ON FILE AT: Town of Groton, CT Land Records
Vol. 142 Page 151

FACILITIES AND EQUIPMENT SPECIFICATION
(NEW TOWER & BUILDING)SITE NAME: Groton Site

I. TOWER SPECIFICATIONS:

- A. MANUFACTURER: Rohn
- B. MODEL: SSV-Heavy Series TYPE: Self-Supporting Lattice
- C. HEIGHT: 148' DIMENSIONS: Approx. 22' leg to leg at base.
Approx. 4' x 6' at top.

II. TOWER LOADING:

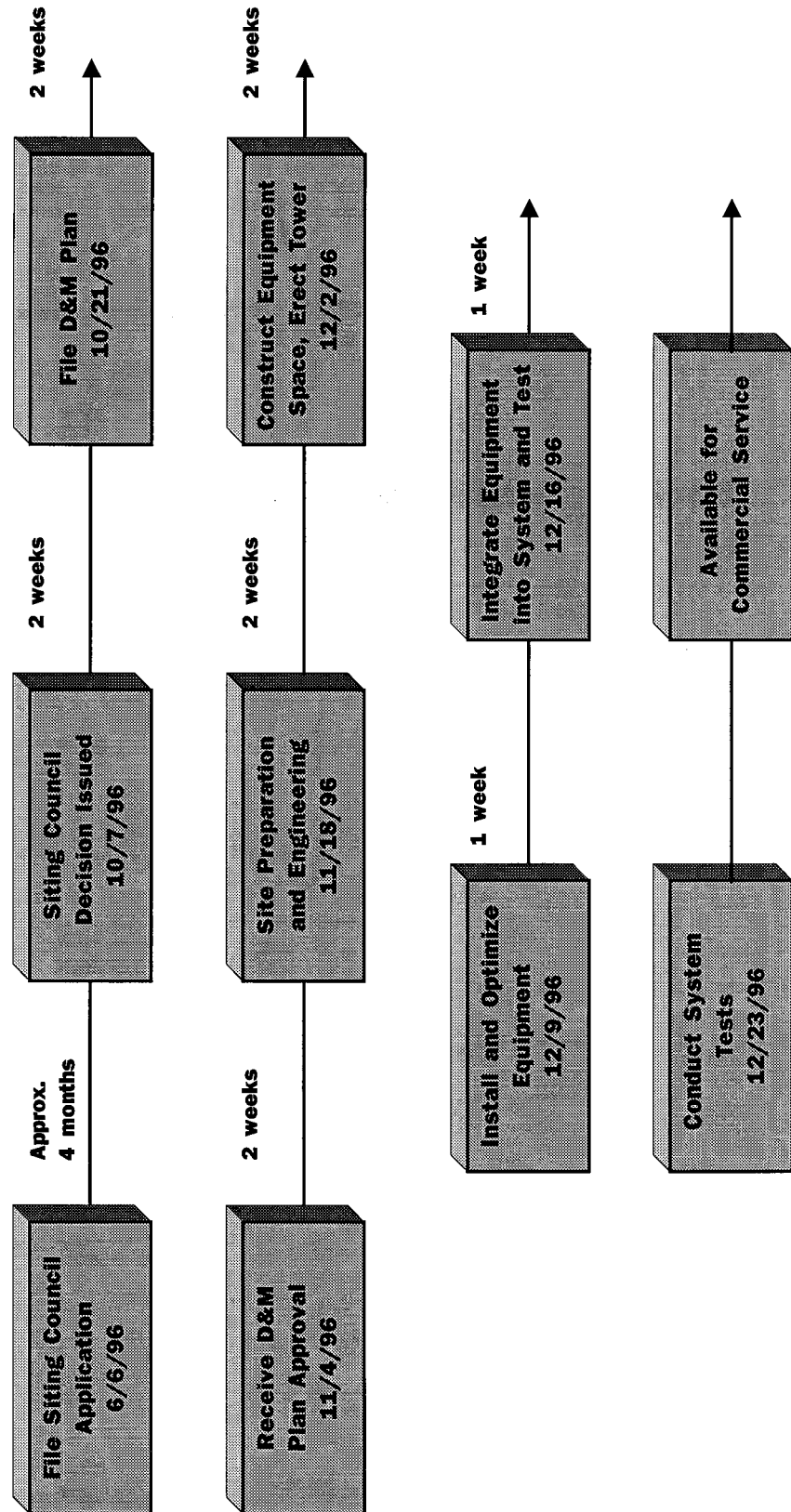
A. TRANSMIT/RECEIVE ANTENNAS (Voice) (12):

1. MFG/MODEL: 12 ALP 9212-N Swedcom
2. DIMENSIONS: ANTENNA WITH REFLECTOR: 52" x 11.4"
3. POSITION ON TOWER: Side mounted with center of radiation at
feet above
ground level (AGL).
4. TRANSMISSION LINES:
 - a. MFG/MODEL: Andrews LDF5-50A
 - b. SIZE: 7/8"

B. TOWER SKETCH SHOWING PROFILE AND LOADING: See page 10.III. ENGINEERING ANALYSIS AND CERTIFICATION:

In accordance with Electronic Industries Association Standard EIA/TIA-222-E "Structural Standards for Steel Antenna Towers and Antenna Support Structures", the tower would be designed to withstand pressures equivalent to a 90 MPH wind with a one-half inch solid ice accumulation. The foundation design would be based on soil conditions at the site.

**Cellco Partnership
d/b/a Bell Atlantic NYNEX Mobile
System Construction Schedule
(Tentative)
Groton, Connecticut**





U.S. Department
of Transportation
Federal Aviation
Administration

FEDERAL AVIATION ADMINISTRATION/ANE-530
12 NEW ENGLAND EXECUTIVE PARK
BURLINGTON, MA 01803

PAGE 8

IN REPLY REFER TO
AERONAUTICAL STUDY
NO. 93-ANE-204-OE

DETERMINATION OF NO HAZARD TO AIR NAVIGATION

SPONSOR	John P. Allen Airspace Consultant P.O. Box 1008 Fernandina Beach, FL 32034	CONSTRUCTION LOCATION	
		PLACE NAME	
		Poquonock Bridge, CT	
		LATITUDE NAD 83 41°20'48.3"	LONGITUDE NAD 83 72°00'28.2"
CONSTRUCTION PROPOSED	DESCRIPTION ANTENNA TOWER	HEIGHT (IN FEET)	
		ABOVE GROUND 148'	ABOVE MSL 320'

An aeronautical study of the proposed construction described above has been completed under the provisions of Part 77 of the Federal Aviation Regulations. Based on the study it is found that the construction would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the construction would not be a hazard to air navigation provided the following conditions are met:

Conditions:

This structure shall be obstruction marked and lighted in accordance with Advisory Circular AC 70/7460-1H, Chapters 3, 4, 5, and 13.

Supplemental notice of construction is required any time the project is abandoned (use the enclosed FAA form), or

- ☒ At least 48 hours before the start of construction (use the enclosed FAA form).
- ☒ Within five days after the construction reaches its greatest height (use the enclosed FAA form).

This determination expires on **June 18, 1994**

unless:

- a) extended, revised or terminated by the issuing office;
- b) the construction is subject to the licensing authority of the Federal Communications Commission and an application for a construction permit is made to the FCC on or before the above expiration date. In such case the determination expires on the date prescribed by the FCC for completion of construction, or on the date the FCC denies the application.

NOTE: Request for extension of the effective period of this determination must be postmarked or delivered to the issuing office at least 15 days prior to the expiration date.

This determination is subject to review if an interested party files a petition on or before **December 8, 1993**. In the event a petition for review is filed, it should be submitted in triplicate to the Manager, Flight Information and Obstructions Branch, AAT-210, Federal Aviation Administration, Washington, D.C. 20591, and contain a full statement of the basis upon which it is made.

This determination becomes final on **December 18, 1993** unless a petition for review is timely filed, in which case the determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

An account of the study findings, aeronautical objections, if any, registered with the FAA during the study, and the basis for the FAA's decision in the matter will be found on the following page(s).

If the structure is subject to the licensing authority of the FCC, a copy of this determination will be sent to that Agency.

This determination, issued in accordance with FAA Part 77, concerns the effect of this proposal on the safe and efficient use of the navigable airspace by aircraft and does not relieve the sponsor of any compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

SIGNED

Charles M. Taylor

TITLE Airspace Specialist, Sys. Mgmt. Branch

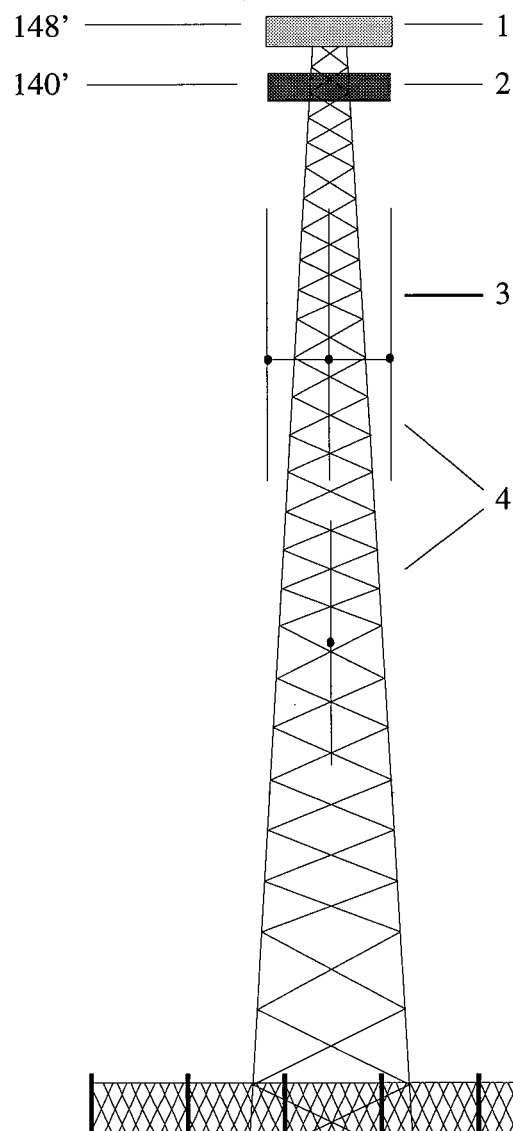
ISSUED IN

Burlington, MA

ON

November 8, 1993

Bell Atlantic NYNEX Mobile Schematic Tower Elevation



Tower

148' Self-supporting lattice tower.
John Mfg., SSV-Heavy

Antennas

BANM Transmit/Receive antennas
Model: Swedcom
15 ALP 9212-N mounted on 3' sidearms with
radiation center at
146' AGL. (ref. #1)

Springwich Transmit/Receive Antennas

Model: Swedcom
12 ALP 11011 mounted on side-arms with
radiation center at 138' AGL (ref. #2)

Town Antennas

2-PD 220 Whip Antennas (ref. #3)
6-PD 1142 Whip Antennas (ref. #4)

Tower Elevation Profile

1 cm = 10 feet (vertical scale)

GROTON SITE
EXISTING TOWER LISTING

There are three existing communications towers located within the Groton Municipal Services Complex as shown on Page 3 of this Attachment. There are four (4) other communications towers located between two and four miles from the Groton Municipal Services Complex. These existing towers would not provide adequate coverage to the existing coverage holes which would be served by the proposed facility.

	<u>TOWER OWNER/OPERATOR</u>	<u>TOWER LOCATION</u>	<u>TOWER #</u>	<u>HEIGHT</u>	<u>SOURCE</u>
1.	Southern New England Telephone	UCONN Bd. 22 Avery Point	96	32'	1
2.	City of Groton	City of Groton	111	45'	1
3.	City of Groton	City of Groton	112	15'	1
4.	City of Groton	City of Groton	113	40'	1

SOURCES:

1. State of Connecticut "TELECOMMUNICATION TOWER AND COMMUNITY ANTENNA TELEVISION TOWER INFORMATION SHEET" (Revised: April, 1992)
2. Connecticut Siting Council Dockets, Concerning Antenna Towers (Date: 2/94)
3. Towers not listed in the above information sheet that were discovered during field investigations of the area.

ENVIRONMENTAL ASSESSMENT STATEMENTSITE NAME: GROTON SITEGENERAL CELL SITE DESCRIPTION

The proposed Groton Site consists of a new 148-foot above-ground level ("AGL") telecommunications tower located in the northerly portion of the 37.6± acre Groton Municipal Services Complex on Groton Long Point Road. Cellular equipment for the Groton cell site will be located in a 20' x 30' equipment room in a new building addition to the Police Department. The proposed tower will be enclosed by an 8-foot security fence and gate. Vehicle access to the site would be over existing driveways and parking areas adjacent to the Police Department Headquarters. Utilities access will extend from Groton Long Point Road a distance of approximately 250 feet to the cell site. The Police Department headquarters, and building addition as well as the existing 130-foot tower would be located within 148-feet of the proposed tower.

ENVIRONMENTAL IMPACT OF PROPOSED CELL SITEI. PHYSICAL IMPACTA. WATER FLOW AND QUALITY

No water flow and/or water quality changes are anticipated as a result of the construction or operation of the cell site. There are no lakes, ponds, rivers, streams, wetlands or other regulated bodies of water located in or near the tower site. There is a wetland area located in the easterly portion of the town's parcel, east of the town's recycling center. The equipment used will discharge no pollutants to these wetland areas or to area groundwater.

B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used at this proposed cell site would emit no air pollutants of any kind.

C. LAND

Minimal clearing and leveling of the tower site would be required. To the extent possible, trees adjacent to the cell site would remain untouched. As a condition of local site plan approval, a number of trees which would need to be removed during cell site construction

will be relocated on site. The remaining land of the lessor would remain unchanged by the construction and operation of the cell site.

D. NOISE

The equipment to be in operation at the proposed site after construction would emit no noise of any kind, except for occasional operation of the installed heating, air conditioning and ventilation system. Some noise is anticipated during cell site construction, which is expected to take approximately four weeks.

E. POWER DENSITY

The American National Standards Institute (ANSI) recommended safety level for the frequencies used by cellular telephone (870-880 MHz) is 0.583 mW/cm^2 in uncontrolled environments. The worst-case calculation of power density for the BANM antennas at the Groton Site would be 0.032 mW/cm^2 (5.5% of the ANSI standard). The worst-case calculation of power density for the Springwichee antennas at the Groton Site would be 0.037 mW/cm^2 (6.3% of the ANSI Standard). Due to the large number of town antennas expected to be relocated to the new tower, the final configuration of the Town antennas can, as a practical matter be determined only upon completion of construction of the tower. More detailed information on this point once the final configuration of the town antennas has been determined.

F. VISIBILITY

The potential visibility of the additional lattice tower was determined using photographs of the existing towers at the Municipal Services Complex and seven (7) sight-line graphs which vary from 2,250 feet to 8,750 feet in length from representative points in the area surrounding the site and through field investigation. To illustrate the minimal incremental visual impact of the proposed tower, the sight-line graphs include a view of the site with and without the proposed additional tower.

The proposed tower will not be visible from sight line #1, located on a private road off Fort Hill Road, however the existing Tower #2 is visible from this point. Views of Tower #1 are obscured by the deciduous trees along Fort Hill Road.

The proposed and existing towers are not be visible from sight line #2, located on Lemont Road, due to the topography and the deciduous trees. However, the existing and proposed towers would be visible from points along New London Road (Route 1), in the vicinity of Groton Long Point Road.

The proposed and existing towers at the site would not be visible from sight line #3, located on Bel Aire Drive #3, due to the deciduous trees in this area.

The view of the proposed tower would be obscured from sight line #4, located on Crosswinds Drive, due to the mature deciduous trees in this area. The towers would be visible from the houses along the east side of Crosswinds Drive through a clearing in the trees (old woods road).

The proposed and existing towers would not be visible from sight line #5, located on Brook Street, due to the mature deciduous trees along the street.

The proposed tower will be visible from sight line #6, located on Groton Long Point Road. The existing towers at the site are currently visible from this location.

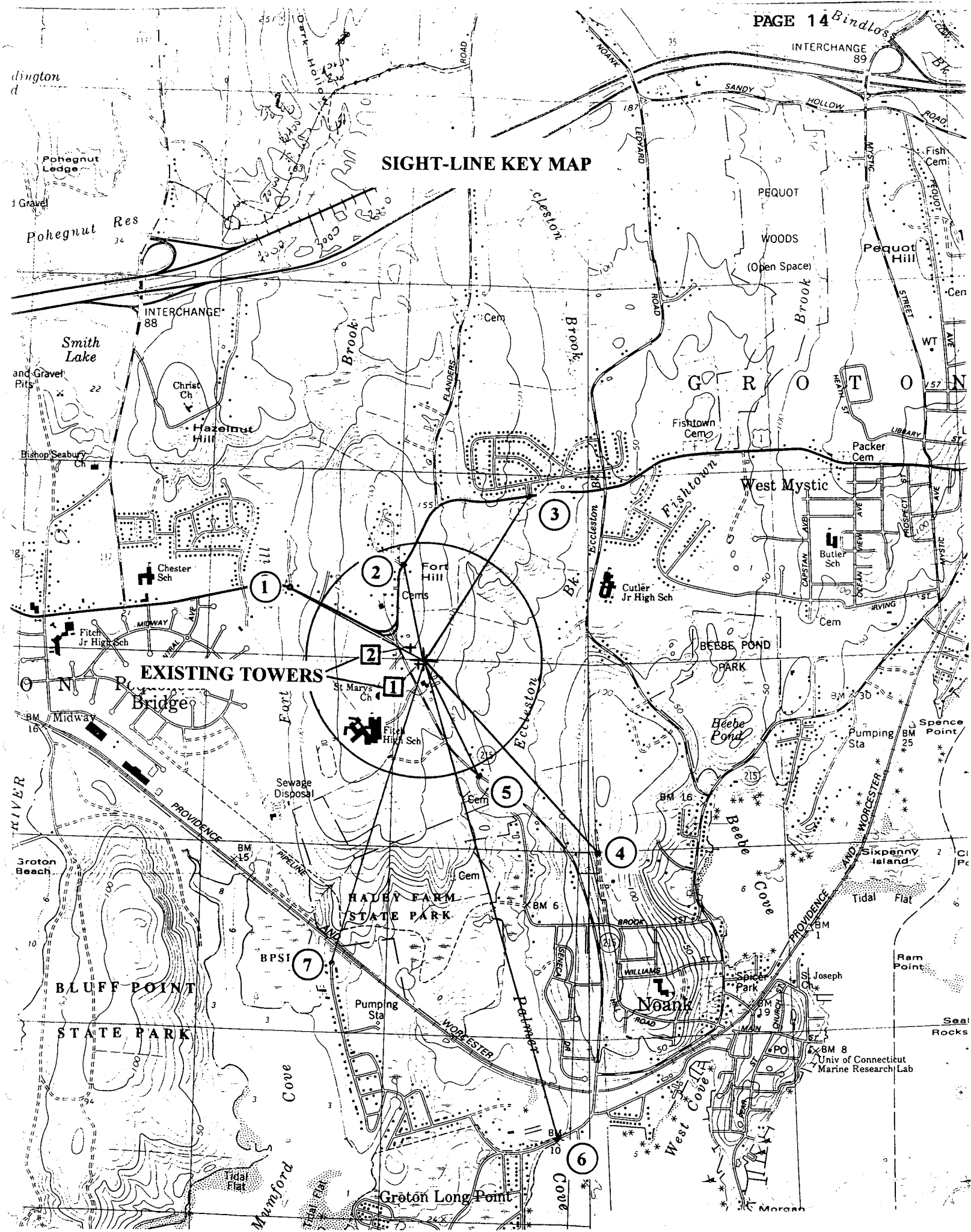
The proposed and existing towers would not be visible from sight line #7, located on Neptune Drive due to the mature deciduous trees.

There are 4 residences located within 1,000 feet of the proposed cell site. The closest residence is located approximately 400 feet northwest of the proposed tower. Also located within 1000 feet of the proposed cell site is the Public Works and Police Department buildings, St. Mary's Church and an accessory church building.

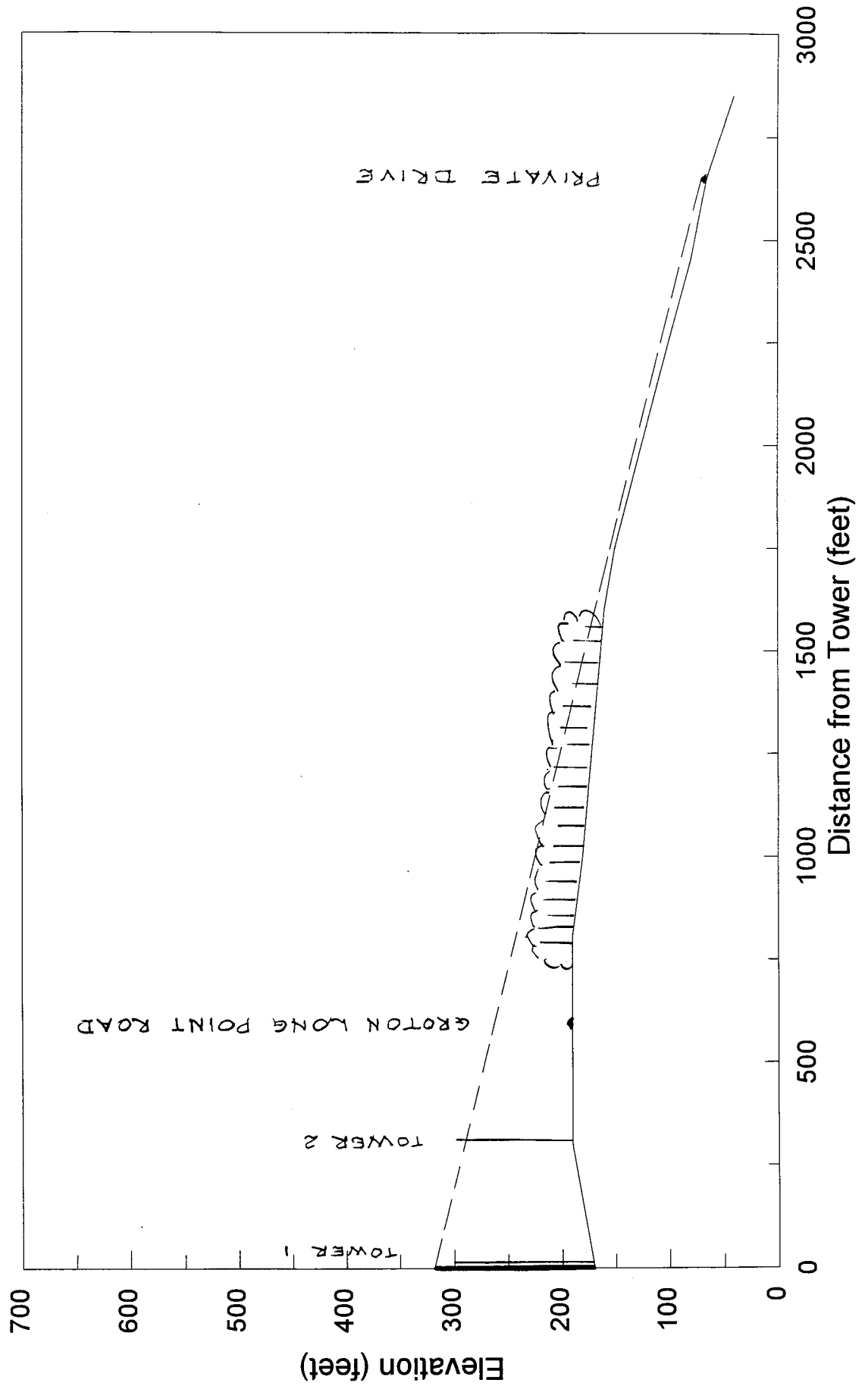
II. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

The parcel on which the cell site is located and the nearby areas exhibit no scenic, natural, historic or recreational characteristics which are unique when compared with similar areas in the state.

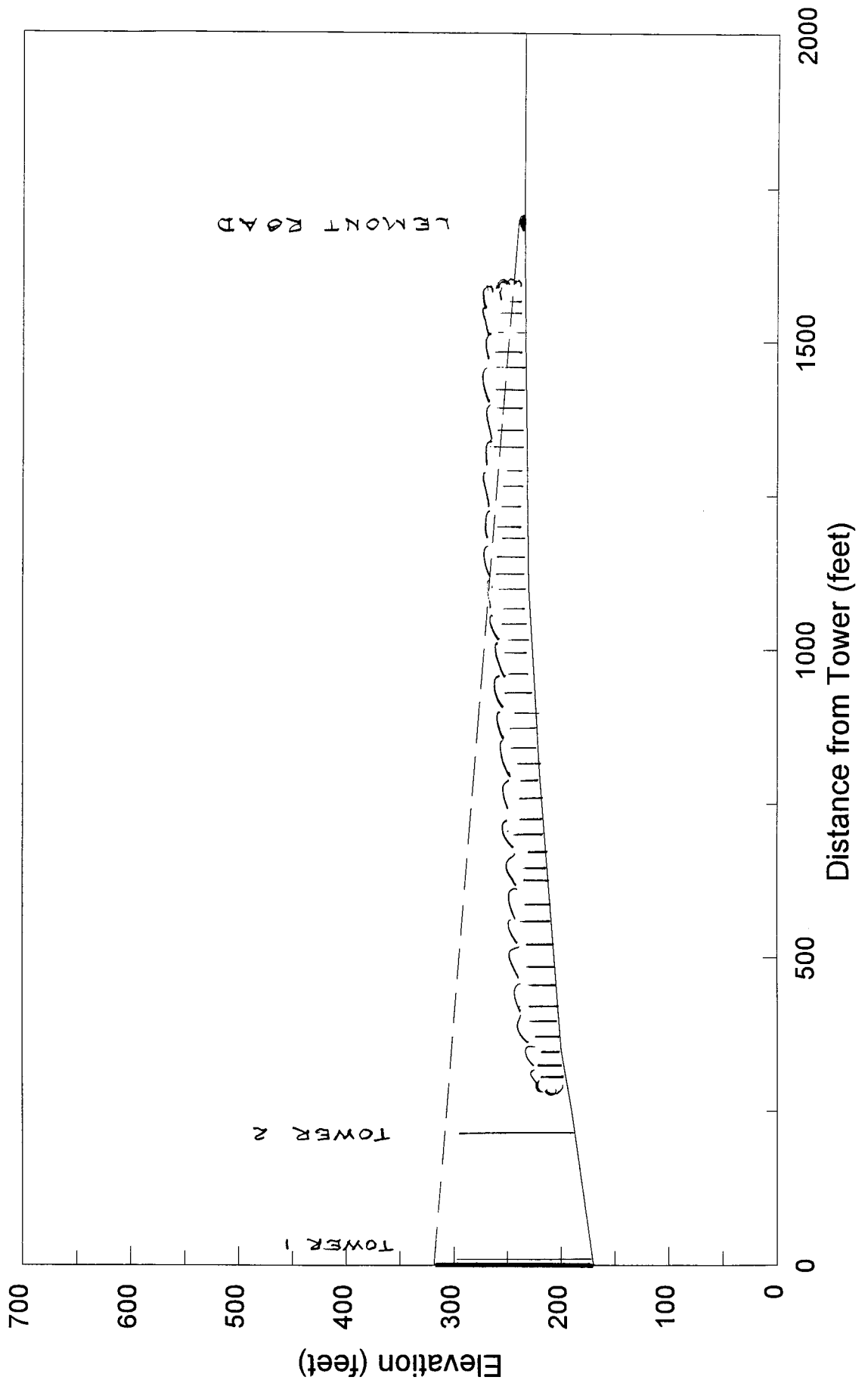
SIGHT-LINE KEY MAP



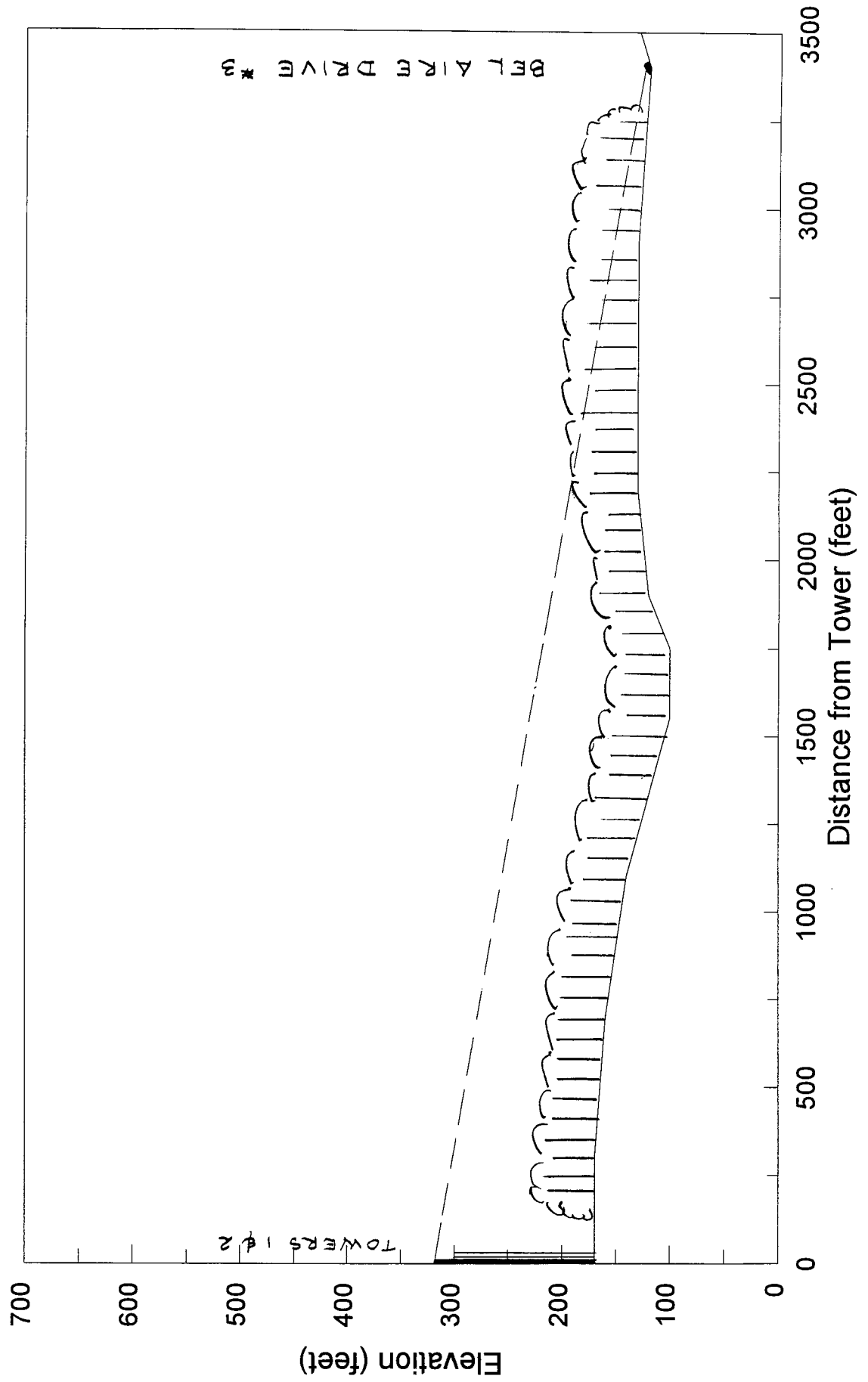
**FROM PRIVATE DRIVE
GROTON - SIGHTLINE #1**



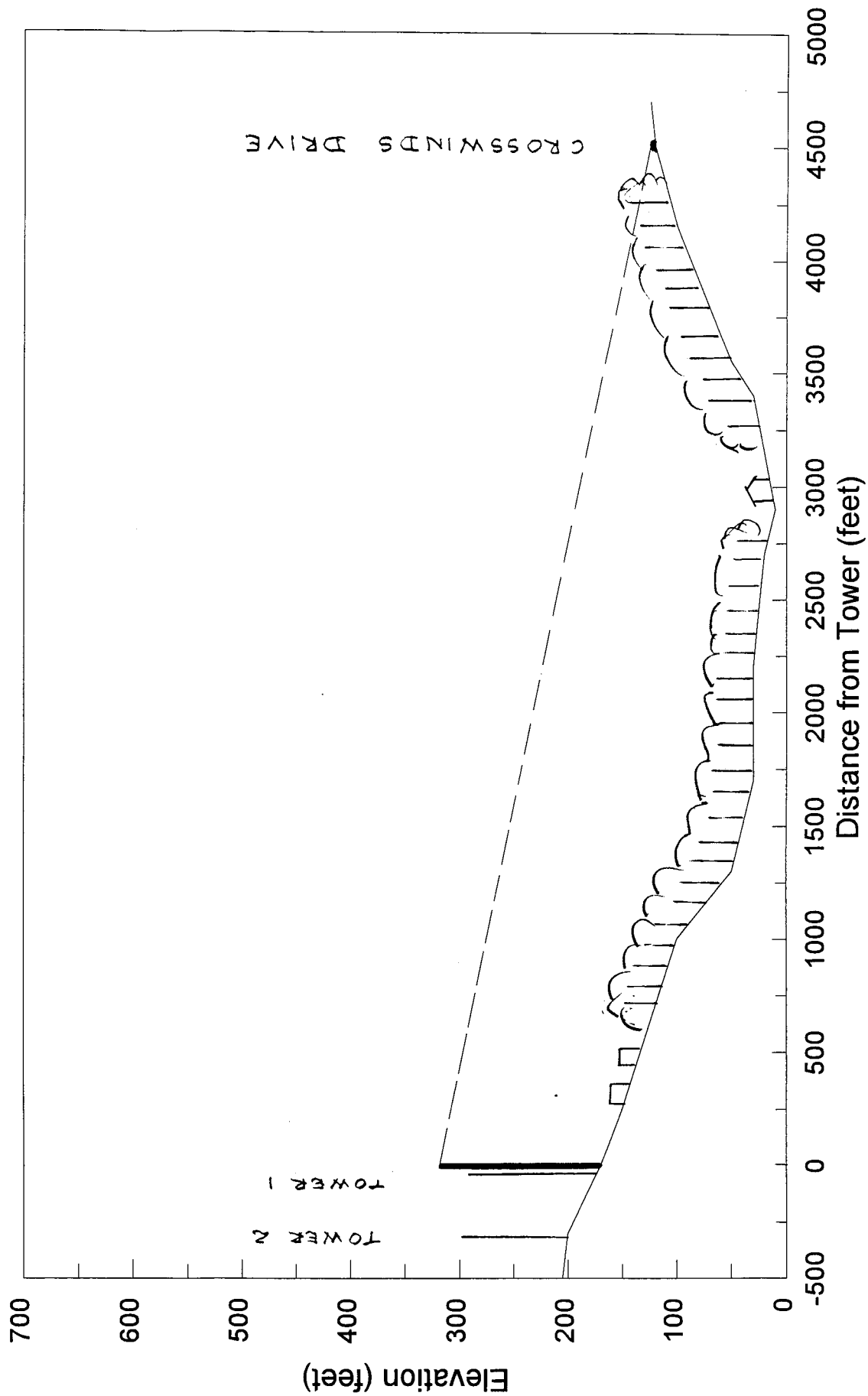
**FROM LEMONT ROAD
GROTON - SIGHTLINE #2**



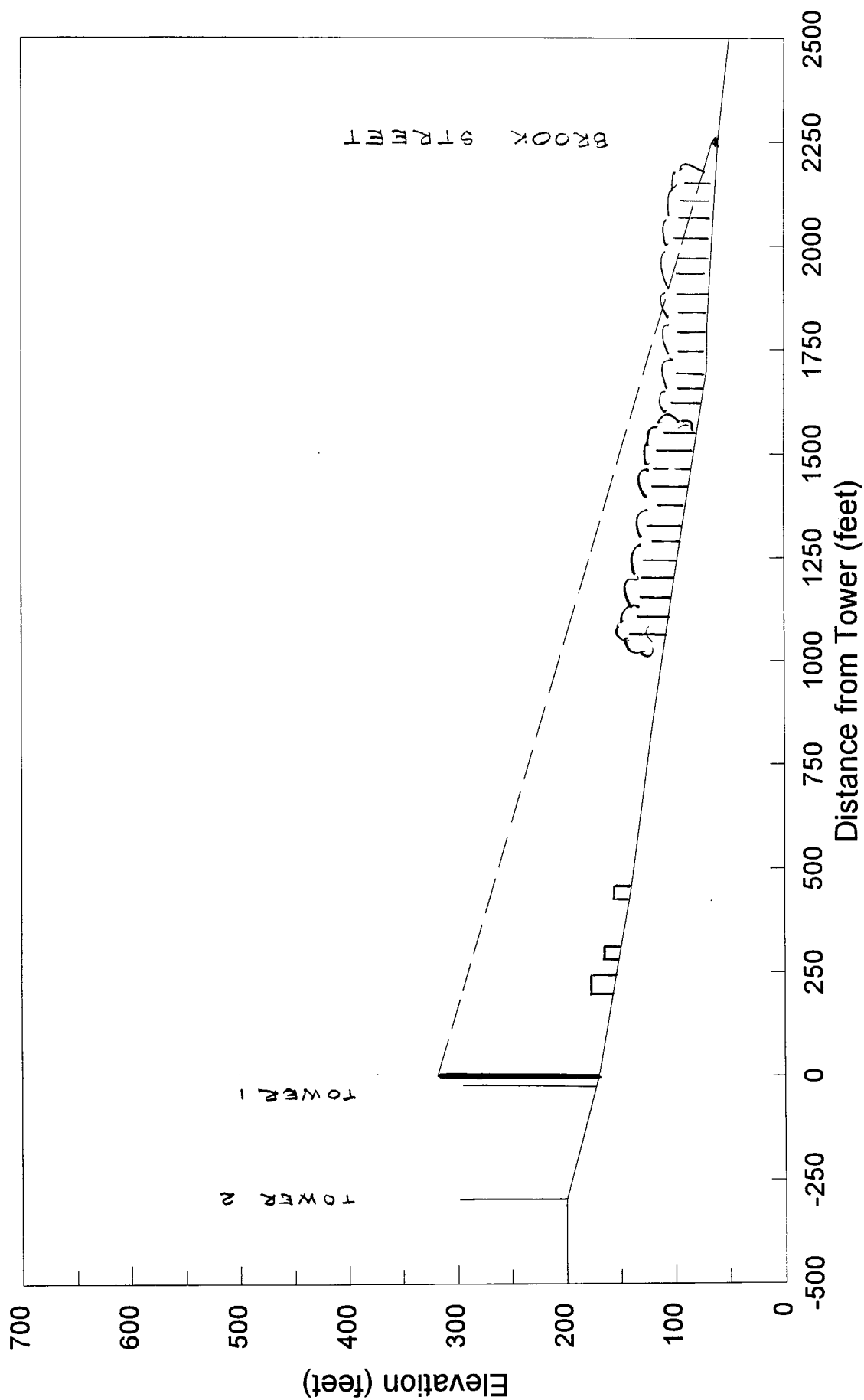
**FROM BEL AIRE DRIVE #3
GROTON - SIGHTLINE #3**



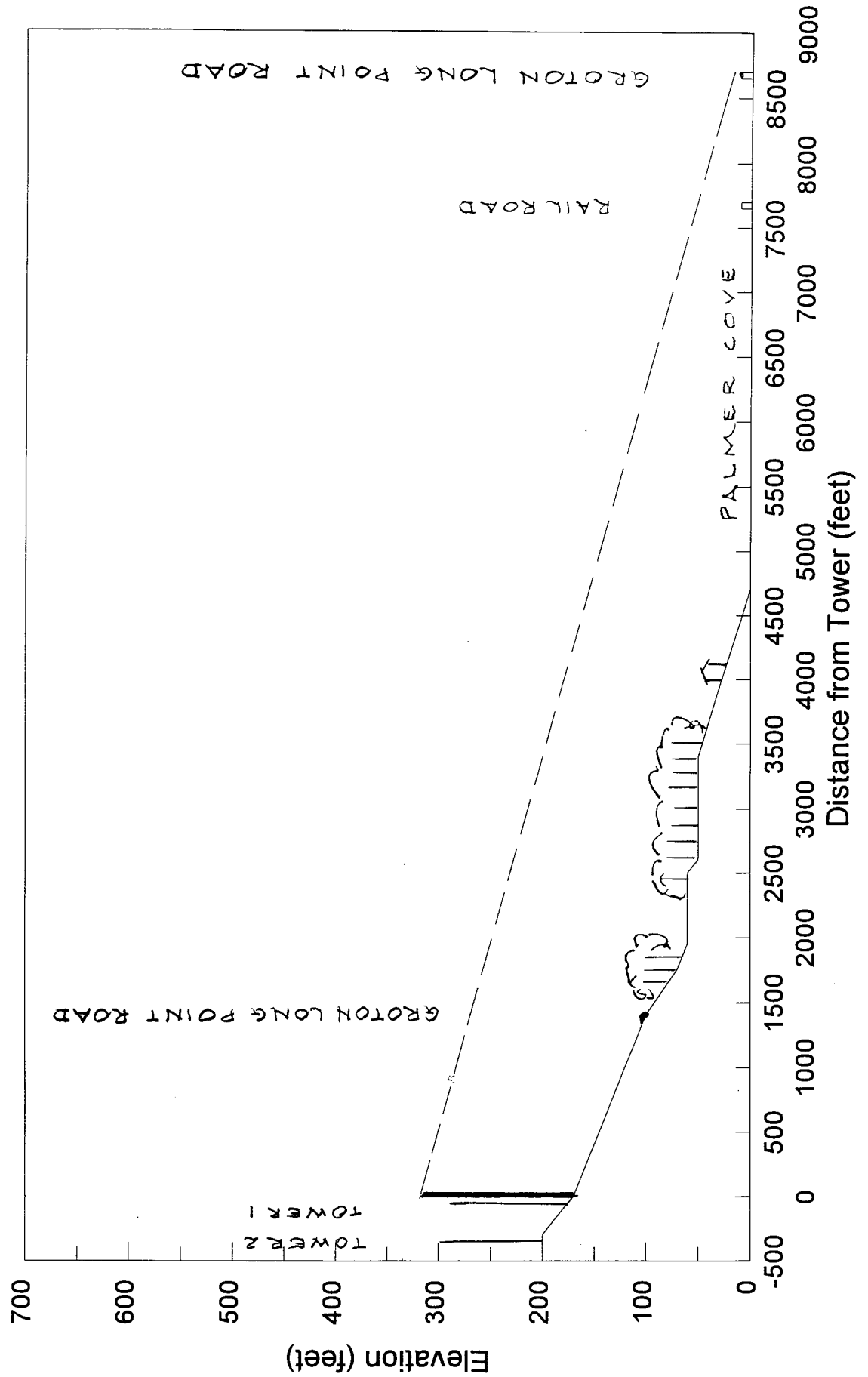
**FROM CROSSWINDS DRIVE
GROTON - SIGHTLINE #4**



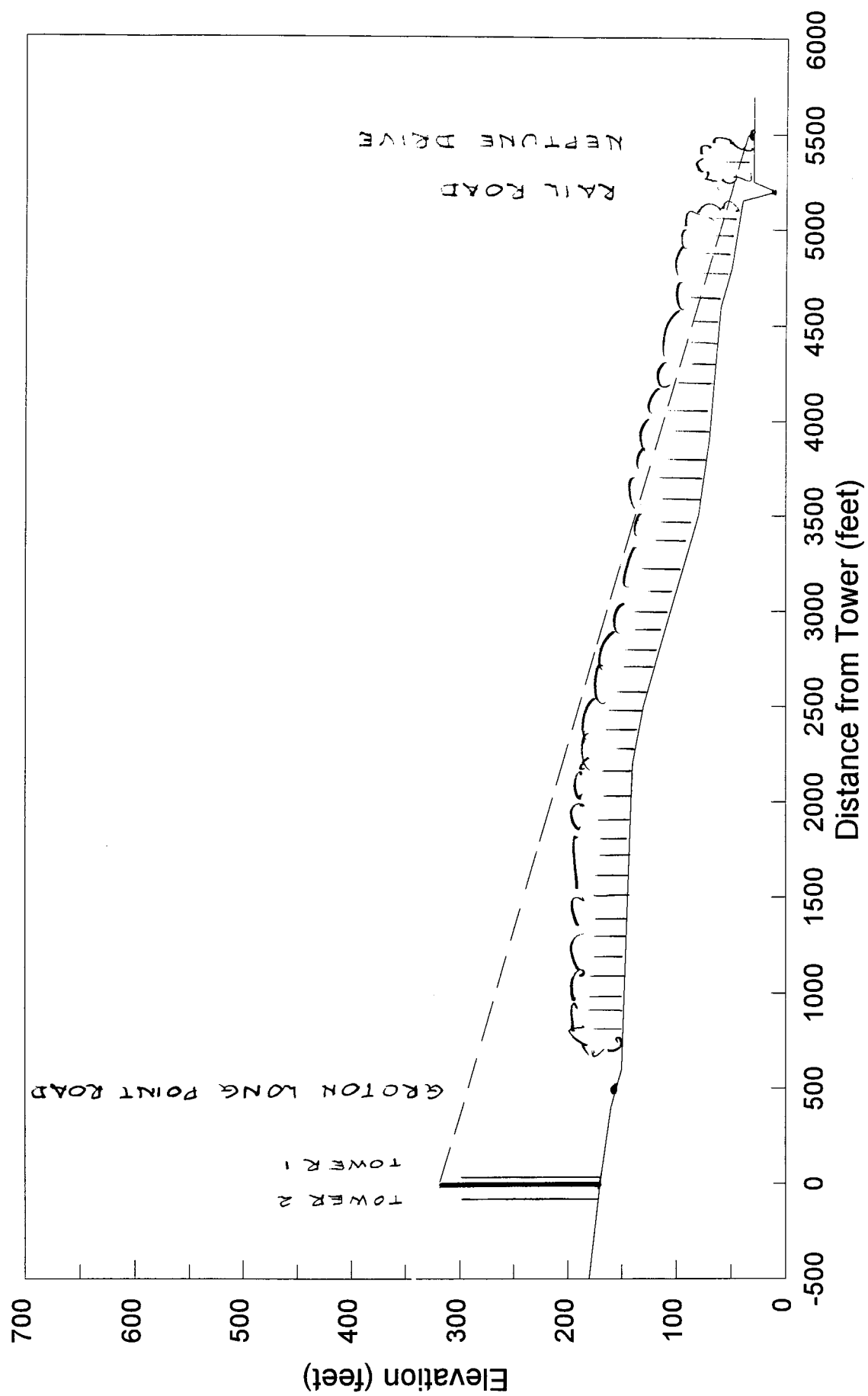
**FROM BROOK STREET
GROTON - SIGHTLINE #5**



**FROM GROTON LONG POINT ROAD
GROTON - SIGHTLINE #6**



**FROM NEPTUNE DRIVE
GROTON - SIGHTLINE #7**



PRE-FILED TESTIMONY OF DAVID S. MALKO, P.E.

1.Q. Mr. Malko, please summarize your professional background in telecommunications.

A. I received a Bachelor of Science degree in Electrical Engineering in 1976 from Rensselaer Polytechnic Institute. From June 1976 through October 1986, I held various engineering positions in the telecommunications section of the Connecticut Department of Public Utility Control and was responsible for overseeing the activities of the wireline telephone, CATV and cellular telephone industries. In this capacity, I periodically represented the Department as the Chairman's designee to the Connecticut Siting Council on CATV matters.

Since joining Metro Mobile in November, 1986, I have been responsible for the identification, acquisition and approval of cell sites for the Company's Northeast region, which included Rhode Island and portions of Connecticut and Massachusetts.

Since the merger of Bell Atlantic and Metro Mobile in April 1992, and the subsequent joint venture between Bell Atlantic Corporation and NYNEX Corporation forming the Cellco Partnership, my title has been changed to Director-Engineering. The assets of the Metro Mobile corporations have been transferred to Cellco Partnership, and its managing General Partner Bell Atlantic NYNEX Mobile, Inc. My responsibilities have been

expanded to include cell site construction and implementation. In addition, as a result of the Bell Atlantic-NYNEX joint venture, the geographic area for which I am responsible has been changed to include Metro Mobile's original Connecticut and western Massachusetts market areas as well as NYNEX's Upstate New York and Vermont market areas.

2. Q. What does your testimony address?

A. The purpose of this testimony is to provide background information relating to the application of Cellco Partnership d/b/a Bell Atlantic NYNEX Mobile ("BANM" or the "Company") to the Connecticut Siting Council for a certificate of environmental compatibility and public need for the proposed Groton facility, and to explain: (1) the Company's cell site search philosophy and general methodology; (2) the manner in which the Company's methodology was employed in the selection of the existing Groton site; and (3) the effect of the proposed facility on the Company's system.

3. Q. How does the Company conduct a cell site search?

A. The Company's overall objective is to build and operate a high quality cellular system to serve the rapidly growing numbers of subscribers in the designated market area as

well as subscribers of other systems who "roam" through the area. In conducting a search for a specific cell site, the Company has two main goals: (1) to ensure that high quality service is provided in the expected areas of demand, primarily the major metropolitan centers and transportation corridors in the market area; and (2) to have a minimal impact on the environment.

The Company favors the shared use of existing and proposed towers or other tall structures where possible and first attempts to identify all such towers and structures in the vicinity of the cell site search area. Sharing can be accomplished when the site to be shared is located appropriately in relation to the site search area, meets technical criteria for continuous coverage and "handoff" capability, has sufficient space available at a reasonable cost, is capable of supporting the additional loading, and is free of potential frequency interference.

If the shared use of an existing structure is not possible, BANM seeks out industrial, commercial or under-developed residential areas which have appropriate environmental and land use characteristics. The Company must focus on sites with relatively high ground elevations that can provide for the Company's coverage needs. For sites which appear to have the requisite physical and locational characteristics, the Company

ascertains whether the owner of the property is interested in negotiating to lease space for a cell site or to sell the property. If so, BANM conducts a detailed coverage study to determine the technological feasibility of a cell site at that location.

4. Q. Please describe the Company's search for the Groton cell site.

A. BANM began searching for a cell site in the Groton area in the early 1990's. Consistent with its policy of utilizing existing towers to the extent possible, BANM first attempted to identify all existing towers and other structures of potentially adequate height in or near the search area. This initial search identified the town's Municipal Services Complex as a site location which would provide BANM with coverage to some of the coverage holes in the Groton area. In initial discussions with the Town, it was determined that the Town could make tower space and equipment room space available to the Company. The existing tower did not, however, have the capacity to take on substantial additional loading, and limited equipment space was available. In addition, the Town expressed a desire to improve its public safety communications capabilities.

Ultimately, the Company and the Town reached agreement for a two-phase arrangement. Under the first phase, the Company

would begin leasing space on the Town's existing 110' tower adjacent to the police department building and would locate its equipment in the police department building. In the second phase, the Company would seek approvals for, construct and turn over to the Town a new tower and would construct an addition to the police department building.

As required by the Siting Council's regulations, the Company presented for the Council's review a notice of exempt modification pursuant to Section 16-50j-72(c) of the Regulations of Connecticut State Agencies for the first phase. The first phase was implemented by BANM following the Council's acknowledgment at a meeting on May 20, 1993.

5. Q. Please describe more fully the "phase II" arrangements, including alternatives considered.

A. The Town and BANM have spent considerable effort in negotiating the details of the phase II arrangements. The results are mutually satisfactory and also take into account and meet the needs of Springwich Cellular Limited Partnership ("Springwich"). Springwich currently operates a cell site at the location and will continue to do so.

The primary goal of both the Town and the cellular users was to increase the availability of the highest possible elevations in order to maximize signal coverage. However, the

location's proximity to Groton/New London Airport caused the Federal Aviation Administration to restrict the total height of the new tower, including appurtenances, to 148 feet above ground level. The antenna configuration ultimately arrived at, while not ideal for any of the parties, best meets the needs of each within the limited available elevations. BANM's antennas will be mounted at the top of the proposed tower, Springwich's antennas will be mounted below BANM's and Town antennas of various types will be mounted below Springwich's antennas.

The Town and BANM attempted to devise a configuration that would allow both the Town's towers (the 60' tower behind the police station and the 130' tower) to be removed. With the tower height restricted to 148', there was insufficient space on the proposed tower for all the Town's antennas, as well as BANM and Springwich. The 130' tower could not be removed because the 60' tower does not have enough space and the requisite height. The other tower on the Town property is owned by a local ham radio organization. Town officials prefer to keep their antennas separated from the ham antennas.

In addition, BANM discussed with the Town the possibility of utilizing the water tank at the top of the hill on which the Municipal Services Complex is located. Town officials preferred

to continue with the phase II arrangements presented to and approved by the Town in 1993.

6. Q. Why does the Company need the proposed phase II site?

A. The existing Groton site does not provide the level of coverage the Company would require from a new site which involves construction of a new tower. The Company's initial decision to utilize the Municipal Services Complex location for a cell site represented a compromise of the Company's expectation in order to use space on an existing tower.

Both the Town and the Company will derive coverage benefits from the additional height afforded by the proposed tower. In addition, the proposed tower, unlike the existing 130' tower, will be structurally sufficient to accommodate a sectorized antenna configuration. Thus, the site's traffic handling capacity will be significantly enhanced. Springwiche will also utilize a sectorized antenna configuration.

7. Q. In what ways does this facility minimize the environmental impact of the Company's facilities?

A. The proposed tower will be located in the northern portion of the 37.6-acre Municipal Services Complex. Like the existing 130' tower, it will be located south of the Police

Department building and north of the Public Works garage.

Because of the parcel's size, its current use, the existence of towers at the location and the proximity of the water tank on the same hill, the proposed tower would have a relatively small visual impact on the surrounding properties.

8. Q. Has the Company consulted with officials in the Town of Groton with regard to its plans?

A. Yes. As discussed previously in my testimony, the proposal for which the Company is seeking approval is the product of extensive negotiations with Town of Groton officials. Because the Town of Groton is the Company's landlord, this application would not be before the Council without the Town's approval. The Company's arrangement with the Town specified a two-phase arrangement. Prior to implementation of the first phase, the arrangement was the subject of several public presentations and comment opportunities. Formal presentations were made to the Town Council, the Town Planning Commission and the Representative Town Meeting (RTM) to provide for public discussion and comment on the details of the arrangement. The addition to the Police Department building has been presented to and has received formal site plan approval.

On March 20, 1996, in connection with the Company's request for approval of the second phase tower from the Siting

Council, BANM provided the Town Manager with additional technical information regarding the proposed new tower and offered to make an additional presentation to town officials, if desired. Town officials have not requested any presentation or additional information.

9. Q. Does the proposed facility, if approved, complete the Company's system in the New London NECMA?

A. No. The proposed facility will be a replacement for and an improvement on the existing site at the Groton Municipal Service Complex. The additional height the new tower affords will enhance the Company's service by providing coverage to certain existing holes. The additional loading capacity of the new tower will allow the Company to implement a sectorized configuration to improve the site's traffic-handling capacity.

Additional sites will be needed to provide additional coverage and call-handling capacity in the New London NECMA. However, based on current projections, we do not anticipate a need to propose another facility in the Town of Groton in the immediate future.

The statements above are true and complete, to the best
of my knowledge.

6/5/96
Date

David S. Malko
David S. Malko

Subscribed and sworn before me this 5th day of June A.D.
1996.

Kenneth C. Baldwin
Kenneth C. Baldwin

BAM - NorthEast
Best Server
CellCAD 2.2
NLCOUNTY

SITE KEY

1. Norwich
2. North Stonington
3. Stonington
4. Groton (existing)
5. New London
6. East Lyme
7. Montville
8. Colchester
9. Old Saybrook East

THRESHOLDS
(\geq dBm)
 ≥ -75
 ≥ -90

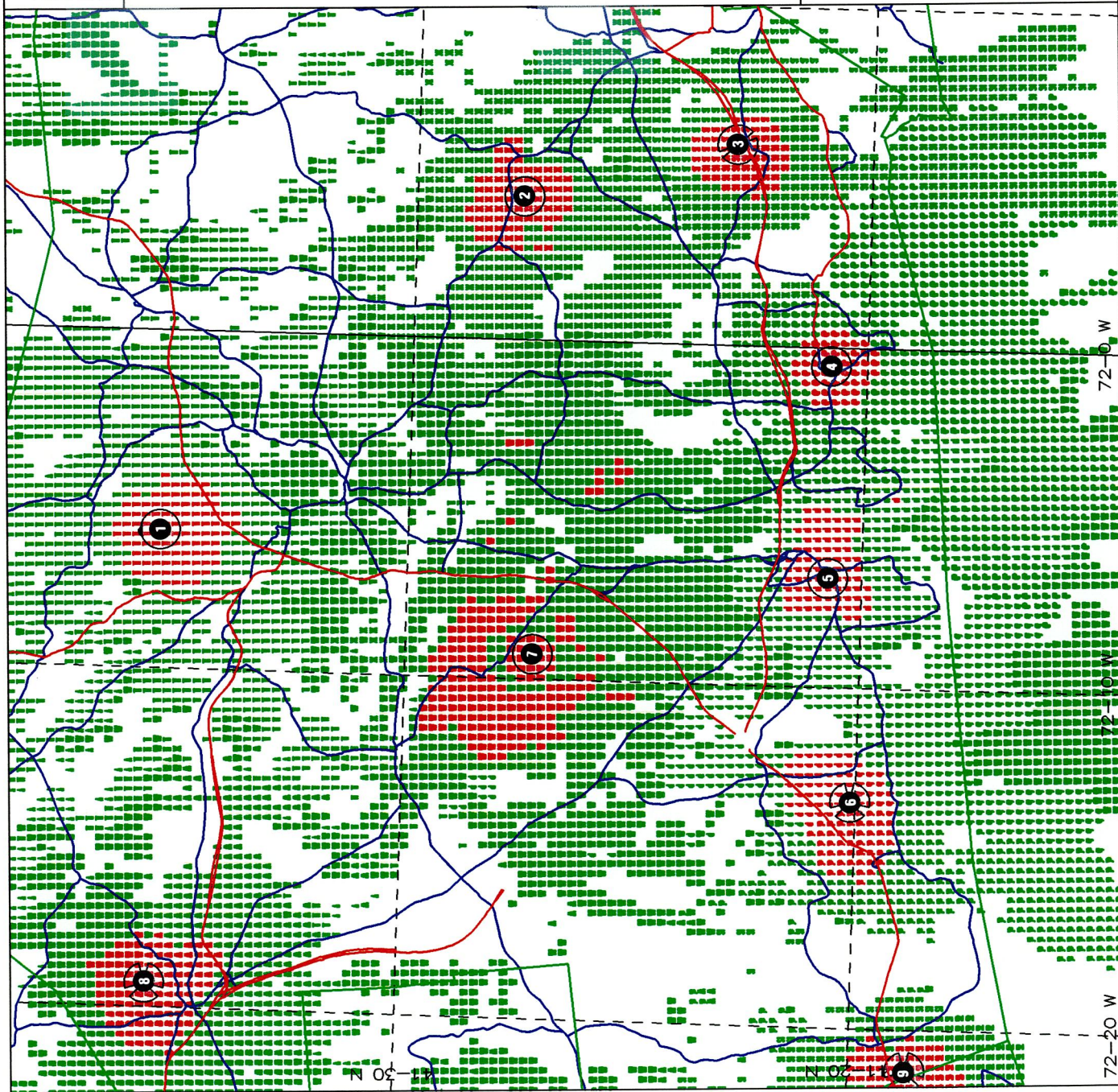
OVERLAYS

Interstate Hi
County Bounda
State Highways
MSA/RSA Boundaries

Miles

0 2.00 4.00 6.00 8.00

SCALE: 1:250,000 05/31/96 13:00



BAM - NorthEast
Best Server
CellCAD 2.2
NLCOUNTY

SITE KEY

1. Norwich
2. North Stonington
3. Stonington
4. Groton (proposed)
5. New London
6. East Lyme
7. Montville
8. Colchester
9. Old Saybrook East

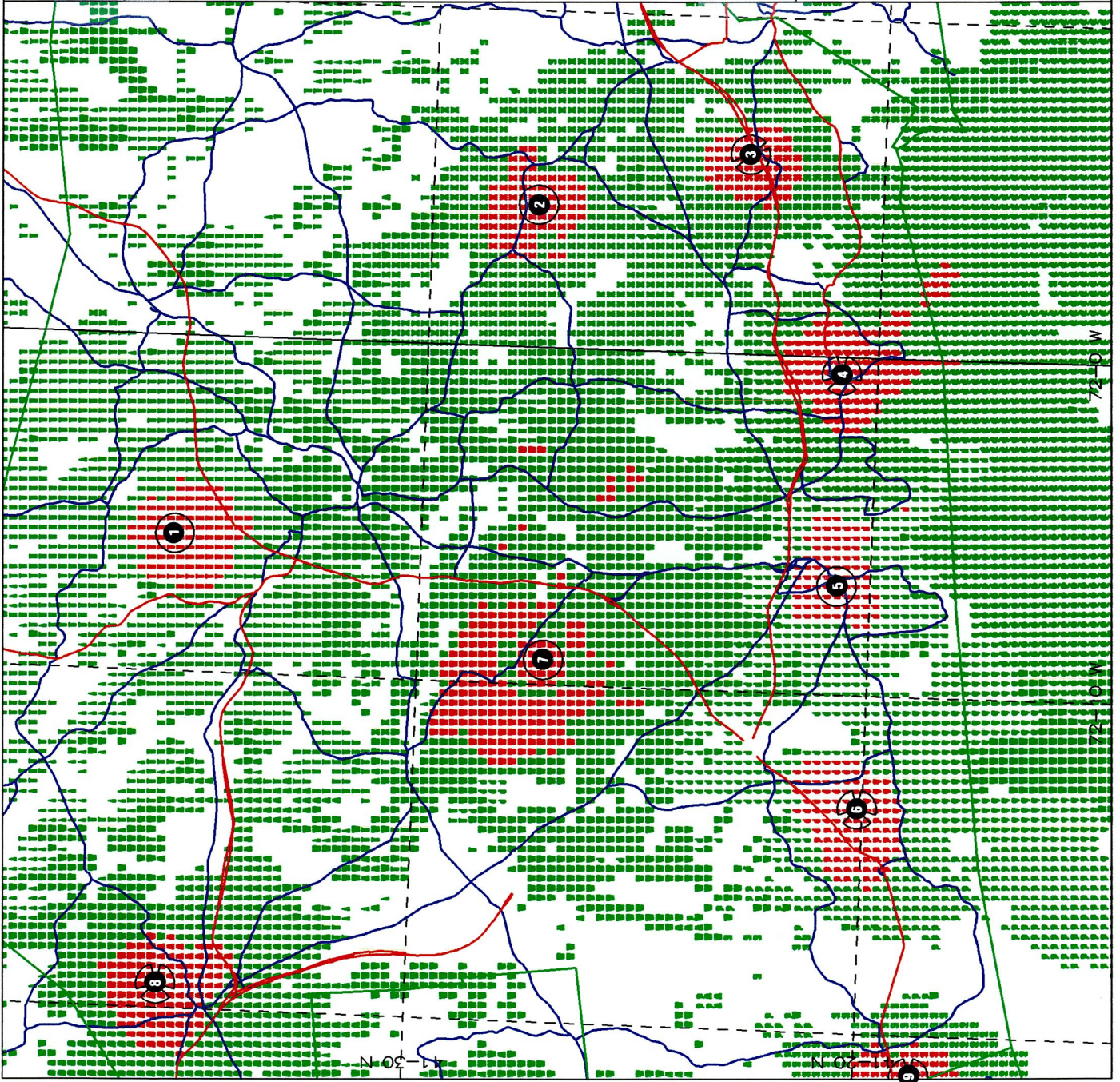
THRESHOLDS
(>= dBm)
>= -75
>= -90

OVERLAYS

Interstate Hi
County Bounda
State Highways
MSA/RSA Boundaries

Miles

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SCALE: 1:250,000 05/31/96 13:03



BAM - NorthEast
Best Server
CellCAD 2.2
NLCOUNTY

SITE KEY

1. Norwich
2. North Stonington
3. Stonington
- 4.
5. New London
6. East Lyme
7. Montville
8. Colchester
9. Old Saybrook East

OVERLAYS

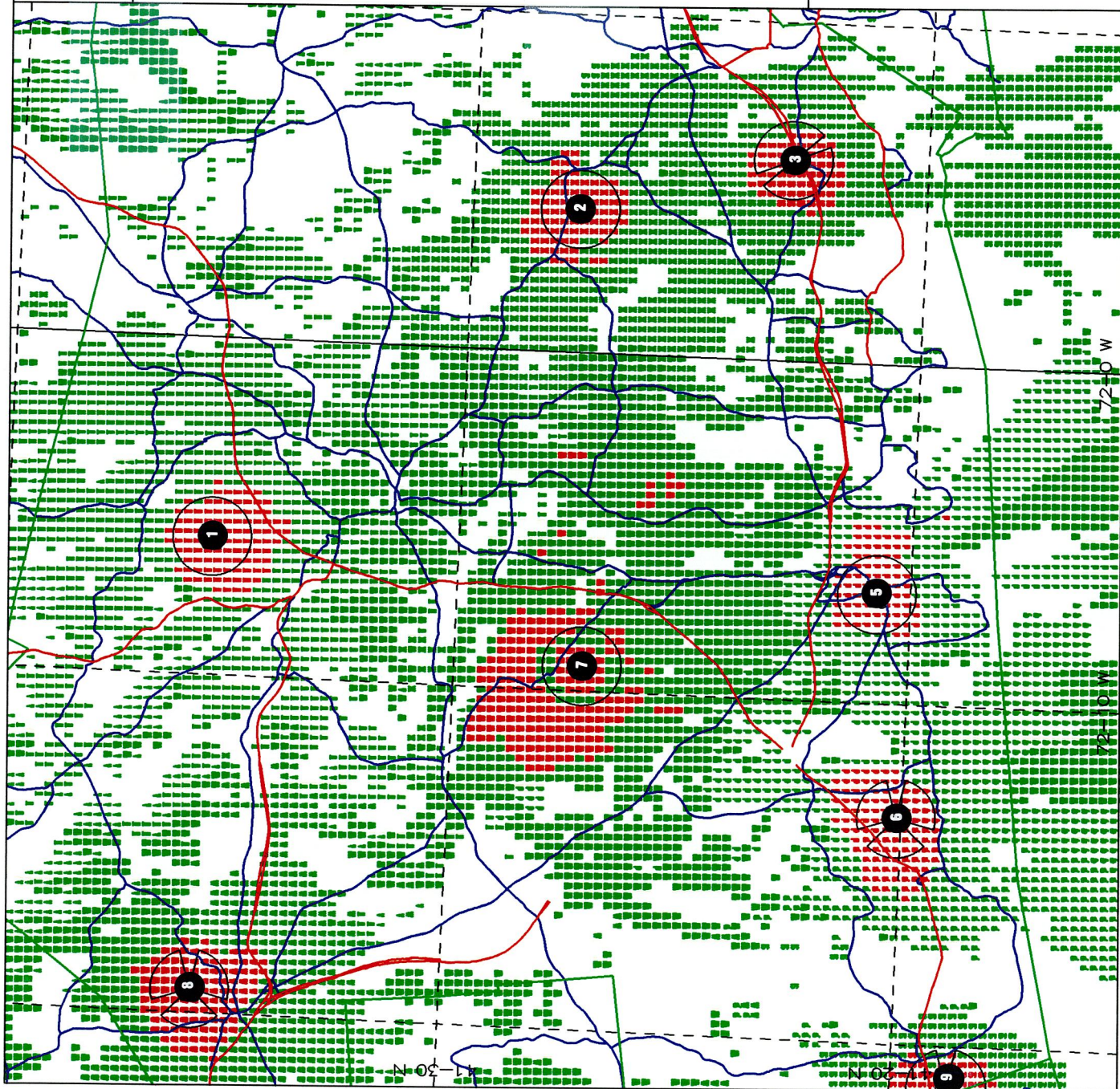
Interstate Hi
County Bounda
State Highways
MSA/RSA Boundaries

THRESHOLDS

(>= dBm)
>= -75
>= -90

Miles

0 2.00 4.00 6.00 8.00
SCALE: 1:250,000 05/31/96 12:57



CERTIFICATION OF SERVICE

I hereby certify that on this 6th day of June, 1996, copies of the Application and Attachments were sent by certified mail, return receipt requested, to the following:

The Honorable Richard Blumenthal
Attorney General
55 Elm Street
Hartford, CT 06106

Sidney J. Holbrook, Commissioner
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106

Stephen A. Harriman, Commissioner
Department of Public Health
and Addiction Services
410 Capitol Avenue
Post Office Box 340308, MS 13COM
Hartford, CT 06134-0308

Karl J. Wagener, Executive Director
Council on Environmental Quality
79 Elm Street - P.O. Box 5066
Hartford, CT 06106

Reginald J. Smith, Chairperson
Department of Public Utility Control
10 Franklin Square
New Britain, CT 06051

Reginald Jones, Secretary
Office of Policy and Management
80 Washington Street
Hartford, CT 06106

Arthur H. Diedrick, Commissioner
Department of Economic Development
865 Brook Street
Rocky Hill, CT 06067-3405

J. William Burns, Commissioner
Department of Transportation
P.O. Box 317546
Newington, CT 06131-7546

John W. Shanahan
State Historic Preservation Officer
59 Prospect Street
Hartford, CT 06106

Senator Catherine Cook
8 West Mystic Avenue
Mystic, CT 06355-2329

Representative Lenny T. Winkler
151 Pamela Avenue
Groton, CT 06340

Representative Mary K. McGratten
8 Eagle Ridge Drive
Gales Ferry, CT 06335

Representative Nancy A. DeMarinis
241 Monument Street #2
Groton, CT 06340

Richard Erickson, Director
Southeast Regional Council of Governments
139 Boswell Avenue
Norwich, CT 06360

Ronald P. Leblanc, Town Manager
Groton Town Hall
45 Fort Hill Road
Groton, CT 06340

Delores E. Hauber, Mayor
Groton Town Council
Groton Town Hall
45 Fort Hill Road
Groton, CT 06340

Barbara Tarbox
Clerk and Registrar of Vital Statistics
Groton Town Hall
45 Fort Hill Road
Groton, CT 06340

James F. Brennan, Jr., Esq.
Groton Town Attorney
Suisman, Shapiro, Wool & Brennan
Union Plaza #200
Post Office Box 1591
New London, CT 06320

Steven Hudecek, Chairman
Groton Zoning Commission
9 Benjamin Road
Mystic, CT 06355

James R. Sherrard, Chairman
Groton Planning Commission
66 Algonquin Drive
Mystic, CT 06355

Edward Stebbins, Chairman
Groton Zoning Board of Appeals
251 Elm Street
Post Office Box 9274
Groton, CT 06340

Brae Rafferty, Chairman
Groton Conservation Commission
98 Somerset Drive
Mystic, CT 06355

David Scott, Chairman
Groton Inland Wetlands Commission
191 Pequot Avenue
Mystic, CT 06355

Mark Oefinger, Director of
Planning & Development
Groton Town Hall
45 Fort Hill Road
Groton, CT 06340

James Butler, Town Planner
Groton Town Hall
45 Fort Hill Road
Groton, CT 06340

Paul Bates, Chairman
Harbor Management Commission
47 Church Street
Noank, CT 06340

Mark W. Tebbets
Building Inspector
Building Inspection Department
Groton Long Point Road
Groton, CT 06340

Mary Jane Engle, Director
Ledgelight Health District
1 Fort Hill Road
Groton, CT 06340

David Banisse, Chief of Police
Town of Groton Police Department
Groton Long Point Road
Groton, CT 06340

Christian Killam, Fire Marshal
Groton Long Point Fire Department
5 Atlantic Avenue
Groton Long Point, CT 06340

William F. Hermann, Jr., Chairman
Groton Building Code Board of Appeals
50 Edgecomb Street
Mystic, CT 06355

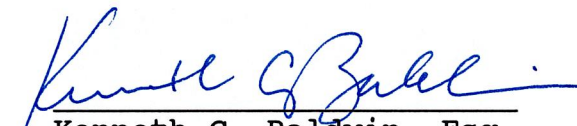
Doug Perina, Chief
Groton Long Point Fire Department
5 Atlantic Avenue
Groton Long Point, CT 06340

Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

Dated

6/6/96


Kenneth C. Baldwin, Esq.
Brian C.S. Freeman, Esq.

Robinson & Cole
One Commercial Plaza
Hartford, CT 06103

Attorneys for CELLCO
PARTNERSHIP d/b/a BELL
ATLANTIC NYNEX MOBILE

LEGAL NOTICE

Notice is hereby given, pursuant to Section 16-501(b) of the Connecticut General Statutes and Regulations pertaining thereto, of an Application to be submitted to the Connecticut Siting Council on or about June 6, 1996 by Cellco Partnership d/b/a Bell Atlantic NYNEX Mobile (the "Applicant"). The Application proposes the installation of a cellular telephone telecommunications tower facility at the Groton Municipal Services Complex, Groton-Long Point Road, Groton, Connecticut. The proposed cell site would consist of a 148-foot self-supporting lattice tower located within a 2,400± square foot parcel off Groton-Long Point Road. This parcel is owned by the Town of Groton. Cellular equipment would be installed in a new equipment room located within a new building addition to the Police Department Headquarters.

The location and other features of the proposed facility are subject to change under provisions of Connecticut General Statutes § 16-50g et. seq.

The proposed Groton facility will provide improved mobile and portable cellular telephone service in the easterly portion of the New London, Connecticut, New England County Metropolitan Area (NECMA), including portions of Groton which currently do not receive adequate coverage.

Interested parties and residents of the Town of Groton are invited to review the Application during normal business hours at any of the following offices:

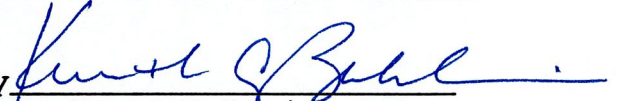
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Cellco Partnership d/b/a
Bell Atlantic NYNEX Mobile
20 Alexander Drive
Wallingford, CT 06492

Town Clerk
Town of Groton
45 Fort Hill Road
Groton, CT 06340

or the offices of the undersigned. All inquiries should be addressed to the Connecticut Siting Council or to the undersigned.

CELLCO PARTNERSHIP d/b/a
BELL ATLANTIC NYNEX MOBILE

By 
Kenneth C. Baldwin, Esq.
Brian C.S. Freeman, Esq.
ROBINSON & COLE
One Commercial Plaza
Hartford, CT 06103-3597
(203) 275-8200
Its Attorneys

SAMPLE

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

June 4, 1996

Dear:

This firm represents Cellco Partnership d/b/a Bell Atlantic NYNEX Mobile (BANM), a telecommunications company in your area which will be submitting an application to the Connecticut Siting Council, on or about June 6, 1996, for approval of the construction of a telecommunications tower at the Municipal Services Complex, Groton-Long Point Road, Groton, Connecticut.

The proposed cell site would be located adjacent to the Police Department Headquarters, in the northerly portion of the 37.6± acre Municipal Services Complex owned by the Town of Groton. At this site, a new 148-foot, self-supporting lattice tower would be constructed and an existing approximately 60-foot lattice tower would be removed. Vehicle access to the cell site is over existing driveways and parking areas to the cell site. Utility access would extend from existing overhead service along Groton-Long Point Road to the cell site, a distance of approximately 250 feet.

Due to the site's proximity to the Groton-New London Airport, the cell site tower, as proposed, would need to be lit. Equipment for the proposed facility would be housed in a 20' x 30' equipment room inside the Police Department Headquarters.

The location and other features of the proposed facility are subject to change under the provisions of Connecticut General Statutes §16-50g et. seq.

State law provides that owners of record of property which abuts a parcel on which the proposed facility may be located must receive notice of the submission of this application. This notice is directed to you either because you may be an abutting land owner or as a courtesy notice.

June 4, 1996
Page 3

If you have any questions concerning the application, please direct them to either the Connecticut Siting Council or me. My address and telephone number are listed above. The Siting Council may be reached at its New Britain, Connecticut office at (860) 827-2935.

Very truly yours,

Kenneth C. Baldwin

ADJACENT PROPERTY OWNERS: PRIME SITE

SITE NAME: Groton Cell Site

OWNER (LESSOR) NAME: Town of Groton

OWNER (LESSOR) ADDRESS: Groton-Long Point Road, Groton, Connecticut

ASSESSOR'S PARCEL ID NO. 260810364571

THE FOLLOWING INFORMATION WAS COLLECTED FROM THE TAX ASSESSOR'S RECORDS AND LAND RECORDS OF GLASTONBURY TOWN HALL, GLASTONBURY, CONNECTICUT. THE INFORMATION IS CURRENT AS OF JUNE 3, 1996.

THE LESSOR'S PARCEL IS ZONED RS-20.

<u>Map</u>	<u>Block</u>	<u>Lot</u>	<u>PROPERTY LOCATION</u>	<u>OWNER NAME AND ADDRESS</u>
109	173	16	22 Fishman Road	John H. Sutphen Eunice E. Sutphen 35 Front Street Groton, CT 06340
109	173	78		Town of Groton 45 Fort Hill Rd. Groton, CT 06340
109	173	86	260 Groton Long Point Road	Elsie K. DiNapoli 260 Groton Long Point Road Groton, CT 06340
109	173	87	250 Groton Long Point Road	William Miller Glenda Miller 250 Groton Long Point Road Groton, CT 06340
109	173	89	36 Groton Long Point Road	Ellen F. Patterson Elise F. Brennan 4320 Old Dominion Dr. Arlington, VA 22202
109	173	100	10-12 Groton Long Point Road	Ethel M. Orkney 10 Circle Avenue Groton, CT 06340

96	167	7	69 Groton Long Point Road	St. Marys Church Corporation 69 Groton Long Point Road Groton, CT 06340
96	167	8	69 Groton Long Point Road	St. Marys Church Corporation 69 Groton Long Point Road Groton, CT 06340
96	167	9		Town of Groton 45 Fort Hill Rd. Groton, CT 06340

CERTIFICATION OF SERVICE

I hereby certify that on June 4, 1996, a copy of the foregoing letter was mailed by certified mail, return receipt requested, to each of the parties on the attached lists of abutting landowners.

6-4-96
Date

Kenneth C. Baldwin
Kenneth C. Baldwin

UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

CONSENT TO TRANSFER OF CONTROL OF CORPORATION
HOLDING COMMERCIAL RADIO STATION CONSTRUCTION PERMIT OR LICENSE

Licensee:

METRO MOBILE CTS OF NEW LONDON, INC
180 WASHINGTON VALLEY ROAD

BEDMINSTER, NJ 07821

From (Transferor):

METRO MOBILE CTS OF NEW LONDON, INC.
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07821

To (Transferee):

CELLCO PARTNERSHIP
1717 ARCH STREET, 32ND FLOOR
PHILADELPHIA, PA 19103

Class of Station:

Nature of Service:

CELLULAR RADIOTELEPHONE SERVICE

Cell Sign(s)	(in Various Locations in the State(s) of)	Authorization Number(s)
KNKA766	0154 A - 1 NEW LONDON-NORWICH, CT-RI	

Under authority of the Communications Act of 1934, the consent of the Federal Communications Commission is hereby granted to the transfer of control of the above described corporation from the above named transferor to the above named transferee as of May 12, 1995.

The Commission's consent to said transfer of control is based on the representations made by the transferor and/or transferee that the statements contained in, or made in connection with, the application are true and that the undertakings of the parties upon which this transfer of control is authorized will be carried out in good faith.

The actual transfer of control of the corporation, including delivery of said authorization(s) to the transferee, shall be completed within 60 days from the date hereof; and notice in letter form thereof shall forthwith be furnished the Commission by the transferee showing when the acts necessary to effect to the transfer of control have been completed. Upon furnishing the Commission with such written notice, transferee is authorized to begin the construction or operation of the station in accordance with all terms and conditions of said authorization(s). This consent shall not authorize the construction nor operation of said station by transferee unless such notification has been forwarded to the Commission.

It is hereby directed that this consent, when effective, be reached to the above-named corporation, posted as required by the Commission's Rules and Regulations.

DATE OF ISSUE: May 24, 1995

FEDERAL
COMMUNICATIONS
COMMISSION



BHL

FCC Form 727-C
April 1979

TOTAL P.03
TOTAL P.02

SELF-SUPPORTING COMMUNICATION TOWERS



פונקציה: 24747

The timing of the above developments is significant in that it follows the passage of the Emergency and Control Act, which was enacted in December 1964. The Act was designed to provide a framework for the government to deal with the economic crisis. The fact that the above developments occurred in the immediate aftermath of the Act suggests that the government was seeking to implement the provisions of the Act as soon as possible.

ANCHOR BOLT DATA										PIER AND PAD					DRILL AND BELL					DRILLED PIER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
TOWER BASE SECT. NO.	LAYOUT DIMENSIONS			SIZE 2" REQ'D SHORT BASE	BOLT CIRCLE DIA. INCHES	PROJ. INCHES	PIER AND PAD			MAT	DRILL AND BELL			DRILLED PIER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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ALP 9212-N

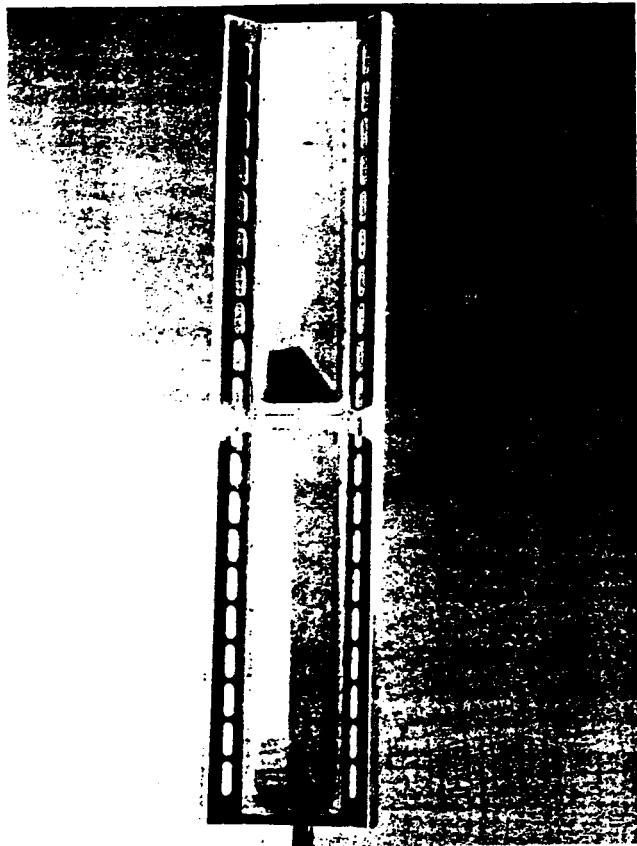
Log-Periodic Reflector Antenna

92 Degrees 12 dBd

Features:

- ☐ Broadbanded. (800-900 MHz)
- ☐ Low backlobe radiation. Front-to-back ratio better than 28 dB
- ☐ Low Intermodulation Products.
- ☐ Low Wind-load.
- ☐ Low weight.
- ☐ Small size.
- ☐ Rugged design.

Please see the following pages including radiation patterns/tables for ALP 9212-N.



Electrical Specifications:

Frequency range:	806-896 MHz
Impedance:	50 ohm
Connector:	N-female or 7/8" EIA
VSWR:	Typ. 1.3:1 max 1.5:1
Polarization:	Vertical
Gain:	12 dBd
Front to back ratio:	>28 dB
Side-lobe suppression:	>18 dB
Intermodulation: (2x25W):	IM3 >146 dB IM5 >153 dB IM7 & IM9 >163 dB
Power Rating:	500 W
H-Plane: -3 dB	95 °
E-Plane: -3 dB	15 °
Lightning Protection:	DC Grounded



Mechanical Specifications:

Overall Height:	52 in	(1320 mm)
Width:	11.4 in	(290 mm)
Depth:	11.4 in	(290 mm)
Weight including brackets:	26.7 lbs	(12 Kg)
Rated wind velocity:	113 mph	(180 Km/h)
Wind Area (CxA/Front):	3.9 sq.ft	(0.36 sq.m)
Lateral thrust at rated wind		
Worst case:	570 N	

Materials:

Radiating elements:	Aluminum
Element housing:	Grey PVC
Back-plate:	Aluminum
Mounting hardware	
clamps:	Hot dip galvanized steel
bolts:	Stainless steel

Manufactured by: Allgon System AB

Series II Cell Site

Advanced digital cell site technology improves performance and enhances service levels.



The AUTOPLEX System 1000 Series II Cell Site is our premier cell site for high capacity and reliable performance.

It has the flexibility and expandability to support new technologies and services as they are introduced — giving you a competitive edge in providing your customers with the features and services they expect.

A modular technology that grows as you grow.

The Series II Cell Site is based on a modular architecture. Distributed intelligence makes adding new subscribers and capabilities easy. The platform evolves seamlessly to accommodate future technologies and new standards, preventing obsolescence and protecting your investment.

A cost-effective solution to your cellular communications requirements.

The Series II Cell Site is a complete system. It includes radios, amplifiers, and associated equipment for setting up and completing cellular calls. A patented linear amplifier,

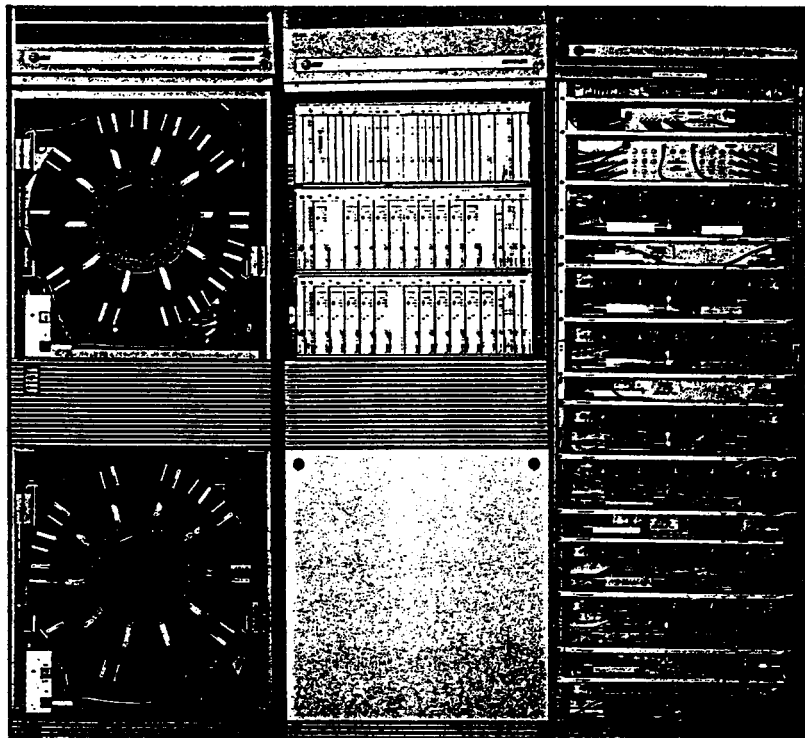
software-defined functions, and compact size make the Series II economical and easy to operate.

A highly reliable platform supporting multiple channel access technologies.

In addition to analog, the Series II platform supports digital technologies including Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA), Personal Communications Services (PCS) at 2 GHz, and Cellular Digital Packet Data (CDPD) wireless data.

By interfacing directly with incoming digital trunks, the Series II eliminates external digital-to-analog channel banks. You reduce equipment costs, simplify maintenance, and save space.

Powerful Digital Signal Processors (DSPs) condense multiple functions onto a single integrated circuit. This streamlined, compact design has fewer parts, so system reliability is enhanced.



The AUTOPLEX System 1000 Series II Cell Site equipment consists of (left to right) the Linear Amplifier Frame, Primary Radio Channel Frame, and Antenna Interface Frame.

AT&T's Series II Cell Site can give you a competitive edge.

► **Protects your investment.**

Our platform will support your network as you migrate to new channel access methods and offer new services. Through software upgrades and new radios (in the same frame or growth frames), your cell site accommodates new technologies. Your hardware investment continues to support your evolving system, eliminating the threat of equipment obsolescence. In addition, modular flexibility allows you to move equipment from one cell site to another to meet changing operational needs.

► **Improves quality.**

Linear amplification, software-defined functionality, and enhanced digital circuitry contribute to better call completion and improved signal propagation. In most areas, customers will begin to notice an improvement in signal quality with calls transmitted over the Series II.

► **Handles more subscribers.**

The Series II Cell Site houses up to 200 analog radio units or 96 TDMA Digital Radio Units (DRUs). A cell site configured solely with TDMA DRUs provides 288 digital channels. The linear amplifier allows you to add channels as needed until the unit's maximum power output is reached.

► **Provides your wireless customers with data services.**

More and more wireless subscribers are interested in data applications. Our CDPD system permits users to send wireless data communications over existing cellular voice channels. AT&T's CDPD system is integrated with the cell site, using the same linear amplifier and integrated diagnostics.

► **Lowers operating costs.**

Distributed intelligence, remote software control, and proven linear amplifier technology result in fewer on-site visits, trimming travel and labor costs. The compact construction reduces space requirements and real estate costs. Streamlined call processing circuitry, with fewer discrete parts, minimizes the potential for component failure, and the cost of maintaining parts inventories.

► **Increases revenues.**

The ability to expand capacity, add new services, and improve quality can stimulate use by current customers and help you acquire new subscribers.

A complete family of AT&T Cell Sites to meet your specific needs:

► **Series II.**

A modular, analog or digital cell site for traditional applications.

► **Series IIe.**

Has the capabilities of the Series II but is sized for smaller markets.

► **Series II_m T1/E1 Minicell.**

Addresses the wide area coverage but lower traffic requirements of rural applications. Can also be used for filling dead spots in macrocells.

► **Series II_{mm} T1/E1 Microcell.**

Designed for high-density metropolitan areas. Can also be used to improve cellular coverage for in-building applications and RF (Radio Frequency) dead spots.

► **Fiber Microcell.**

Connects to the cell site via fiber links. Similar to the Series II_{mm} Microcell, the Fiber Microcell provides solutions that expand and improve cellular coverage.



What makes the AT&T Series II Cell Site the technology of choice for wireless networks worldwide?

➤ **Modular, flexible system expansion.**

Plug-in radio modules enable you to add new features as technology changes or add capacity as customer service needs increase. TDMA radios can be installed in the same frame as analog radios to achieve digital capability on an existing analog network. To migrate to CDMA technology, you will plug CDMA Channel Units into an integrated growth frame.

➤ **Software-defined functions.**

Regular software releases continually improve system performance, voice quality, operations, administration, and maintenance. Software releases also add new revenue-generating features. Optional features such as calling number identification presentation, message waiting indicator, and short message service make users more efficient and productive, while generating incremental revenue for service providers. Simulcast setup and automatic radio reconfiguration reduce your hardware costs. Authentication and data encryption protect users and service providers against cellular phone fraud.

➤ **Patented linear amplification technology.**

Amplifying all channels simultaneously eliminates the need for separate channel amplifiers and precisely tuned cavity combiners that restrict radio channels to a particular frequency. Channel frequencies can be assigned remotely. In addition, you can combine and amplify up to 108 channels, as long as the maximum output power of the linear amplifier is not exceeded.

➤ **AT&T Bell Laboratories research.**

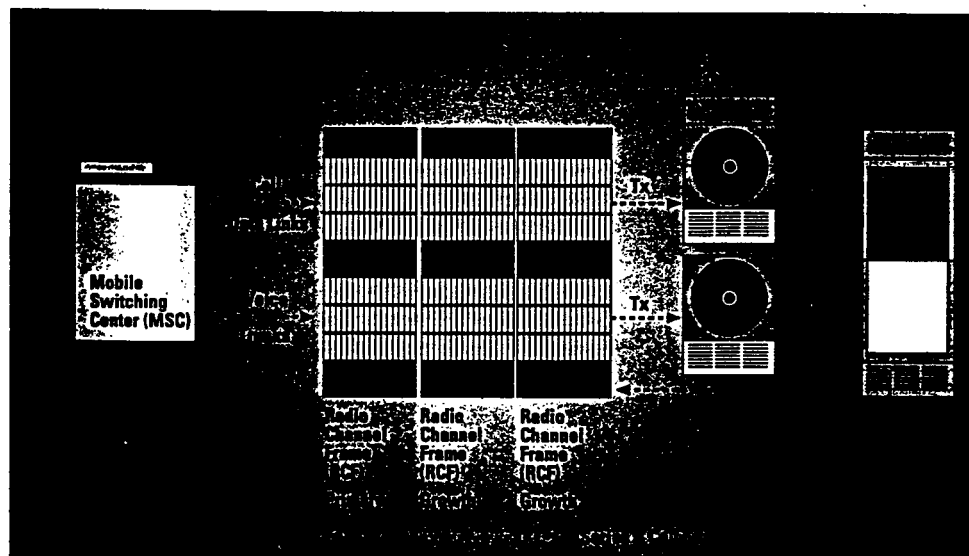
Ongoing technology improvements enhance the quality, reliability, and performance of the linear amplifier. The latest elliptic and ceramic technologies enable the Series II filters to achieve greater attenuation of unwanted signals without adding insertion loss to desired signals.

➤ **Remote operation.**

Operating functions of the Series II that can be remotely controlled include radio frequency assignment, testing, output power levels, radio-to-trunk connections, Supervisory Audio Tone (SAT), and Digital Voice Color Code (DVCC). SAT, used with AMPS, and DVCC, used with TDMA, both monitor the integrity of the radio connection between the cell site and the mobile radio unit.

➤ **Saves space.**

Compact design enables you to install Series II in facilities with space limitations or colocate them in the same building that houses older systems.



**AUTOPLEX
System 1000
Series II
Cell Site
Architecture.**

APPLICATION GUIDE¹

- | | |
|-------------------------------|---|
| App. pp. 1-4 | (A) A brief description of the proposed facility, including the proposed locations and heights of each facility at the prime and alternate sites; |
| App. pp. 1-3 | (B) A statement of the purpose for which the application is made; |
| App. p. 1 | (C) A statement describing the statutory authority for such application; |
| App. pp. 4 | (D) The exact legal name of each person seeking the authorization or relief and the address or principal place of business of each such person. If any applicant is a corporation, trust association, or other organized group, it shall also give the state under the laws of which it was created or organized; |
| App. pp. 4 | (E) The name, title, address and telephone number of the attorney or other person to whom correspondence or communications in regard to the application are to be addressed. Notices, orders, and other papers may be served upon the person so named, and such service shall be deemed to be service upon the applicant; |
| App. pp. 8-11
Attachment 1 | (F) A statement of the need for the proposed facility with as much specific information as is practicable to demonstrate the need, including a description of the proposed system and how the proposed facility would eliminate |

¹This Application Guide is copied directly from the "Connecticut Siting Council Application Guide," pp. 4-7, as amended November 21, 1995. References to the Regulations of Connecticut State Agencies ("RSA") contained in the Guide have been omitted.

or alleviate any existing deficiency or limitation;

App. pp. 13-14

- (G) A statement of the benefits expected from the proposed facility with as much specific information as is practicable;

App. pp. 1-3, 12-13
Attachments 1, 3 and 8

- (H) A description of the proposed facility at the proposed and alternative sites including:
- (1) Height of the facility and its associated equipment and antennas;
 - (2) Access roads and power supplies;
 - (3) Special design features;
 - (4) Type, size, and number of transmitters and receivers, as well as the signal frequency, power output and power density at the tower base, site boundary and building where people might be exposed to the maximum power densities from the facility;
 - (5) A map showing any fixed facilities with which the proposed facility will interact;
 - (6) The coverage signal strength, and integration of the proposed facility with any adjacent fixed facility to be accompanied by propagation maps showing interfaces with any adjacent service areas; and
 - (7) For cellular systems, a forecast of when maximum capability will be reached for the proposed facility and for facilities that would be integrated with the proposed facility.

Attachment 1

- (I) A description of the proposed prime and alternate sites including:
- (1) The most recent U.S.G.S. topographic quadrangle map

- (scale 1 inch = 2,000 feet)
marked to show the site of the facility and any significant changes within a one-mile radius of the site;
- (2) A map (scale not less than 1 inch = 200 feet) of the lot or tract on which the facility is proposed to be located showing the acreage and dimensions of such site, the name and location of adjoining public roads or the nearest public road, and the names of abutting owners and the portions of their lands abutting the site;
 - (3) A site plan (scale not less than 1 inch = 200 feet) showing the proposed facility, fall zones, existing and proposed contour elevations, 100-year flood zones, waterways, wetlands and all associated equipment and structures on the site;
 - (4) Where relevant, a terrain profile showing the proposed facility and access road with existing and proposed grades; and
 - (5) The most recent aerial photograph (scale not less than 1 inch = 1,000 feet) showing the proposed site, access roads and all abutting properties.

Attachment 1

- (J) A statement explaining mitigation measures for the proposed facility including:
 - (1) Construction techniques designed specifically to minimize adverse effects on natural areas and sensitive areas;
 - (2) Special design features made specifically to avoid or minimize adverse effects on natural areas and sensitive areas;

- (3) Establishment of vegetation proposed near residential, recreation, and scenic areas; and
 - (4) Methods for preservation of vegetation for wildlife habitat and screening.
- App. pp. 1-3, 12-13, 17
Attachment 1
- (K) A description of the existing and planned land uses of the proposed prime and alternate sites and surrounding areas;
- App. pp. 16-19
Attachment 1
- (L) A description of the scenic, natural, historic and recreational characteristics of the proposed prime and alternate sites and surrounding areas;
- Attachment 1
- (M) Site line graphs to the proposed prime and alternative sites from visually impacted areas such as residential developments, recreational areas and historic sites;
- Attachment 1
- (N) A list describing the type and height of all existing and proposed towers within a ten-mile radius within the site search area or within any other area from which use of the proposed prime and alternative towers might be feasible from a location standpoint for purposes of the application;
- App. pp. 1-3, 11-14
Attachments 1 and 2
- (O) A description of efforts to share existing towers, or consolidate telecommunications antennas of public and private services onto the proposed facility;
- Attachments 1 and 2
- (P) A description of technological alternatives and a statement containing justification for the proposed facility;
- N/A
- (Q) A description of rejected sites with a U.S.G.S. with a topographic quadrangle map (scale 1 inch = 2,000 feet) marked to show the location of rejected sites;

App. pp. 11-12
Attachments 2 and 3

- (R) A detailed description and justification for the site selected, including a description of siting criteria and the narrowing process by which other possible sites were considered and eliminated, including but not limited to, environmental effects, cost differential, coverage lost or gained, potential interference with other facilities and signal loss due to geographic features compared to the proposed prime and alternative sites;

App. pp. 12-18
Attachment 2

- (S) A statement describing hazards to human health, if any, with such supporting data and references to regulatory standards;

App. pp. 15-16
Attachment 1

- (T) A statement of the estimated cost for site acquisition and construction of a facility at the proposed prime and alternate sites;

Attachment 1

- (U) A schedule showing the proposed program of site acquisition, construction, completion, operation and relocation, or removal of existing facilities for the prime and alternate sites;

App. p. 15

- (V) A statement indicating that, weather permitting, the applicant will raise a balloon, with a diameter of at least three feet, at the sites of the proposed prime and alternate towers, on the day of the Council's first hearing session on the application or at a time otherwise specified by the Council. For the convenience of the public, this event shall be publicly noticed at least 30 days prior to the hearing on the application as scheduled by the Council;

App. pp. 16-20
Attachments 1 and 4
Bulk File Exhibit 1

- (W) Such information as any department or agency of the state exercising environmental controls may, by regulation, require including:

- (1) A listing of any federal, state, regional, district, and municipal agencies, including but not limited to the federal aviation administration; federal communications commission; state historic preservation officer; state department of environmental protection; and local conservation, inland wetland, and planning and zoning commissions with which reviews were conducted concerning the facility, including a copy of any agency position or decision with respect to the facility; and
- (2) The most recent conservation, inland wetland, zoning, and plan of development documents of the municipality, including a description of the zoning classification of the site and surrounding areas, and a narrative summary of the consistency of the project with the Town's regulations and plans.

N/A

- (X) Such information as the applicant may consider relevant.