STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

November 6, 2008

John R. Morissette
Manager – Transmission Siting and Permitting
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270

RE: **EM-CL&P-143-080916** – The Connecticut Light and Power Company notice of intent to replace an existing telecommunications facility located at Highland Avenue, Torrington, Connecticut.

Dear Mr. Morissette:

At a public meeting held on October 16, 2008, the Connecticut Siting Council (Council) acknowledged your notice to replace this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated September 15, 2008 and additional information dated October 9, 2008, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/MP

c: The Honorable Ryan J. Bingham, Mayor, City of Torrington
Martin Connor, City Planner, City of Torrington

Torrington\dc110608.DOC

Northeast Utilities System

107 Selden Street, Berlin, CT 06037
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(860) 665-2036

John R. Morissette
Manager – Transmission Siting and Permitting

ORIGINAL

October 9, 2008

Daniel F. Caruso, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: EM-CL&P-143-080916 – The Connecticut Light and Power Company notice of intent to replace an existing telecommunications facility located at Highland Avenue, Torrington, Connecticut

Dear Chairman Caruso:

As requested, attached are an original and twenty (20) copies of a photographic documentation and simulation (rendering) for the Notice of Exempt Modification filed on behalf of The Connecticut Light and Power Company ("CL&P") for modifications to an existing wireless communications facility located on Highland Avenue in Torrington, Connecticut.

The Mayor of the City of Torrington has been provided a copy.

Sincerely,

John Morissette

Attachment: Photographic Documentation and Simulation

cc:
Mr. Ryan J. Bingham
Mayor
City of Torrington
140 Main Street
Torrington, CT 06790

CSC Docket # EM-CL&P-143-080916

Photographic Documentation and Simulation

Proposed Telecommunications Replacement Facility

Torrington
Highland Avenue
Torrington, CT

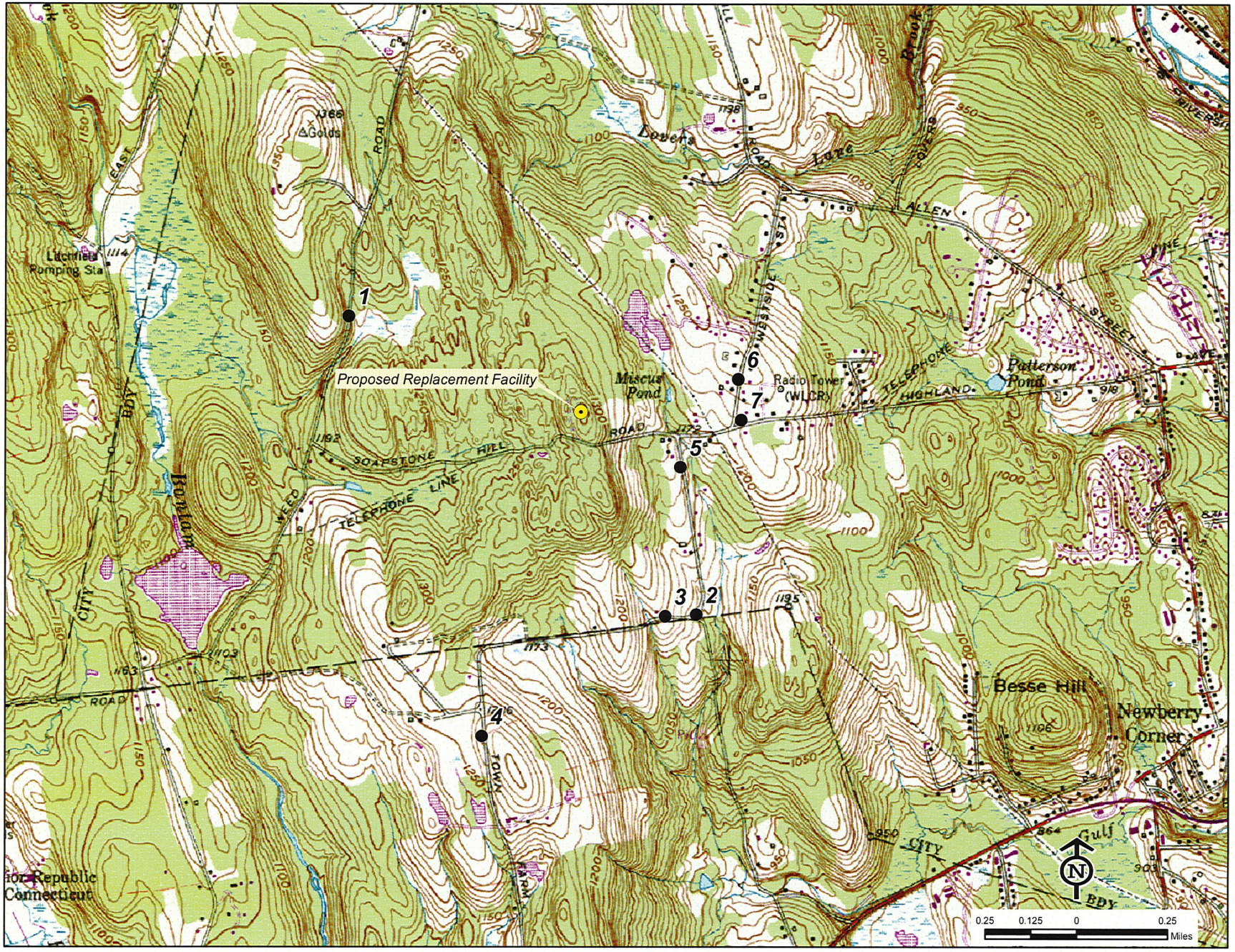
SUBMITTED TO:

Northeast Utilities System

SUBMITTED BY:

VHB

PHOTOLOG MAP



ctmidlet\41483.00\graphics\FIGURES\41483.00_Photosim.indd

Northeast Utilities System

VHB

VIEW 1

PHOTO TAKEN FROM WEED ROAD, LOOKING SOUTHEAST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.68 MILE +/-

PHOTOGRAPHIC SIMULATION

VIEW 1

PHOTO TAKEN FROM WEED ROAD, LOOKING SOUTHEAST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.68 MILE +/-

Northeast Utilities System

VHB

VIEW 2

PHOTO TAKEN FROM TOWN FARM ROAD AT ROSSI ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.63 MILE +/-

PHOTOGRAPHIC SIMULATION

VIEW 2

PHOTO TAKEN FROM TOWN FARM ROAD AT ROSSI ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.63 MILE +/-

Northeast Utilities System

VHB

VIEW 3

PHOTO TAKEN FROM TOWN FARM ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.61 MILE +/-

Northeast Utilities System

VHB

PHOTOGRAPHIC SIMULATION

VIEW 3

PHOTO TAKEN FROM TOWN FARM ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.61 MILE +/-

Northeast Utilities System

VHB

VIEW 4

PHOTO TAKEN FROM TOWN FARM ROAD, LOOKING NORTHEAST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.89 MILE +/-

Northeast Utilities System

VHB

PHOTOGRAPHIC SIMULATION

VIEW 4

PHOTO TAKEN FROM TOWN FARM ROAD, LOOKING NORTHEAST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.89 MILE +/-

Northeast Utilities System

VHB

VIEW 5

PHOTO TAKEN FROM ROSSI ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.34 MILE +/-

PHOTOGRAPHIC SIMULATION

VIEW 5

PHOTO TAKEN FROM ROSSI ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.34 MILE +/-

Northeast Utilities System

VHB

VIEW 6

PHOTO TAKEN FROM WESTSIDE ROAD, LOOKING SOUTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.43 MILE +/-

PHOTOGRAPHIC SIMULATION

VIEW 6

PHOTO TAKEN FROM WESTSIDE ROAD, LOOKING SOUTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.43 MILE +/-

Northeast Utilities System

VHB

VIEW 7

PHOTO TAKEN FROM WESTSIDE ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.44 MILE +/-

Northeast Utilities System

VHB

PHOTOGRAPHIC SIMULATION

VIEW 7

PHOTO TAKEN FROM WESTSIDE ROAD, LOOKING NORTHWEST

DISTANCE FROM THE PHOTOGRAPH LOCATION TO SITE IS 0.44 MILE +/-

Northeast Utilities System

VHB

Northeast Utilities System

107 Selden Street, Berlin, CT 06037
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
(860) 665-2036

John R. Morissette
Manager – Transmission Siting and Permitting

EM-CL&P-143-080916

September 15, 2008

Daniel F. Caruso, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Dear Chairman Caruso:

Attached are an original and twenty (20) copies of a Notice of Exempt Modification on behalf of The Connecticut Light and Power Company ("CL&P") for modifications to an existing wireless communications facility located on Highland Avenue in Torrington, Connecticut.

Also attached is a check for the filing fee in the amount of $500.

The Mayor of the City of Torrington has been informed of the Notice of Exempt Modification.

Sincerely,

Attachment: Notification of Exempt Modification

cc:
Mr. Ryan J. Bingham
Mayor
City of Torrington
140 Main Street
Torrington, CT 06790

THE CONNECTICUT LIGHT AND POWER COMPANY

NOTICE OF EXEMPT MODIFICATION OF A TELECOMMUNICATIONS FACILITY IN THE TOWN OF TORRINGTON, CONNECTICUT

I. Introduction

Pursuant to the Regulations of Connecticut Agencies section 16-50j–72(b), Northeast Utilities Service Company ("NUSCo") as agent for its corporate affiliate, The Connecticut Light and Power Company ("CL&P"), hereby gives notice to the Connecticut Siting Council (the "Council") and the town of Torrington of its intent to make an exempt modification to an existing wireless communications facility located on Highland Avenue in Torrington, CT. Specifically CL&P plans to erect a replacement self supporting telecommunications tower, install two new antennas on the replacement tower and remove the existing guyed telecommunications tower at this location. Under the Council's regulations (RCSA Sec. 16-50j-72(b), CL&P's plans do not constitute a modification that is subject to Council review because CL&P will not change the height of the tower, will not extend the boundaries of the compound, will not increase the noise levels at the site and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards.

II. Background

CL&P currently owns a 195-foot tall guyed (at three levels) steel lattice tower which was erected in 1977 on property owned by CL&P at Highland Avenue in Torrington, CT (latitude 41-48-05.56, longitude 73-10-26.50). This tower was originally 140 feet in height and was extended to 195 feet in height in 1997. This tower has been in continuous use for CL&P's microwave and 2-way radio communications since 1977. Including its top-mounted antennas, this telecommunications facility is 197 feet tall.

Northeast Utilities Transmission Civil Engineering recently conducted an analysis of this radio tower to determine its physical condition and structural loading capabilities. The results of this analysis indicate that portions of the tower's legs exceed the stress levels prescribed by TIA/EIA-222-F and the tower foundation in its current state does not comply with the TIA/EIA-222-F standard as it relates to tower loading, as required by the Connecticut General Statutes. An enclosed document contains a summary of the results of the structural analysis completed by Northeast Utilities Transmission Civil Engineering.

As a result of the structural analysis, CL&P is submitting this notification to the Council informing it of the construction of a replacement tower that will comply with the TIA/EIA-222-F standard for tower loading.

III. Proposed Installation

Please refer to attached Figures SC-1 (Site Plan) and SC-2 (Compound Plan, Tower Elevations and Detail) for details of the existing and proposed facility. CL&P proposes to remove the existing tower and its multiple guy wires and to install a 195-foot tall self-supporting steel lattice tower adjacent to the existing tower location at Highland Avenue in Torrington. The new self-supporting tower will have three sides and will be wider than the existing guyed tower. New antennas will be installed on the self-supporting tower duplicating the layout of the old tower and two additional RFS 220-8N whip antennas will be added to the new tower. The overall height of the new facility with appurtenances will not exceed that of the existing facility.

It will not be necessary to expand the existing equipment compound to construct the new tower. The existing chain link fence surrounding the compound will not be modified. New ice bridges will be added from the existing telecommunications shelters to the new tower. No modifications will be made to the equipment shelters at the site.

The project will replace an existing telecommunications tower facility with a new telecommunications tower facility of equal height and unchanged function. The tower's visibility will not materially change.

Minimal clearing for the new tower would be required. The remaining land would remain unchanged by the construction and operation of the radio communications facility. Most of the existing vegetation would be maintained to help screen the compound from view. Erosion and sediment control measures would be installed per the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

The proposed installation would not require any water or sanitary facilities and will not generate any discharges to bodies of water or sanitary facilities. After construction is complete, the proposed installation would not generate any traffic other than periodic maintenance visits.

The nearest residence is approximately 696 feet southeast of the existing tower. No wetlands were identified within the property owned by CL&P.

Radio-signal emissions from the existing and proposed equipment at this site do not exceed the total radio-frequency ("RF") electromagnetic power-density level permitted by the Federal Communications Commission ("FCC"). To ensure compliance with the applicable standard, CL&P commissioned C^2 Systems to conduct a power density analysis for the proposed installation using the methodology prescribed by the FCC's Office of Engineering and Technology Bulletin No. 65W, Edition 97-01 (August 1997) ("OET Bulletin 65"). The analysis includes measurements from the antennas currently mounted on the existing tower and a calculation for the new antennas that will be added to the new tower once it is erected. The analysis indicates that the cumulative power density level for the proposed installation at its worst level would be 4.35% of the FCC Standard for

public exposure to RF emissions. A copy of the report produced by C^2 Systems is attached.

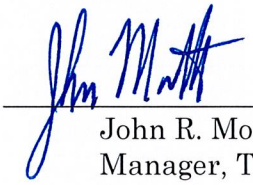
In accordance with the Regulations of Connecticut Agencies section 16-50j–72(b), CL&P's plans do not constitute a modification because CL&P will not be increasing the height of the tower, will not extend the boundaries of the site, will not increase the noise levels at the site and the total radio frequency electromagnetic radiation power density will stay within all applicable standards. Therefore, in conclusion, CL&P's proposed plan to replace the existing tower and add two antennas to the new tower does not constitute a modification subject to the Council's jurisdiction.

Construction of this facility will begin on October 1, 2008 and it is anticipated that construction will be completed prior to January 31, 2009.

Communications regarding this Notification of Exempt Modification should be directed to:

Mr. John R. Morissette
Manager, Transmission Siting and Permitting
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270
Telephone: (860) 665-2036

NORTHEAST UTILITIES SERVICE COMPANY

By: 

John R. Morissette
Manager, Transmission Siting and Permitting

Attachment 1

DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF AN EXISTING 195' GUYED TOWER LOCATED AT SOAPSTONE MOUNTAIN, TORRINGTON, CONNECTICUT

prepared for

Northeast Utilities System

Northeast Utilities System
107 Selden Street
Berlin, CT 06037

NU Transmission Civil Engineering

Prepared by: SCL
Reviewed by: JEK
Date: February 5, 2008

1.0 EXECUTIVE SUMMARY

This report summarizes the structural evaluation of the 195' guyed communication tower located at Highland Avenue in Torrington, Connecticut. The loading considered in the analysis consists of all existing and proposed antennas, feed lines, and ancillary items as outlined in the tower inventory report in section 3.1 of this report.

The results of the structural evaluation are as follows:

The tower structure does not satisfy the requirements of the TIA/EIA-222-F Standard; therefore, it is considered structurally inadequate. Tower Leg Elements at Section T6 and Section T7 are 15% and 3% over allowed capacity, respectively. The tower foundation is deficient in size and pier reinforcement. The twist and sway values at the top of the tower exceed the NU requirement of 0.5 degrees or less.

The structural evaluation is based on:

1) Existing antennas, feed lines, and ancillary items identified in the tower inventory report provided by the Northeast Utilities Telecommunications group. Refer to section 3.1 for the complete report.
2) Tower geometry, structural member sizes, and material properties are based on the tower report for Soapstone Mountain, Litchfield County, Highland Avenue, Torrington, Connecticut. Prepared by CSB Communications. Dated October 24, 2006.
3) Wind loading conforms to TIA\EIA-222-F with NU requirements for a wind velocity of 85 mph and 85 mph applied simultaneously with 0.5" ice.

2.0 STRUCTURAL EVALUATION

2.1 INTRODUCTION

The existing structure supports several antennas detailed in the antenna inventory in section 3.5. This inventory was provided by the NU Telecommunications group.

The purpose of this evaluation was to investigate the structural integrity of the existing tower with its existing antenna loads including the proposed changes provided by the NU Telecommunications group. This analysis was conducted to evaluate twist (rotation), sway (deflection) and stress on the tower, and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

2.2 ANALYSIS METHODOLOGY AND LOADING CONDITIONS

Methodology:

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

The analysis was conducted using RISA Tower 4.6 based on the loading set listed below:

Loading Set = TIA/EIA loading

1. Load Condition 1 = 85 mph Wind Load + Tower Dead Load
2. Load Condition 2 = 85 mph Wind Load (with 0.5" ice) + Ice Load + Tower Dead Load

The load conditions were evaluated and were compared to material allowable stresses according to AISC and TIA/EIA. The load combinations were investigated in RISA Tower 4.6 to determine the stress, sway and rotation.

The TIA/EIA standard permits one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For purposes of this analysis, the allowable stresses of the tower members were increased by one-third in computing the load capacity; in addition, the appropriate "k" factors were assigned to each member.

FINDINGS AND EVALUATION

The stresses on the tower structure were evaluated to compare with the allowable stress in accordance with AISC. The results are summarized below in tabular format, for detailed computations see section 3.1.

Based on the TIA/EIA, two of the tower structure elements do not have sufficient capacity to carry the loads applied.

Member Capacity Usage Summary		
Elevation Range (feet from base)	**Leg Capacity Usage (%)**	**Diagonal Capacity Usage (%)**
195 - 180	12.5	50.0
180 - 160	28.4	66.5 72.5 (b)
160 - 140	46.5	75.2
140 - 120	67.5	24.8 37.7 (b)
120 - 100	85.3	56.3
100 - 80	115.1	31.3 47.1 (b)
80 - 60	103.2	51.4
60 - 40	89.7	40.9
40 - 20	91.1	46.3
20 - 4.833	89.4	20.8
4.833 - 0	76.5	13.3

Tower Deflection and Twist	
Sway @ Top (degrees)	0.9656
Twist @ Top (degrees)	0.6146

Tower Base Reactions			
	Proposed Design Reactions	Original Design Reactions	% above Original Design
Axial	125.48 kips	N/A	N/A

Guy Anchor Reactions			
	Proposed Design Reactions	Original Design Reactions	% above Original Design
Uplift/inner	34.4 kips	N/A	N/A
Uplift/outer	20.8 kips	N/A	N/A
Shear/inner	41.7 kips	N/A	N/A
Shear/outer	15.1 kips	N/A	N/A

2.3 CONCLUSIONS

The results of the analysis indicate that the tower does not comply with the requirements of the TIA/EIA-222-F for loading conditions in its existing condition or with the inclusion of loads from the proposed antennas. The twist and sway values at the top of the tower exceed requirements for microwave antennas. Also, if the foundation rests on native soil, the capacity to withstand foundation settling is insufficient. Further investigation into the condition of the ground under the existing foundation is necessary. Based on the tower and foundation analyses, **the structure is considered to be structurally unacceptable.**

Limitations/Assumptions:

This report is based on the following:

A. Tower is properly installed and maintained.

B. Tower geometry, structural member sizes, and material properties taken from the tower report of Soapstone Mountain, Litchfield County, Highland Avenue, Torrington, Connecticut. Prepared and performed by CSB Communications. October 24, 2006.

C. Tower antenna inventory report provided by the NU Telecommunications group in section 3.5 of this report.

D. All required members are in place.

E. All bolts are in place and are properly tightened.

F. Tower is in plumb condition.

G. All member coatings are in fair condition.

H. All tower members were properly designed, detailed, fabricated, installed, and have been properly maintained since erection.

Attachment 2

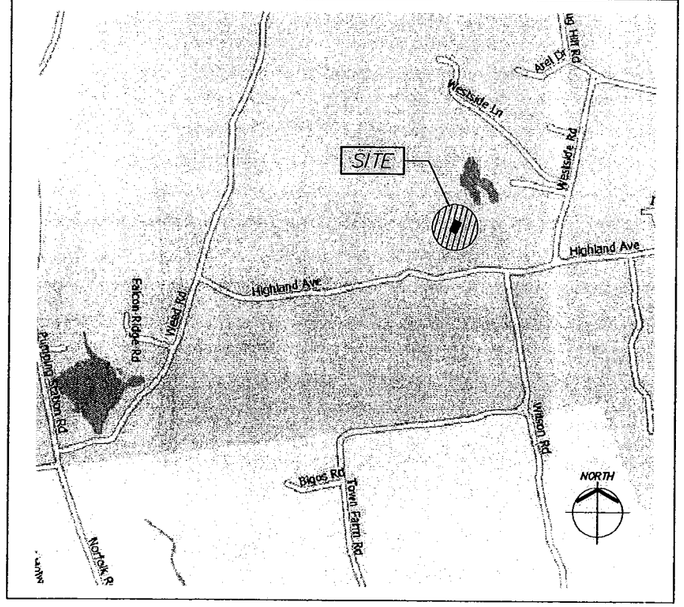
Northeast Utilities System

TORRINGTON

HIGHLAND AVENUE
TORRINGTON, CONNECTICUT

VICINITY MAP

NTS



SITE DIRECTIONS

FROM BERLIN: MERGE ONTO CT-9 N VIA THE RAMP ON THE LEFT TOWARD NEW BRITAIN.3.5 MI5: MERGE ONTO CT-72 W VIA EXIT 28 ON THE LEFT TOWARD BRISTOL.3.5 MI6: KEEP RIGHT TO TAKE CT-72 W VIA EXIT 33 TOWARD PLAINVILLE/BRISTOL.2.9 MI7: TURN RIGHT ONTO FORESTVILLE AVE/CT-72. CONTINUE TO FOLLOW CT-72 W.0.7 MI8: TURN SLIGHT LEFT ONTO BROAD ST/CT-72.1.3 MI9: TURN LEFT ONTO CT-229/CT-72/KING ST.0.1 MI10: TURN RIGHT ONTO MEMORIAL BLVD/CT-72. CONTINUE TO FOLLOW MEMORIAL BLVD.1.1 MI11: MEMORIAL BLVD BECOMES CT-72.0.4 MI12: TURN SLIGHT RIGHT ONTO PARK ST/CT-72. CONTINUE TO FOLLOW CT-72.3.1 MI13: TURN SLIGHT LEFT ONTO MAIN ST/US-6.1.9 MI14: TURN SLIGHT RIGHT TO STAY ON MAIN ST/US-6.1.6 MI15: MERGE ONTO CT-8 N TOWARD TORRINGTON.10.1 MI16: TAKE THE CT-202 EXIT, EXIT 44, TOWARD CT-4/DOWNTOWN TORRINGTON.0.2 MI17: TURN LEFT ONTO E MAIN ST/US-202.0.6 MI18: TURN SHARP RIGHT ONTO MAIN ST.0.1 MI19: TURN LEFT ONTO WATER ST.0.4 MI20: TURN LEFT ONTO CHURCH ST.0.3 MI21: TURN SLIGHT LEFT ONTO HIGHLAND AVE.0.0 MI22: END AT HIGHLAND AVE TORRINGTON, CT 06790.

PROJECT DESCRIPTION

THE SCOPE OF THIS PROJECT INCLUDES THE REMOVAL OF AN EXISTING 195' GUYED TOWER AND THE CONSTRUCTION OF A NEW 195' HIGH SELF SUPPORT LATTICE TOWER LOCATED ON LAND OWNED BY THE CONNECTICUT LIGHT AND POWER COMPANY. ALL EXISTING ANTENNAS AND COAXIAL CABLES FROM THE EXISTING GUYED TOWER ARE TO BE RELOCATED TO THE NEW TOWER.

PROJECT SUMMARY

SITE NAME:	TORRINGTON
SITE ADDRESS:	HIGHLAND AVENUE TORRINGTON, CONNECTICUT
MAP:	217
BLOCK:	2
LOT:	2
CONTACT PERSON:	NORTHEAST UTILITIES SYSTEM 107 SELDEN STREET STEVE FLORIO OFFICE: (860) 665-3437 FAX: (860) 665-5418
GOVERNING CODE:	CONNECTICUT STATE BUILDING AND LIFE SAFETY CODE
APPLICANT:	NORTHEAST UTILITIES SYSTEM 107 SELDEN STREET BERLIN, CT 06037
ARCHITECT:	URS CORPORATION A.E.S. 500 ENTERPRISE DRIVE, SUITE 3B ROCKY HILL, CT 06067
M/E/P ENGINEER:	URS CORPORATION A.E.S. 500 ENTERPRISE DRIVE, SUITE 3B ROCKY HILL, CT 06067

LEGEND

SYMBOL	DESCRIPTION
	SECTION OR DETAIL NUMBER SHEET WHERE DETAIL/SECTION OCCURS
1	ELEVATION NUMBER SHEET WHERE ELEVATION OCCURS

ABBREVIATIONS

MIN.	MINIMUM
V.I.F.	VERIFY IN FIELD
O.C.	ON CENTER
PSF	POUND/SQUARE FOOT
TYP.	TYPICAL
TOC	TOP OF CONCRETE
TOW	TOP OF WALL

SHEET INDEX

0 1 2 3
ORIGINAL SIZE IN INCHES

A&E FIRM
URS CORPORATION AES
500 ENTERPRISE DR, SUITE 3B
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

Northeast Utilities System
NORTHEAST UTILITIES SYSTEM
107 SELDEN STREET
BERLIN, CT 06037
OFFICE: (860) 286-5000
FAX: (860) 665-5418

A&E SEAL

STATE OF CONNECTICUT
NO. 24310
LICENSED ARCHITECT

URS PROJECT NUMBER: 36923524 (NU1-023)
DRAWN BY: RRH

NO.	DATE	ISSUED FOR
A	04.08.08	REVIEW
1	04.10.08	SITING COUNCIL REVIEW

RELEASE BY: AA
DATE: 04.08.08

APPROVALS

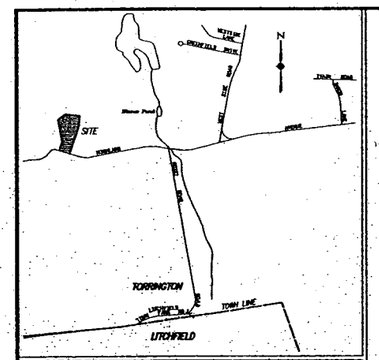
CONSTRUCTION _____ DATE: _____
LEASING _____ DATE: _____
RF _____ DATE: _____
ZONING _____ DATE: _____
QC _____ DATE: _____
NETWORK ENG _____ DATE: _____
OWNER _____ DATE: _____

TORRINGTON

HIGHLAND AVENUE
TORRINGTON, CT
06790

SHEET TITLE
TITLE SHEET-
GENERAL NOTES
AND LEGENDS

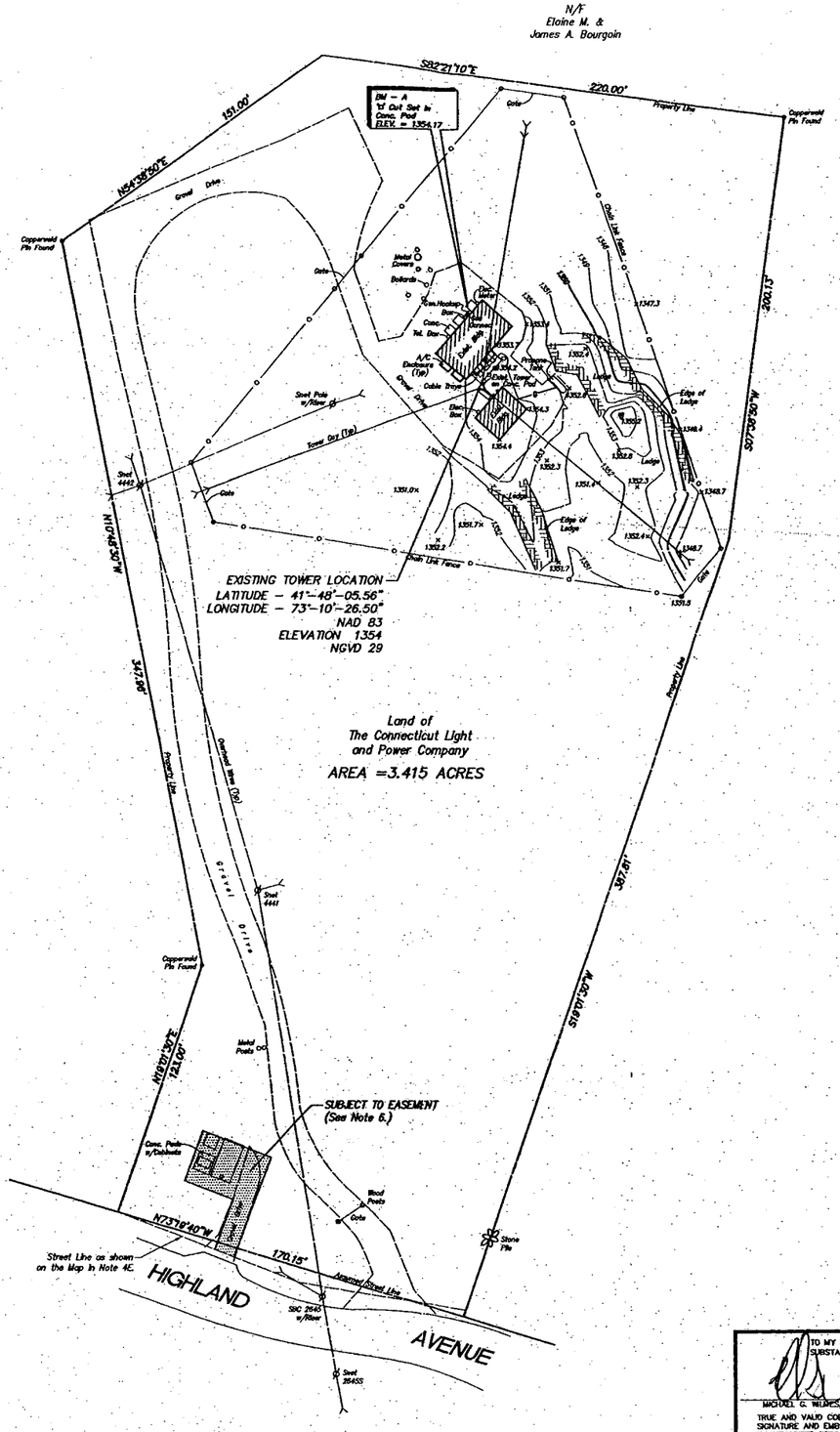
SHEET NUMBER
T-1



LOCATION MAP 1"=1000'

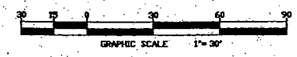
LEGEND

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



NOTES:

1. THIS SURVEY AND MAP HAVE BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20, AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996. THE TYPE OF SURVEY IS A PROPERTY SURVEY AND A T-2 TOPOGRAPHIC SURVEY, THE BOUNDARY DETERMINATION CATEGORY IS A RESURVEY, THE HORIZONTAL AND VERTICAL ACCURACY CONFORMS TO CLASS A-2 & V-2 ACCURACY.
2. BEARINGS REFER TO THE CONNECTICUT COORDINATE SYSTEM (NAD 83) ESTABLISHED WITH GPS.
3. ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29) ESTABLISHED WITH GPS.
4. REFERENCE IS MADE TO THE FOLLOWING MAPS:
   A. "TOPO OF PROPOSED RADIO TOWER SITE HIGHLAND AVE. TORRINGTON CONN.", BY THE HARTFORD ELECTRIC LIGHT CO., SCALE 1"=40', DATED DECEMBER 22, 1975, REVISED 8-23-77.
   B. "MICROWAVE TOWER SITE LAND TO BE PURCHASED FROM JAMES P. MOONEY & PATRICK MANOLI HIGHLAND AVE. TORRINGTON CONN.", BY THE HARTFORD ELECTRIC LIGHT CO., SCALE 1"=100' DATED APRIL 7, 1975.
   C. "MAP OF SUBDIVISION OF LAND OWNED BY GEORGE M. & MARY A. SIMMONS CITY OF TORRINGTON, CONN.", BY CHARLES P. HURLEY, SCALE 1"=100', DATED JUNE 1972.
   D. "MAP OF SUBDIVISION OF LAND OWNED BY GEORGE M. & MARY A. SIMMONS CITY OF TORRINGTON, CONN.", TRACED AND REVISED BY JOSEPH J. BARNS, SCALE 1"=100', DATED OCTOBER 31, 1967.
   E. "PROPOSED EASEMENT TO THE SOUTHERN NEW ENGLAND TELEPHONE CO. FROM THE CONNECTICUT LIGHT & POWER CO. HIGHLAND AVENUE TORRINGTON, CONNECTICUT", BY DICARA LAND SURVEYING SERVICES, SCALE 1"=10', DATED 8-4-97, REVISED TO 7-2-98.
5. REFERENCE IS MADE TO A VARIANCE RECORDED IN VOLUME 711, PAGE 131 OF THE TORRINGTON LAND RECORDS.
6. THE PROPERTY IS SUBJECT TO AN EASEMENT IN FAVOR OF THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY AS DESCRIBED IN VOLUME 718, PAGE 377 OF THE TORRINGTON LAND RECORDS.
7. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH UNDERGROUND FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO URS CORPORATION AES. THE EXISTENCE, SIZE, TYPE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES, PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.



BOUNDARY & PARTIAL TOPOGRAPHIC SURVEY
LAND OF
THE CONNECTICUT LIGHT AND POWER COMPANY
HIGHLAND AVENUE
TORRINGTON, CONNECTICUT
PREPARED FOR
NORTHEAST UTILITIES

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

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

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

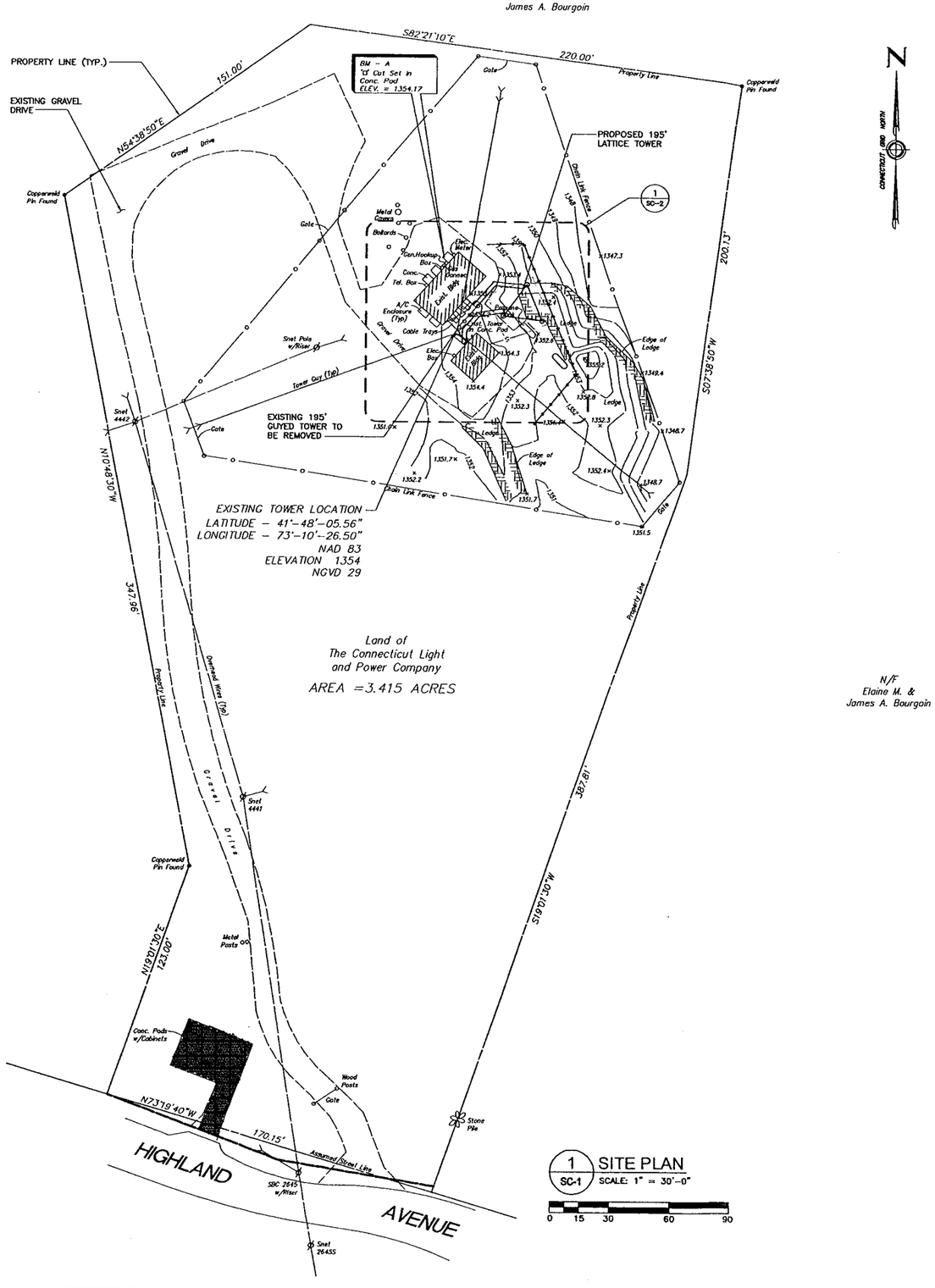
Embossed seal

URS

Scale: 1" = 30'
Date: APRIL 2008

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

Field book #	Crew Chief	Project #
1662-65	S.PERRY	36923524.00000
Search #	Drawn by	Checked by / Map file #
4254	EL	KJM / T156-40



GENERAL LEGEND

DESCRIPTIONS	EXISTING	PROPOSED
PROPERTY LINE		
HIGHWAY LINE		
LEASE LINE		
CHAIN LINK FENCE	-O-----O-	-O-X-X-O-
CONTOUR LINES	XXX	XXX
UTILITY POLE	ø	ø
SEDIMENTATION FENCE		// //
TREE LINE		
SPOT ELEVATION	x XXX	

SOIL EROSION AND CONTROL NOTES

1) THE EROSION CONTROL PROCEDURES SHALL CONFORM TO ALL APPLICABLE SECTIONS OF THE "DEP BULLETIN 34, CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL DATED 2002".

2) DURING CONSTRUCTION AND THEREAFTER EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. NOT GREATER THAN 80,000 SQ. FT. OF LAND SHALL BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME AND SHALL NOT EXCEED 90 DAYS. LAND SHOULD NOT BE LEFT EXPOSED DURING THE WINTER MONTHS.

3) SILTATION FENCING SHALL BE INSTALLED WHERE SHOWN PRIOR TO ANY ON SITE GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. IT SHOULD BE MAINTAINED DURING AND AFTER DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER AND FROM LAND UNDERGOING DEVELOPMENT. WHERE POSSIBLE NATURAL DRAINAGE--WAYS SHOULD BE UTILIZED AND LEFT OPEN TO REMOVE EXCESS SURFACE WATER.

4) ALL DISTURBED AREAS AND SIDE SLOPES WHICH ARE FINISH GRADED WITH NO FURTHER CONSTRUCTION TO TAKE PLACE SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4" OF LOAM SHALL BE INSTALLED. A SEED, LIME AND FERTILIZER PROGRAM SHALL CONFORM TO ALL APPLICABLE SECTIONS OF THE "DEP BULLETIN 34, CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL DATED 2002".

5) ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH SHALL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION. HAY OR STRAW MULCH SHALL BE APPLIED TO ALL FRESHLY SEEDED AREAS AT A RATE OF 2 TONS PER ACRES. BALES SHALL BE UNSPOILED, AIR--DRIED, AND FREE FROM WEED, SEEDS AND ANY COARSE MATERIAL.

6) UPON ESTABLISHMENT OF VEGETATION OF ALL DISTURBED AREAS AND UPON COMPLETION OF CONSTRUCTION, ALL SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED FROM THE SITE.

SILT FENCE NOTES

1) THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES

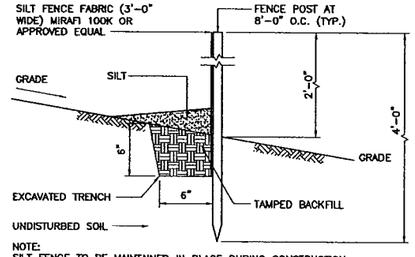
2) MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

3) SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.

4) IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.

5) SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT, THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

6) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATION.



NOTE:
SILT FENCE TO BE MAINTAINED IN PLACE DURING CONSTRUCTION. REMOVE UPON COMPLETION OF CONSTRUCTION.

2 SC-1 SEDIMENTATION BARRIER/SILT FENCE DETAIL
SCALE: N.T.S.

0 1 2 3
ORIGINAL SIZE IN INCHES

A&E FIRM
URS CORPORATION AES
500 ENTERPRISE DR, SUITE 3B
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

Northeast Utilities System
NORTHEAST UTILITIES SYSTEM
107 SELDEN STREET
BERLIN, CT 06037
OFFICE: (860) 286-5000
FAX: (860) 665-5418

A&E SEAL
STATE OF CONNECTICUT
DOUGLAS R. ROBERTS
No. 24310
LICENSED ARCHITECT

URS PROJECT NUMBER: 36923524 (NU1-023)
DRAWN BY: RRH

NO.	DATE	ISSUED FOR
A	04.08.08	REVIEW
1	04.10.08	SITING COUNCIL REVIEW

RELEASE BY: AA
DATE: 04.08.08

APPROVALS

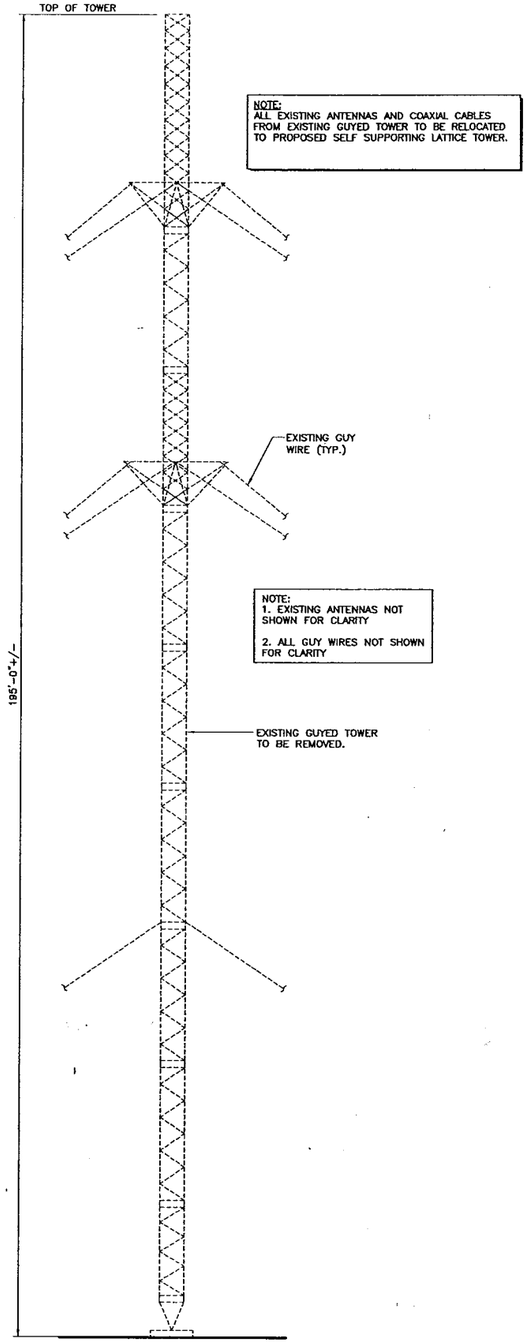
CONSTRUCTION _____ DATE: _____
LEASING _____ DATE: _____
RF _____ DATE: _____
ZONING _____ DATE: _____
QC _____ DATE: _____
NETWORK ENG _____ DATE: _____
OWNER _____ DATE: _____

TORRINGTON

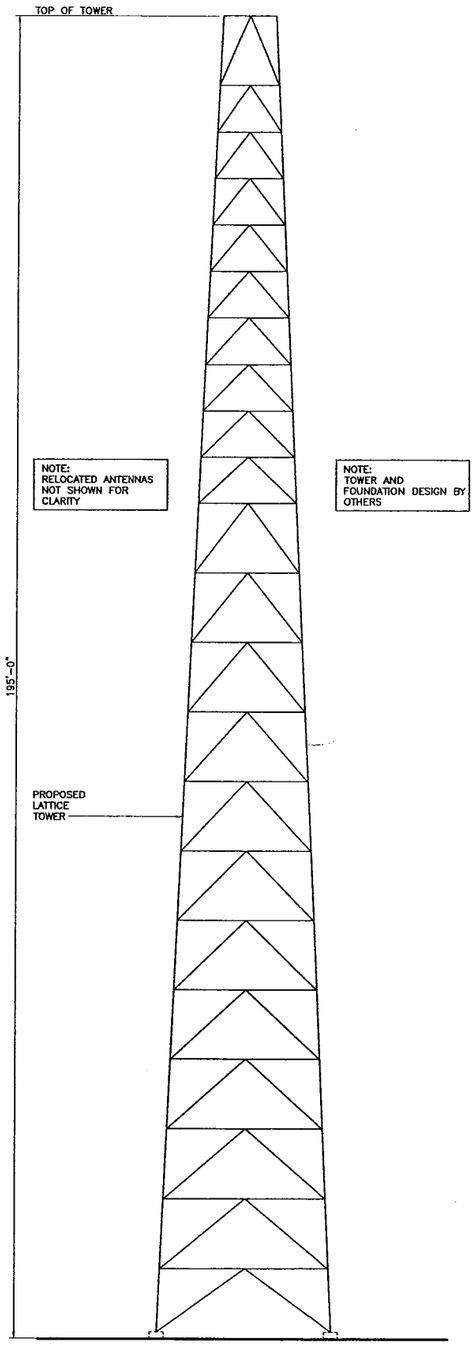
HIGHLAND AVENUE
TORRINGTON, CT
06790

SHEET TITLE
SITE PLAN, LEGEND, NOTES AND DETAIL

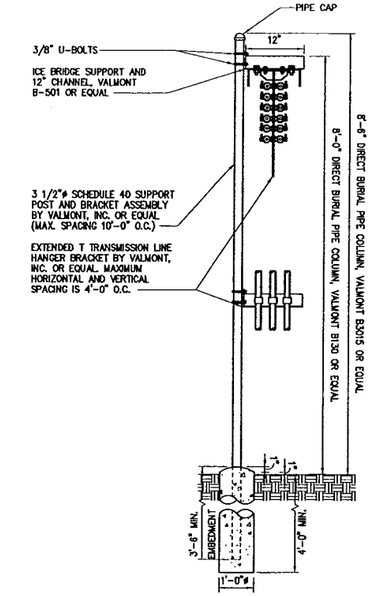
SHEET NUMBER
SC-1



3 SC-2 EXISTING TOWER ELEVATION
SCALE: 1" = 10'-0"
0 5 10 20 30

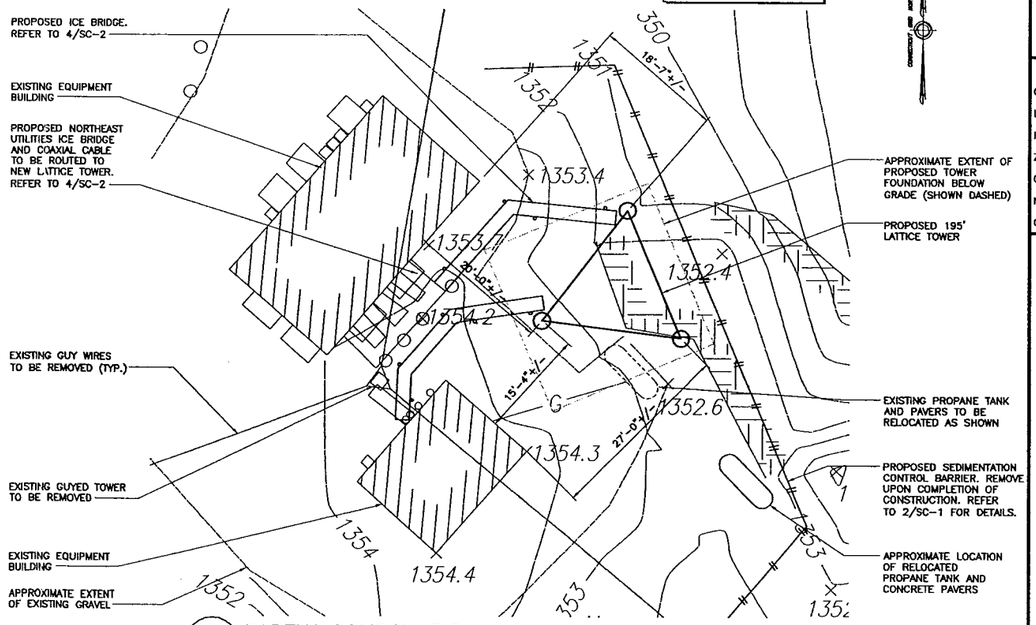


2 SC-2 PROPOSED TOWER ELEVATION
SCALE: 1" = 10'-0"
0 5 10 20 30



4 SC-2 SECTION AT ICE BRIDGE/CABLE TRAY
SCALE: 3/4" = 1'-0"
0 8" 1'-4" 2'-8" 4'-0"

NOTE:
COORDINATE INSTALLATION OF PROPOSED TOWER WITH ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.



1 SC-2 PARTIAL COMPOUND PLAN
SCALE: 1" = 10'-0"
0 5 10 20 30

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0 1 2 3
ORIGINAL SIZE IN INCHES

A&E FIRM
URS CORPORATION AES
500 ENTERPRISE DR, SUITE 3B
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

Northeast Utilities System
NORTHEAST UTILITIES SYSTEM
107 SELDEN STREET
BERLIN, CT 06037
OFFICE: (860) 665-5000
FAX: (860) 665-5454

STATE OF CONNECTICUT
DOUGLAS J. ROBERTS
LICENSED ARCHITECT
NO. 4310
AE SEAL

URS PROJECT NUMBER: 36923524 (NU1-023)
DRAWN BY: RRH

NO.	DATE	ISSUED FOR
A	04.08.08	REVIEW
1	04.10.08	SITING COUNCIL REVIEW

RELEASE BY: AA
DATE: 04.08.08

APPROVALS
CONSTRUCTION _____ DATE: _____
LEASING _____ DATE: _____
RF _____ DATE: _____
ZONING _____ DATE: _____
QC _____ DATE: _____
NETWORK ENG _____ DATE: _____
OWNER _____ DATE: _____

TORRINGTON
HIGHLAND AVENUE
TORRINGTON, CT
06790

SHEET TITLE
COMPOUND PLAN, TOWER ELEVATIONS AND DETAIL

SHEET NUMBER
SC-2

Attachment 3

Radio Frequency Field Survey

Torrington Tower
Highland Ave
Torrington, CT 06790

C Squared Systems

C Squared Systems
920 Candia Road
Manchester, NH 03109
Phone 603-657-9702
Email support@csquaredsystems.com

Table of Contents

List of Tables

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1.0 Overview

At the request of Northeast Utilities radio frequency measurements were made in the vicinity of the wireless tower on Highland Ave, Torrington, CT 06790 on June 25, 2008 between the hours of 10:00 AM and 12:00 PM. The coordinates of the tower are 41° 48' 5.6" N, 73° 10' 27.0" W. The results of the measurements as well as the calculated values for the proposed Northeast Utilities radio antenna are presented in this report.

Survey measurements are expressed as a percentage of the Maximum Permissible Exposure (MPE) limits as listed in the FCC OET Bulletin 65. OET Bulletin 65 was prepared to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to radio frequency fields adopted by the Federal Communications Commission. Measurement results expressed in this report are for uncontrolled public access. The FCC's guidelines establish separate exposure limits for "general population/uncontrolled exposure," and for "occupational/controlled exposure."

2.0 FCC Guidelines for Evaluating RF Radiation Exposure Limits

The FCC describes exposure to radio frequency (RF) energy in terms of percentage of maximum permissible exposure (MPE) with 100% being the maximum allowed. Rather than the FCC presenting the user specification in terms of complex power density figures over a specified surface area, this MPE measure is particularly useful, and even more so when considering that power density limits actually vary by frequency because of the different absorptive properties of the human body at different frequencies.

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include limits for Maximum Permissible Exposure (MPE) for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

Survey measurements are expressed as a percentage of the Maximum Permissible Exposure (MPE) limits as listed in the FCC OET Bulletin 65. OET Bulletin 65 was prepared to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to radio frequency fields adopted by the Federal Communications Commission. Measurement results expressed in this report are for uncontrolled public access. The FCC's guidelines establish separate exposure limits for "general population/uncontrolled exposure," and for "occupational/controlled exposure."

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of power per square centimeter. Because each frequency band has different exposure limits, in a mixed signal environment it is necessary to report percent of MPE rather than power density.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals." Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limits.

3.0 Measurements and Results

Frequencies from 300 KHz to 50 GHz were measured using the Narda A8722D probe in conjunction with the 8718B survey meter. The A8722D probe is "shaped" such that in a mixed signal environment (i.e.: more than one frequency band is used in a particular location) it accurately measures the percent of MPE.

3.1. Measurement Procedures

From FCC OET Bulletin No. 65 - Edition 97-01 – "A useful characteristic of broadband probes used in multiple-frequency RF environments is a frequency-dependent response that corresponds to the variation in MPE limits with frequency. Broadband probes having such a "shaped" response permit direct assessment of compliance at sites where RF fields result from antennas transmitting over a wide range of frequencies. Such probes can express the composite RF field as a percentage of the applicable MPEs".

Probe Description – As suggested in FCC OET Bulletin No. 65 - Edition 97-01, the response of the measurement instrument should be essentially isotropic, (i.e., independent of orientation or rotation angle of the probe). For this reason, the Narda A8722 Isotropic probe was used for these measurements.

Sampling Description: At each measurement location, a spatially averaged measurement is collected over the height of an average human body. The 8718B survey meter performs a time average measurement while the user slowly moves the probe over a distance range of 0 cm to 200 cm (about 6 feet) above ground level. The results recorded at each measurement location include both average and peak values over the spatial distance.

Instrumentation Information: A summary of specifications for the equipment used is provided in the table below.

Manufacturer	Narda Microwave			
Probe	A8722D, Serial Number 07030			
Calibration Date	11/26/2007			
Calibration Interval	12 Months			
Meter	8718B, Serial Number 06028			
Calibration Date	11/26/2007			
Calibration Interval	24 Months			
Probe Specifications	**Freq Range**	**Field Measured**	**Standard**	**Measurement Range**
	300 KHz-50 GHz	E	FCC 1997	0.3 – 300 % of Controlled

Table 1: Instrumentation Information

Instrument Measurement Uncertainty: The total measurement uncertainty of the NARDA measurement probe and meter is no greater than ±3 dB. The factors which contribute to this include the probe's frequency response deviation, calibration uncertainty, ellipse ratio, and isotropic response. Every effort is taken to reduce the overall uncertainty during measurement collection including rotating the probe about the axis of the handle and pointing the probe directly at the likely highest source of emissions.

3.2. Calculations

All calculations were base on the following assumptions.

Power Assumptions					
Antenna model	**Height**	**Frequency**	**Channels**	**Power / Channel**	**Total Power**
NU radio antenna	120 feet	250 MHz	4 channels	20 W ERP / channel	80 W ERP total

Table 2: Proposed Northeast Utilities Antenna Information

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{EIRP}{\pi \times R^2}\right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna

V = Vertical Distance to rad center of antenna

Off Beam Loss is determined by the selected antenna patterns

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished installation.

3.3. Results

Results, both measured and predicted, and a description of each survey location are detailed in the table presented below. Measurements were performed on June 25 between the hours of 10:00 AM and 12:00 PM.

Measurement locations are portrayed in the photos below. An aerial view, with measurement points, of the surrounding area is shown in Figure 1.

Predicted results were estimated by calculating the %MPE of the proposed Northeast Utilities antenna. This predicted %MPE value was then added to each measured value to estimate a total %MPE value at the given distance from the base of the tower. An analysis of the antenna patterns was conducted to determine whether each individual measurement point would fall within the main beam of the transmitting antenna given the mounting heights of the antenna, antenna pattern and the distance between tower and measurement point. The results are detailed in Table 3 below.

Measurement Point	Latitude	Longitude	Distance from Tower (ft)	Measured %MPE	Predicted %MPE	Total %MPE
1	N 41°48' 5.62"	W 73° 10' 26.99"	29	4.05%	0.30%	4.35%
2	N 41°48' 5.94"	W 73° 10' 26.52"	21	4.05%	0.32%	4.37%
3	N 41°48' 5.65"	W 73° 10' 26.18"	16	3.40%	0.32%	3.72%
4	N 41°48' 5.47"	W 73° 10' 26.25"	13	3.05%	0.33%	3.38%
5	N 41°48' 5.41"	W 73° 10' 26.90"	10	1.60%	0.33%	1.93%
6	N 41°48' 5.63"	W 73° 10' 26.48"	3	1.40%	0.33%	1.73%
7	N 41°48' 5.53"	W 73° 10' 26.50"	11	1.65%	0.33%	1.98%
8	N 41°48' 6.34"	W 73° 10' 27.50"	101	1.20%	0.15%	1.35%
9	N 41°48' 6.57"	W 73° 10' 27.54"	121	0.90%	0.12%	1.02%
10	N 41°48' 1.76"	W 73° 10' 27.15"	392	0.30%	0.17%	0.47%
11	N 41°48' 0.38"	W 73° 10' 24.49"	554	< .1	0.09%	0.19%
12	N 41°48' 0.64"	W 73° 10' 22.44"	594	0.40%	0.07%	0.47%
13	N 41°48' 0.84"	W 73° 10' 21.36"	626	0.25%	0.07%	0.32%
14	N 41°48' 1.11"	W 73° 10' 19.85"	685	< .1	0.06%	0.16%

Table 3: Measured and Calculated Results

4.0 Photos of Selected Measurement Locations

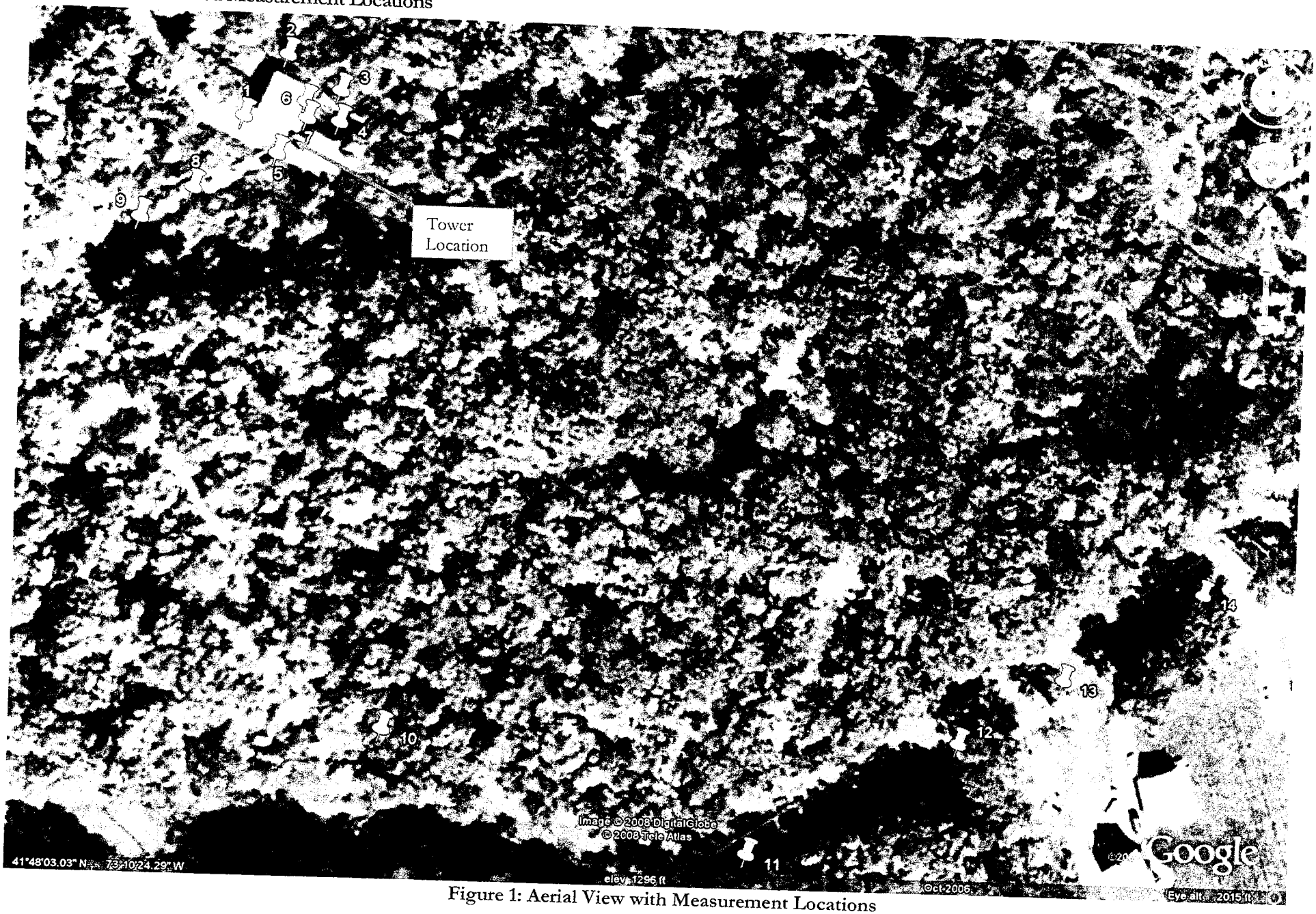


Figure 1: Aerial View with Measurement Locations

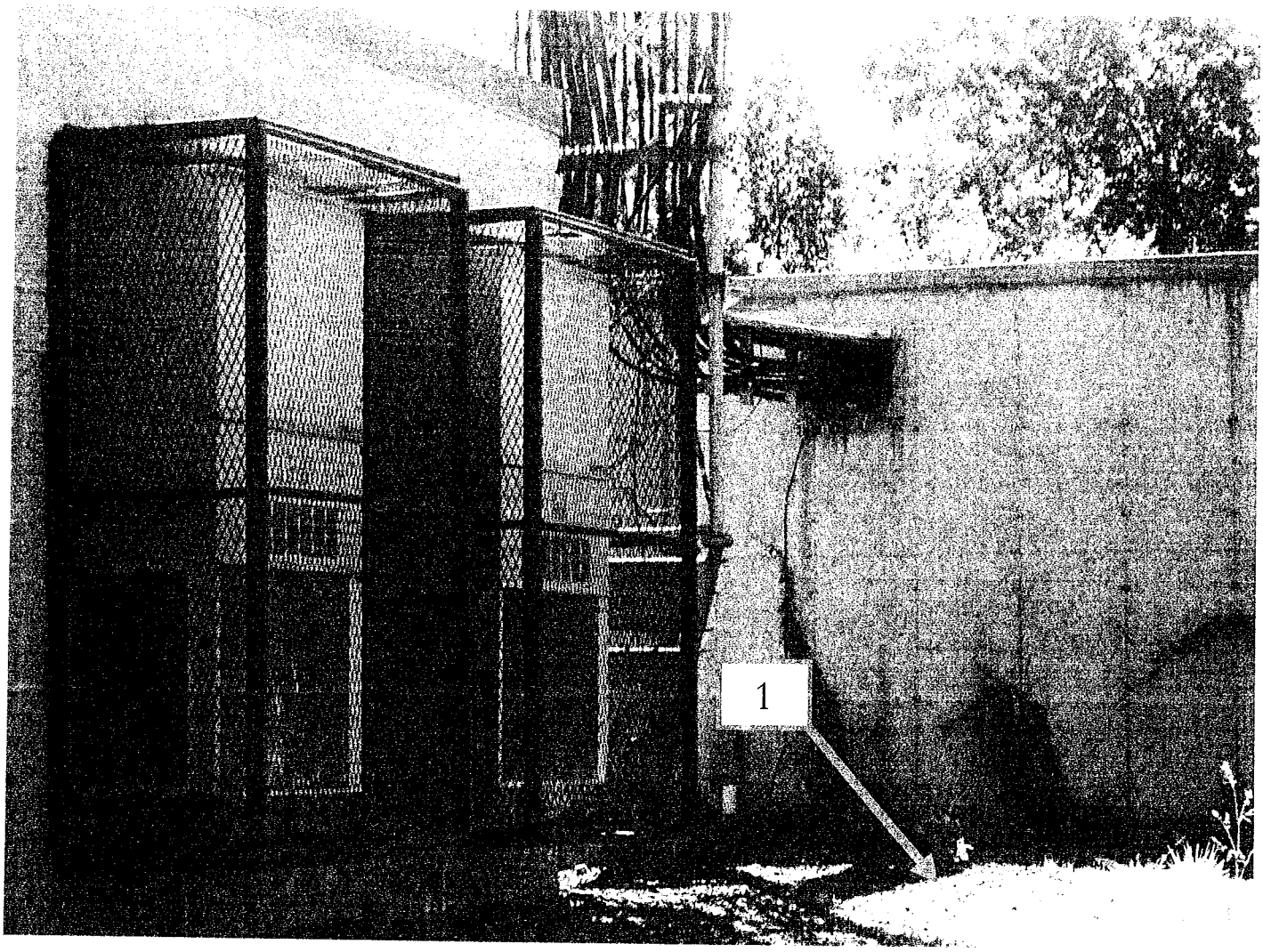


Figure 2: Measurement Location 1

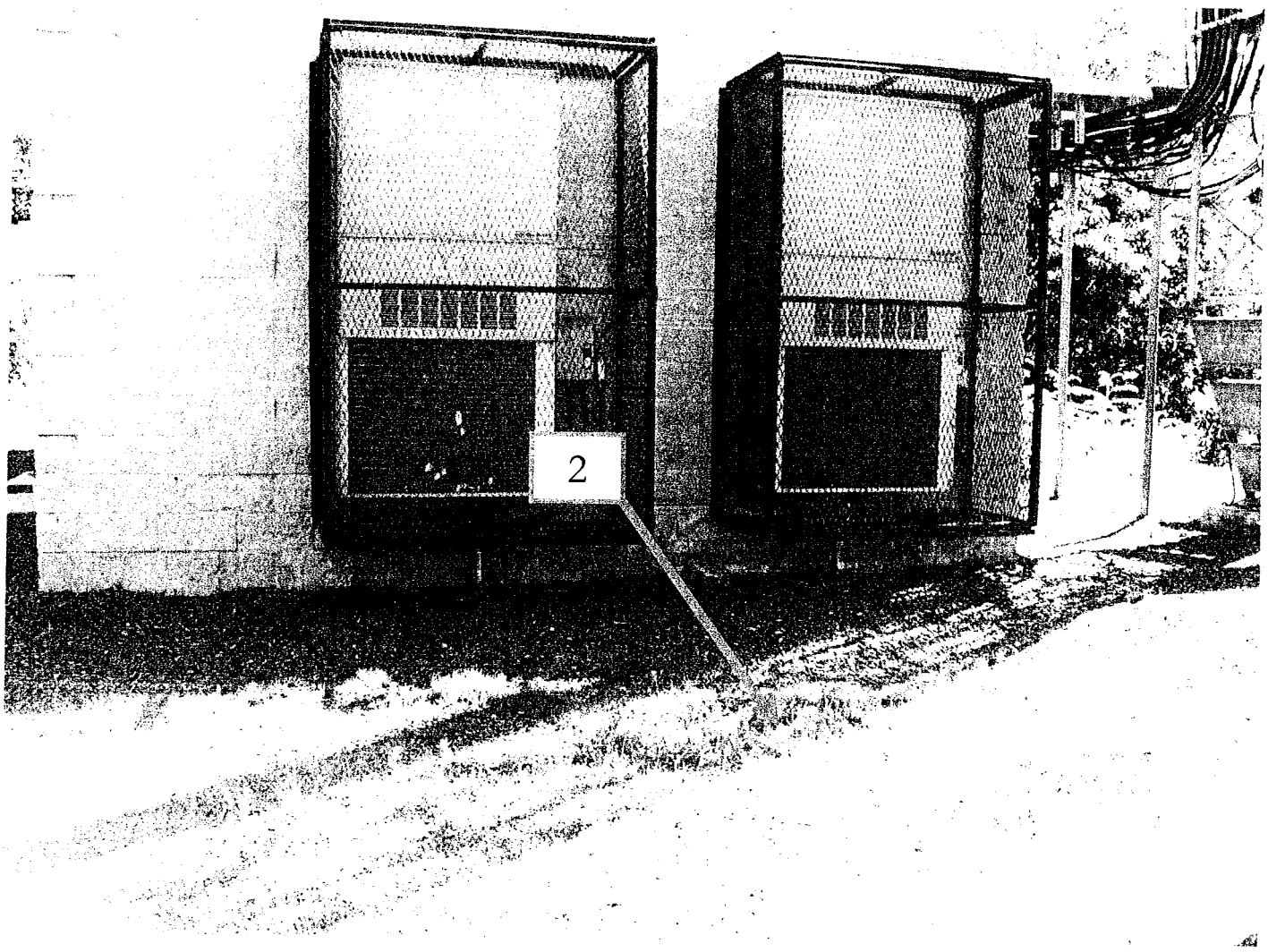


Figure 3: Measurement Location 2

Figure 4: Measurement Location 3

Figure 5: Measurement Location 4

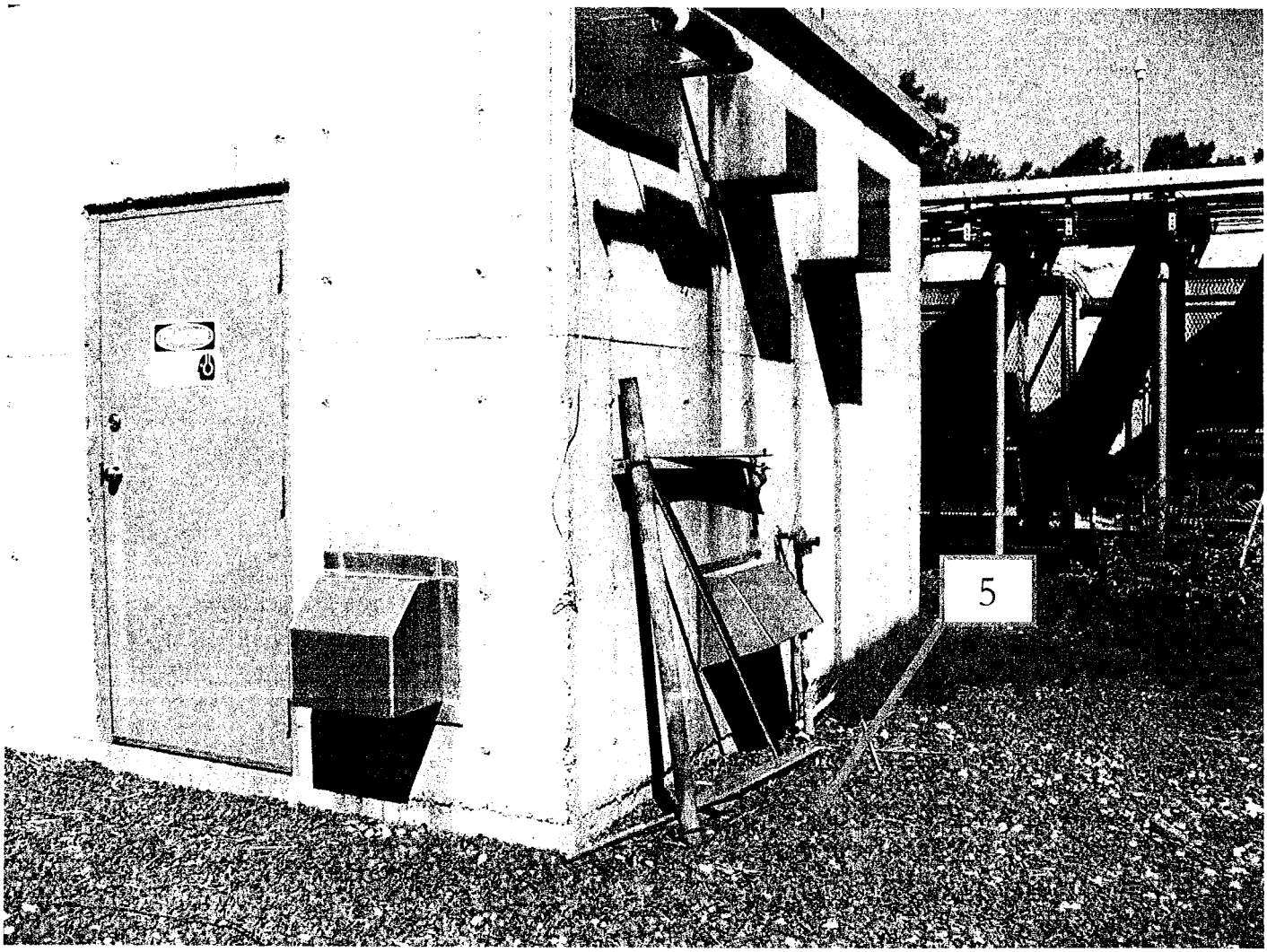


Figure 6: Measurement Location 5

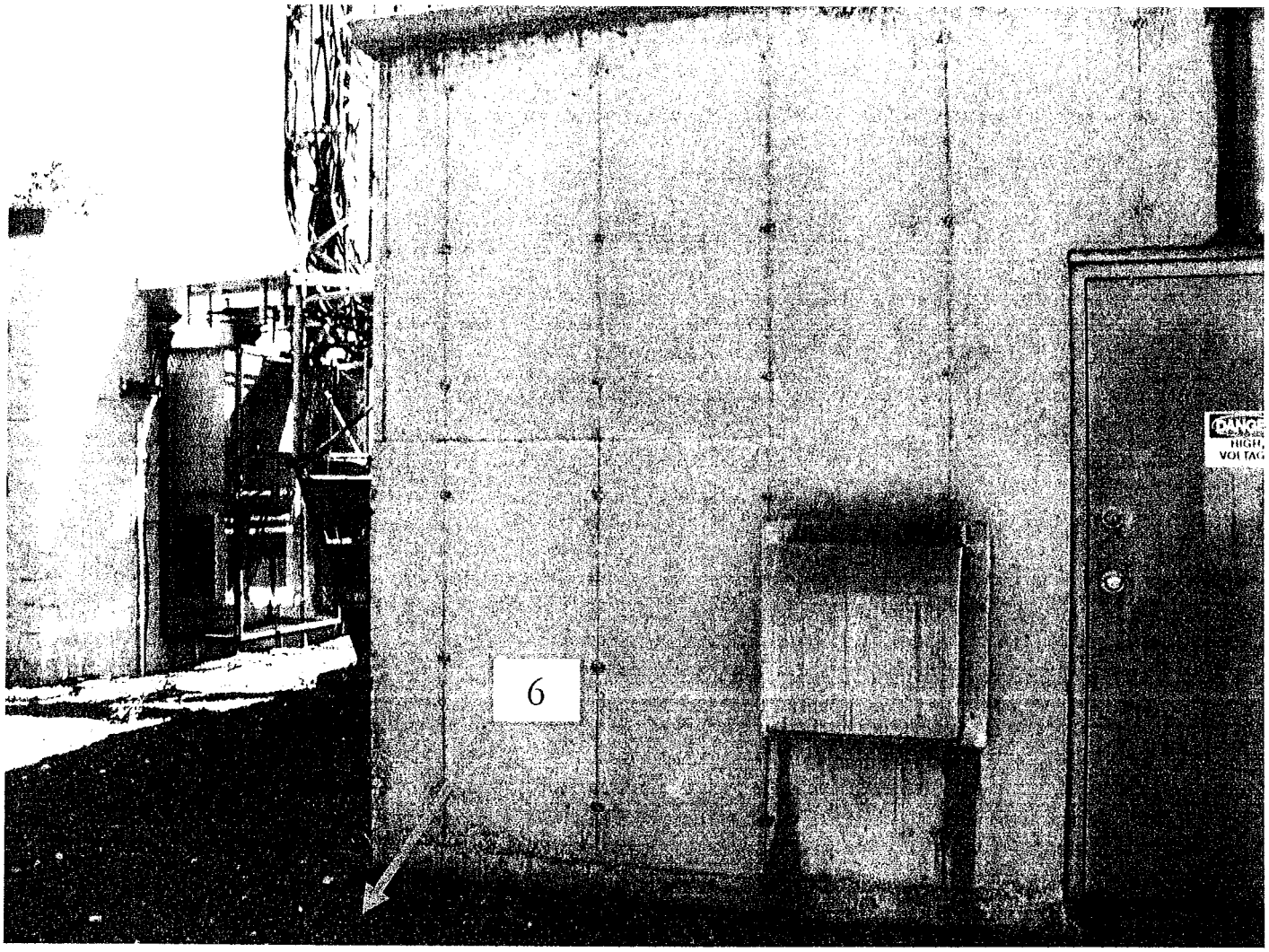


Figure 7: Measurement Location 6

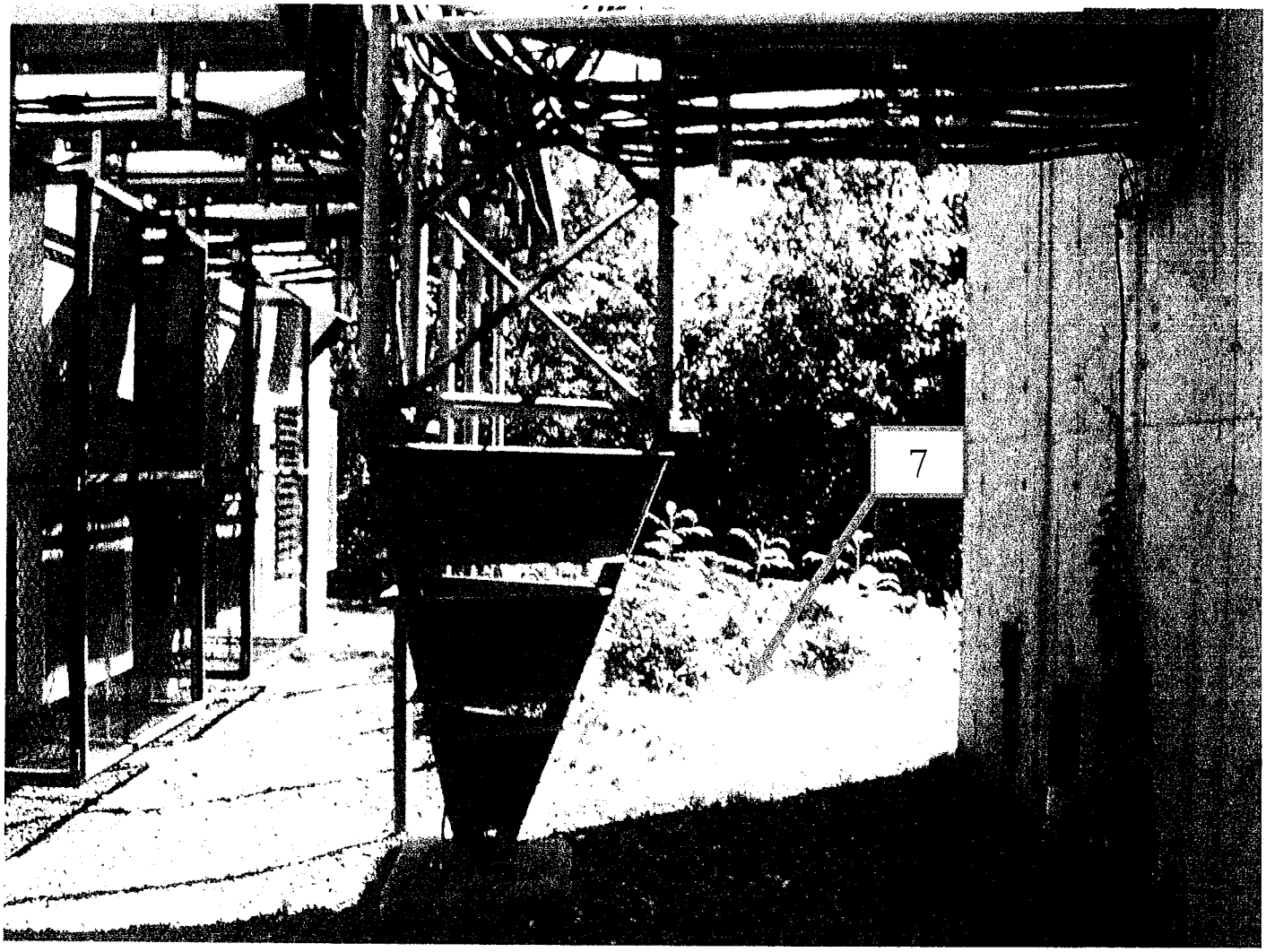


Figure 8: Measurement Location 7

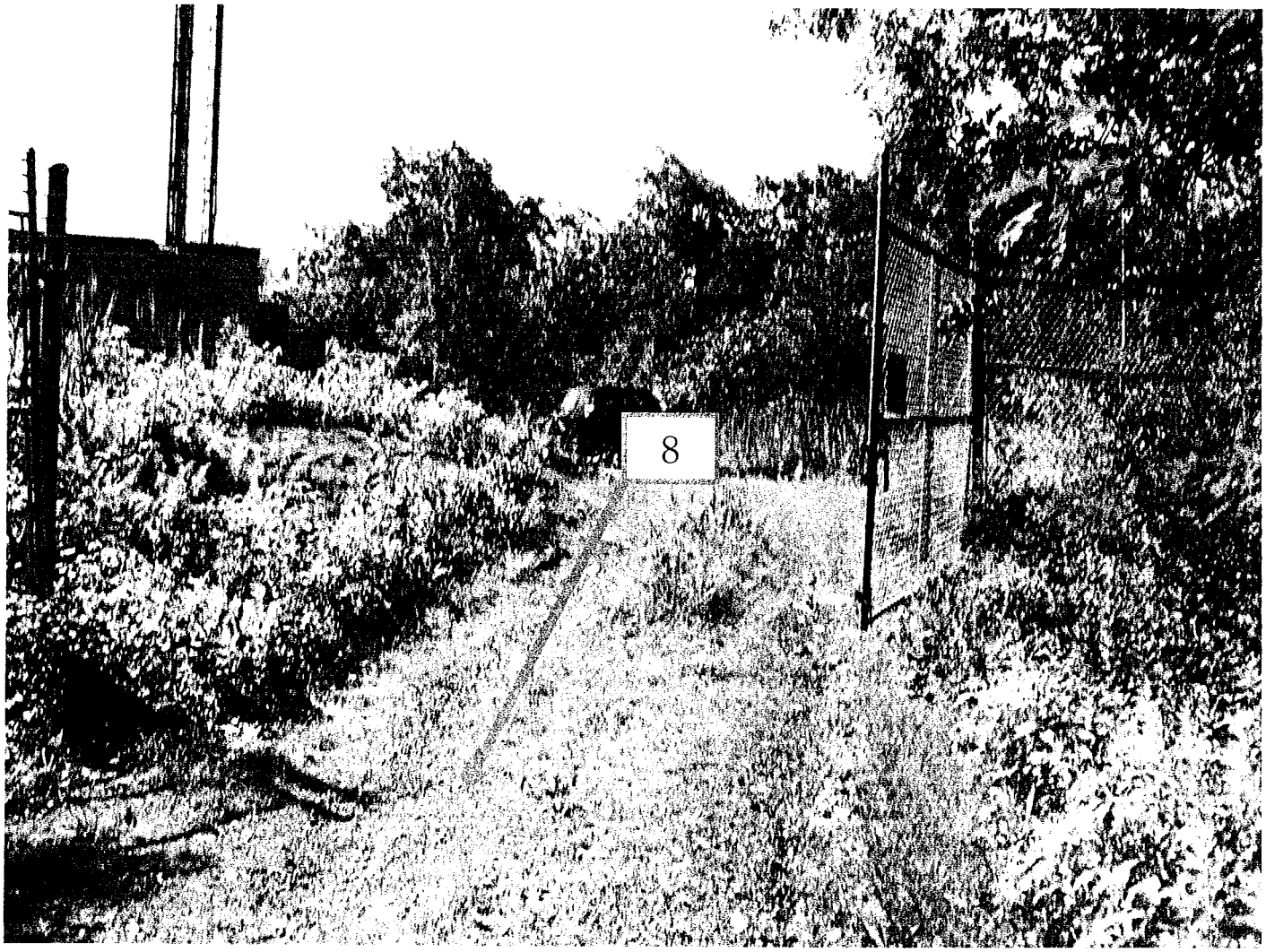


Figure 9: Measurement Location 8

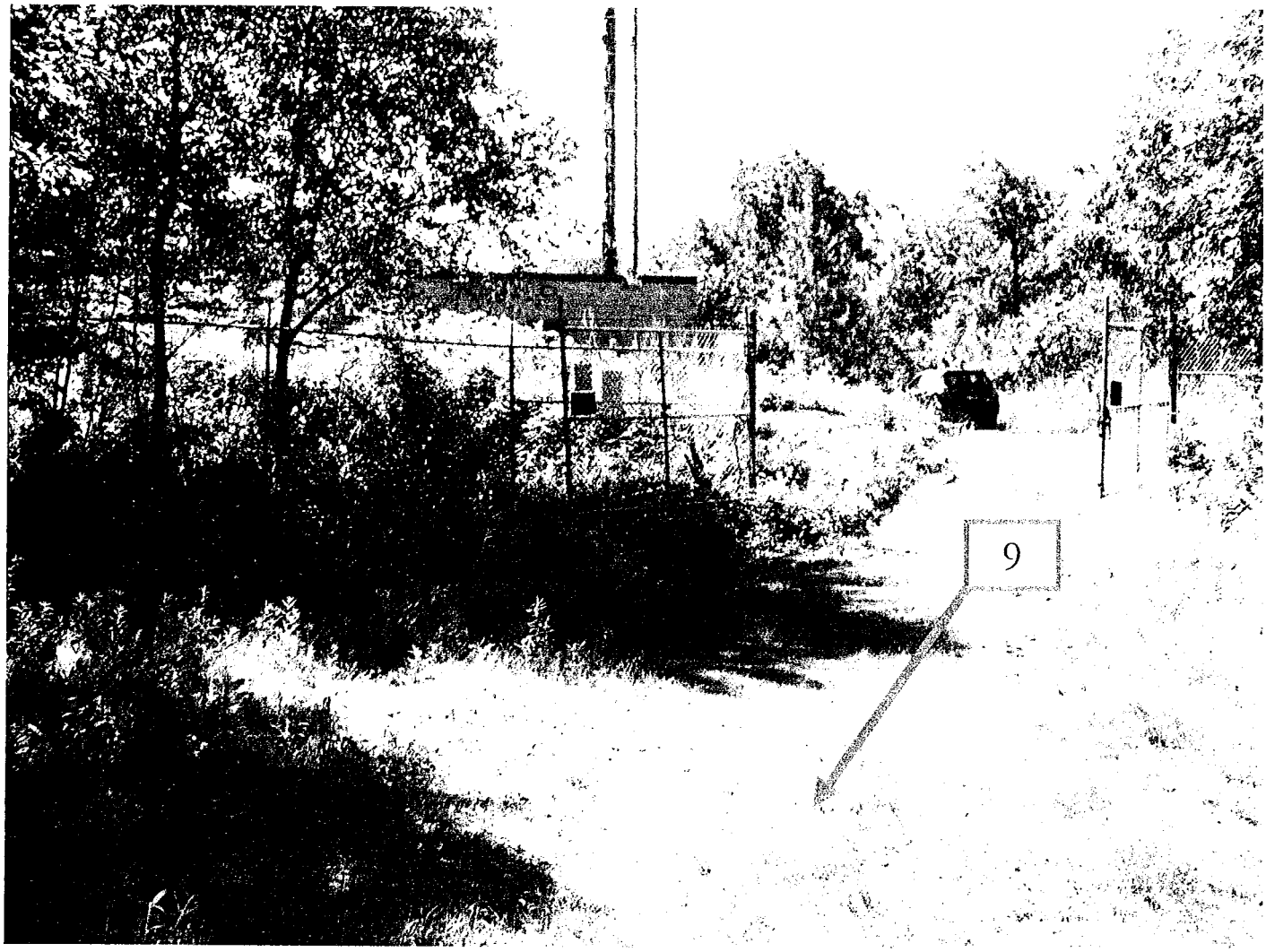


Figure 10: Measurement Location 9

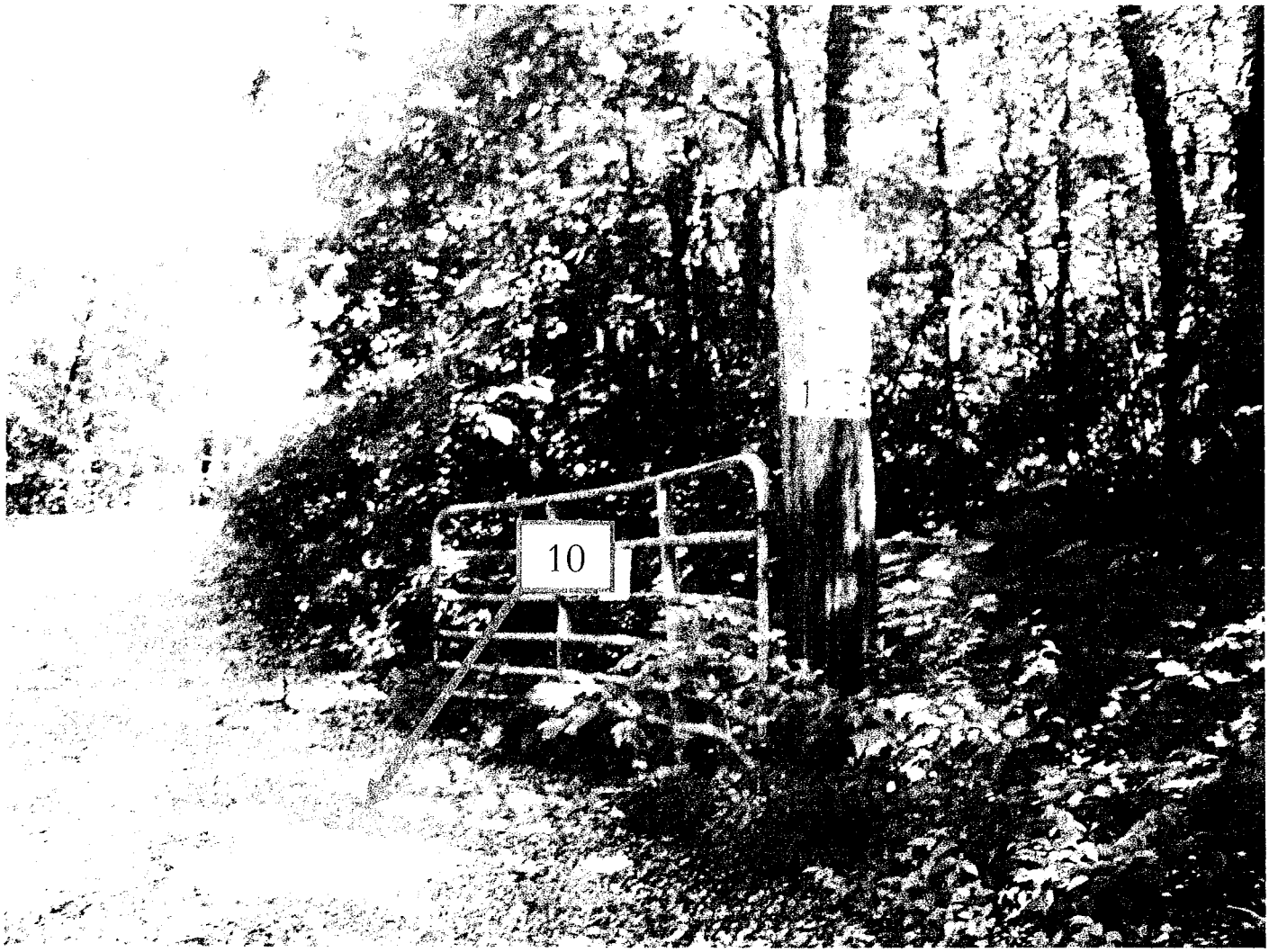


Figure 11: Measurement Location 10

Figure 12: Measurement Location 11

Figure 13: Measurement Location 12

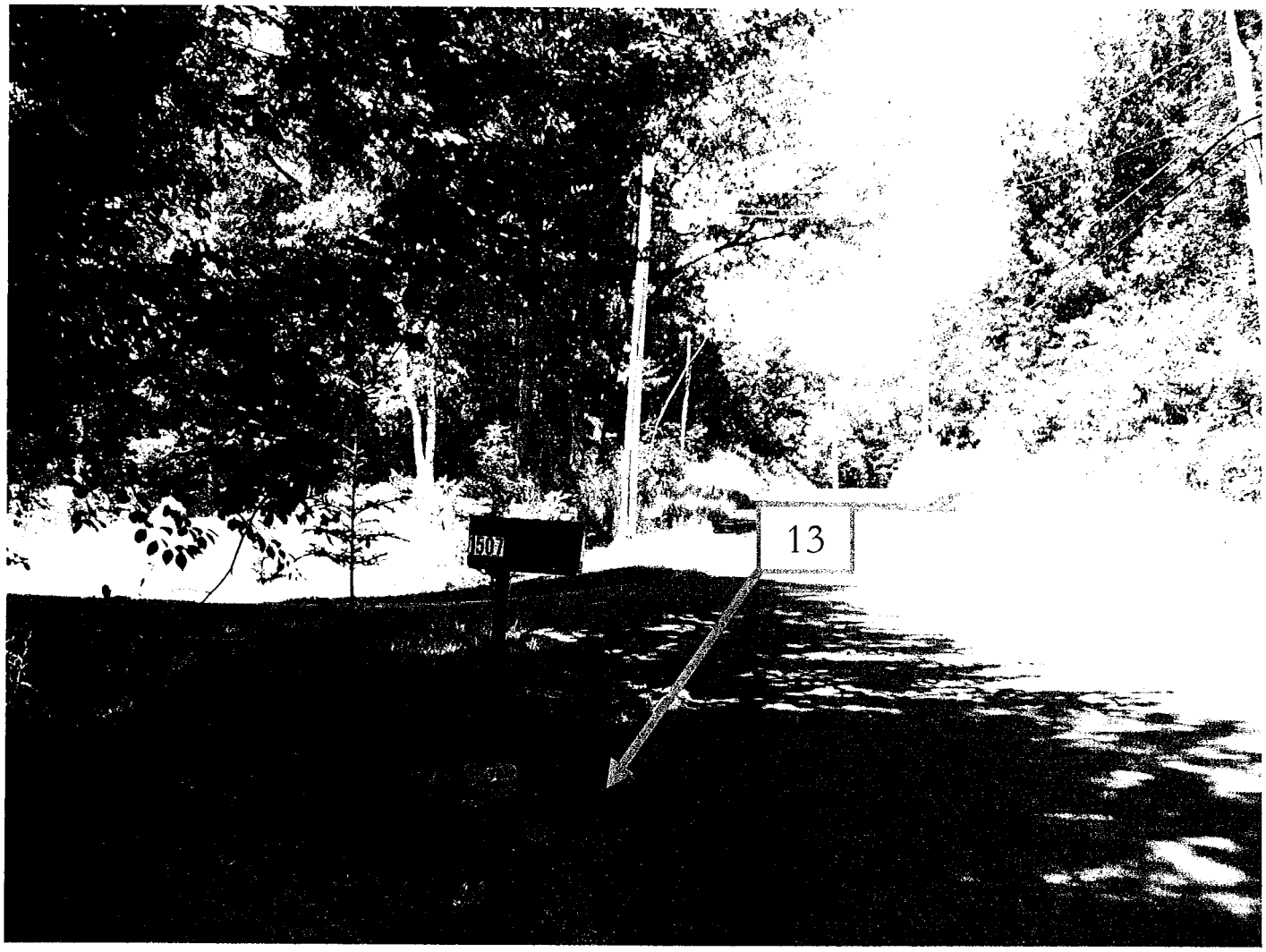


Figure 14: Measurement Location 13

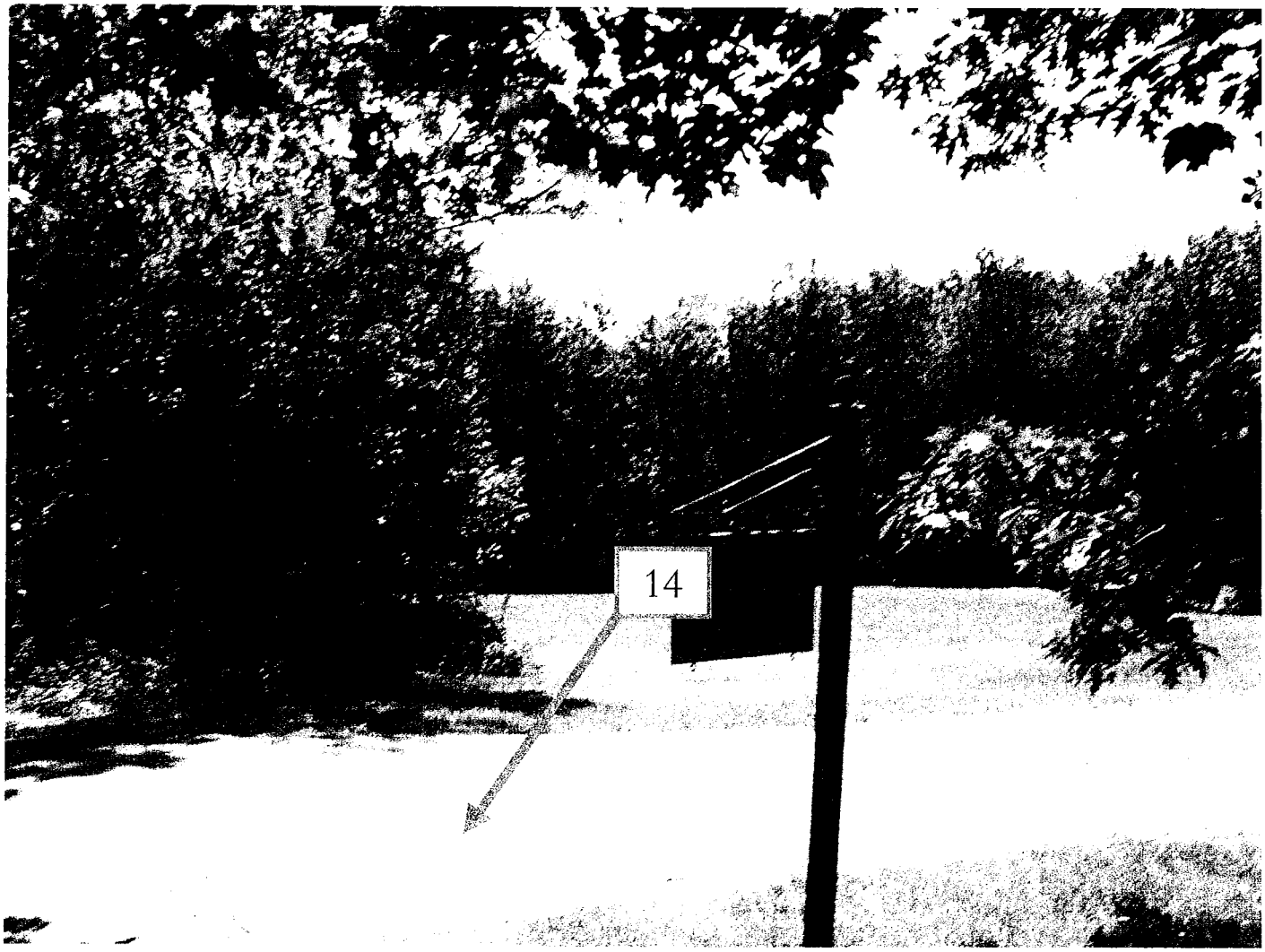
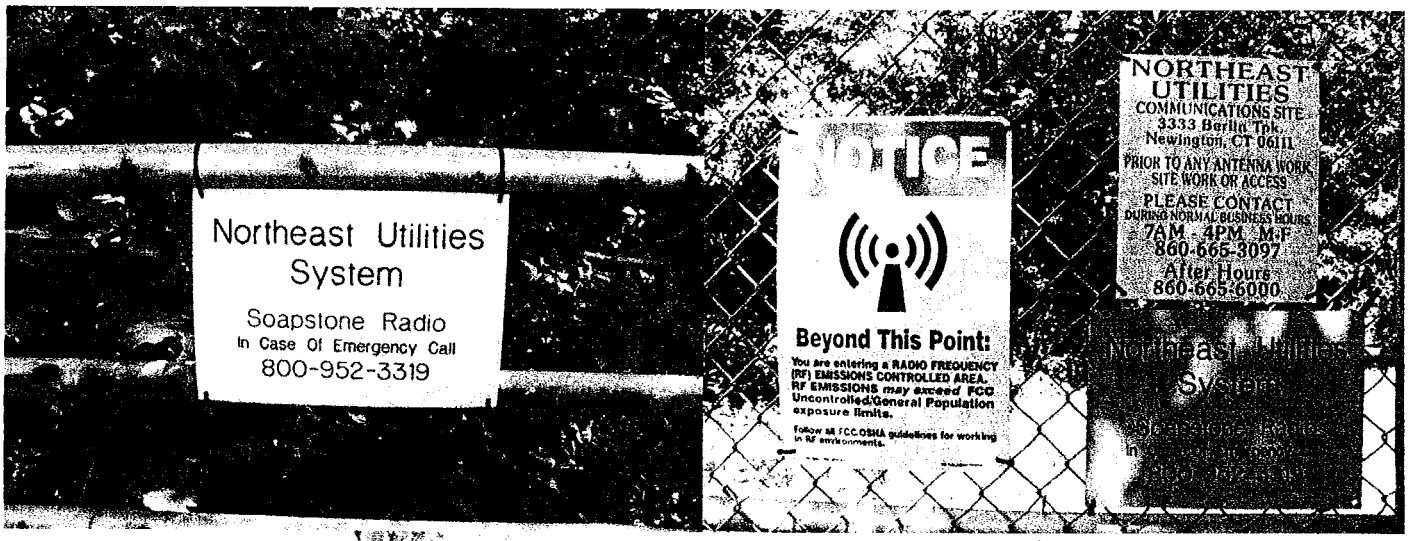


Figure 15: Measurement Location 14



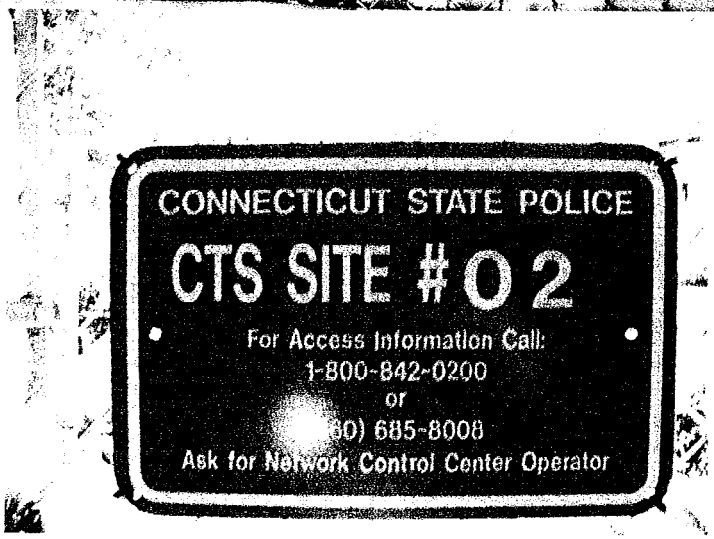


Figure 16: Signage

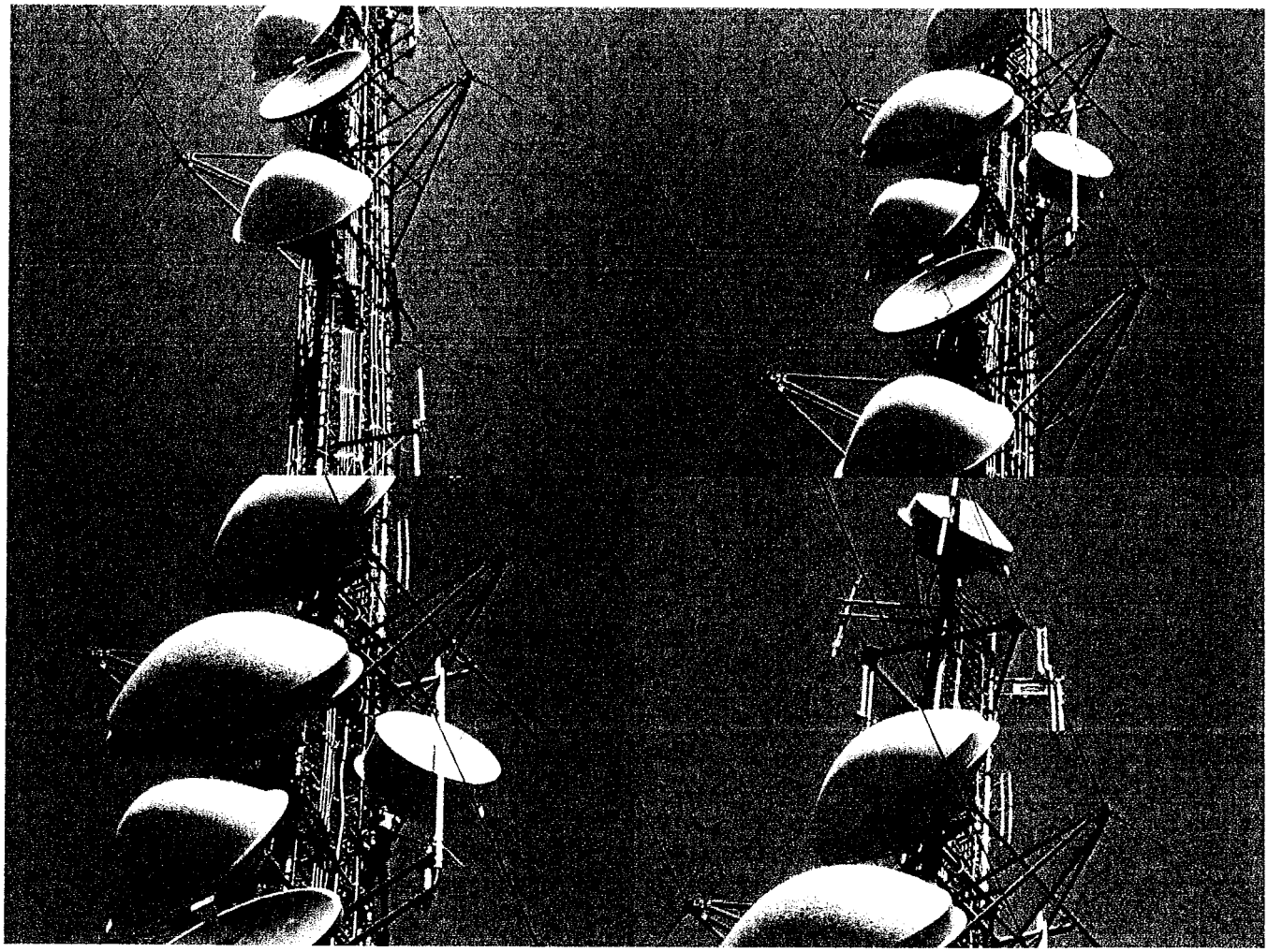


Figure 17: Tower

5.0 Conclusion

Areas in the vicinity of wireless tower located on Highland Ave, Torrington, CT including base of the tower, the fence accessing the tower compound, the entrance to the site and the nearest residence's property were surveyed and found to be within the mandated General Population/Uncontrolled limits for Maximum Permissible Exposure, as delineated in the Federal Communications Commission's Radio Frequency exposure rules published in 47 CFR 1.1307(b)(1)-(b)(3).

The maximum power density at the locations measured was predicted to be 4.37% MPE after the addition of the Northeast Utilities antenna.

The above analysis shows that the proposed configuration will not substantially increase power density in the vicinity and that the site will be well within FCC limits.

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

Attachment B: FCC Limits For Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	$(900/f^2)$*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

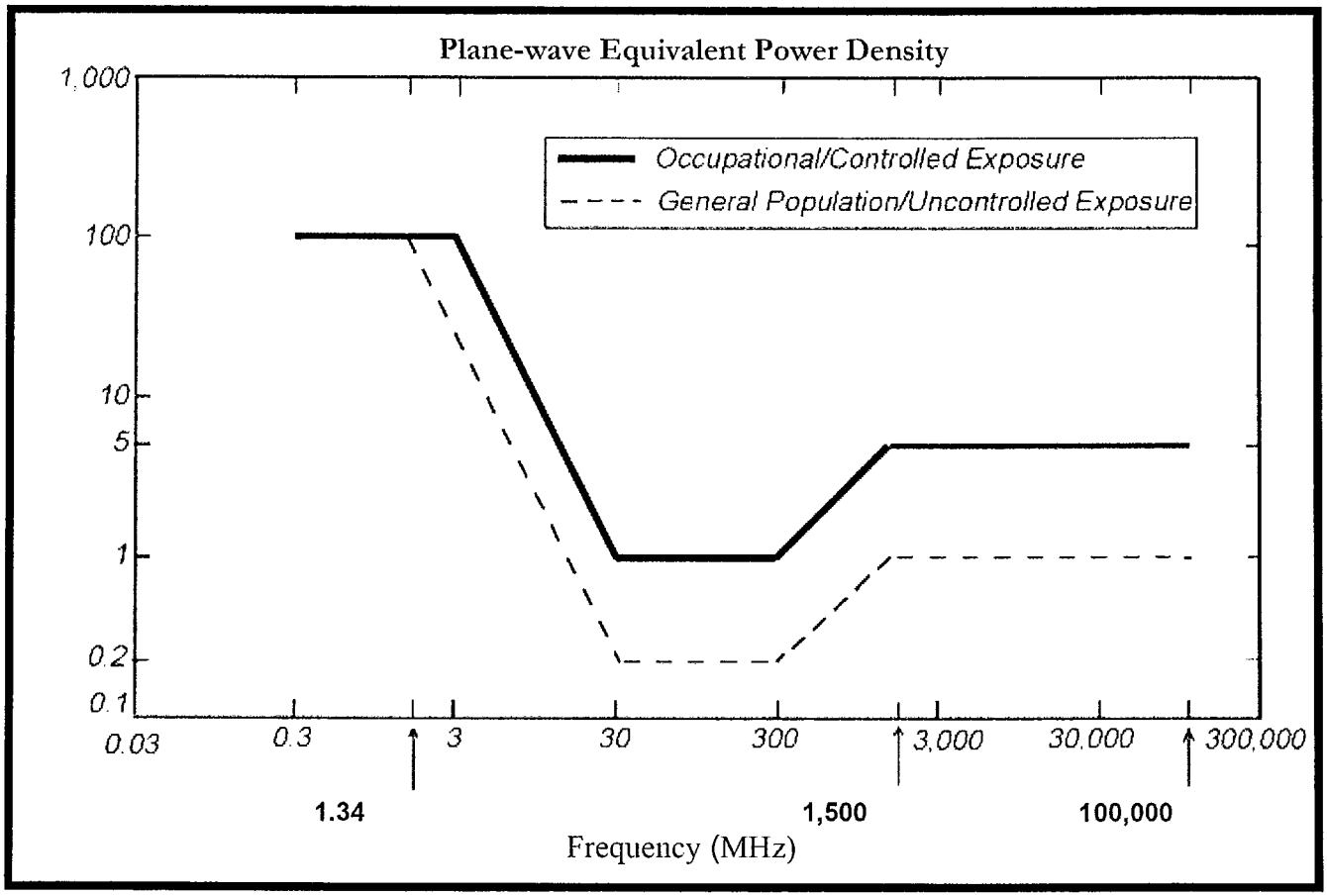
(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	$(180/f^2)$*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

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

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

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



FCC Limits for Maximum Permissible Exposure (MPE)