

# RABER ASSOCIATES

CONSULTANTS IN THE HISTORICAL AND SOCIAL SCIENCES



**CULTURAL RESOURCES ASSESSMENT FOR PROPOSED  
UNITED ILLUMINATING COMPANY TELECOMMUNICATIONS TOWER  
100 AND 114 MARSH HILL ROAD  
TOWN OF ORANGE, CONNECTICUT**

Michael S. Raber

prepared for:

The United Illuminating Company  
157 Church Street  
P.O. Box 1564  
New Haven, CT 06506-0901

June 14, 2010

81 Dayton Road P.O. Box 46  
South Glastonbury CT 06073  
(860)633-9026 (voice/fax)/msraber@aol.com (e-mail)

## Management Summary

The United Illuminating Company (UI) plans to construct a central facility on two parcels in Orange, Connecticut, including a telecommunications tower at the proposed operations center which requires a Certificate of Environmental Compatibility and Public Need from the Connecticut Siting Council (Siting Council, Council). The telecommunications tower site has been disturbed by previous construction of a cinema building, and appears to have no potential for significant archaeological resources. Review of historic resources in the vicinity of the proposed telecommunications tower indicates the tower will have no visual effects on such resources.

## CONTENTS

<b>I. INTRODUCTION</b>	1
<b>A. Purpose of Study</b>	1
<b>B. Summary Project Description</b>	1
<b>C. Study Issues and Definitions</b>	1
<b>1. Visual Effects</b>	1
<b>2. Archaeological and Other Resources</b>	2
<b>C. Assessment Study Methods</b>	2
<b>II. PROJECT AREA DESCRIPTION AND ENVIRONMENT</b>	3
<b>III. SUMMARY OF CULTURAL RESOURCE BACKGROUND DATA</b>	3
<b>A. Native American Resources</b>	3
<b>B. Euroamerican Resources and Potential Visual Effects</b>	4
<b>1. Summary of Background Information and Archaeological Sensitivity</b>	4
<b>2. Historic Properties and Visual Effects</b>	5
<b>IV. CONCLUSION AND RECOMMENDATIONS</b>	5
<b>REFERENCES</b>	6
<b>PERSONAL COMMUNICATIONS</b>	8

## I. INTRODUCTION

### A. Purpose of Study

The United Illuminating Company (UI) plans to construct a central facility on two parcels in Orange, Connecticut, including a telecommunications tower at the proposed operations center which requires a Certificate of Environmental Compatibility and Public Need from the Connecticut Siting Council (Siting Council, Council). In addition to the Council, UI will seek approvals and/or certifications from the Connecticut Department of Environmental Protection (DEP) and the Connecticut State Historic Preservation Office (SHPO). Among the issues to be addressed for approval of the project's environmental compatibility, potential project effects on cultural resources must be reviewed by SHPO under the Connecticut Environmental Policy Act (Connecticut General Statutes Chapter 439 Section 22a) and under the Connecticut Public Utilities Environmental Standards Act (PUESA; Connecticut General Statutes Chapter 277a Section 16-50p(a)(2)). Cultural resources subject to review under these acts include historic architectural properties, historic industrial or engineering resources, and prehistoric or historic archaeological sites.

UI retained Raber Associates to identify known or possible cultural resources subject to potential effects of project construction, and to recommend future actions needed to avoid adverse effects on cultural resources eligible for the State or National registers of historic places.

### B. Summary Project Description

Within approximately 16 acres to be developed as an operations center, proposed telecommunications facilities will include a 100-foot-high lattice-structure radio tower with three legs defining an equilateral triangular base approximately 14 feet on a side, and a one-story brick 14.8-by-21.8-foot equipment shelter to be located approximately 10 feet from the center of the tower (Figures 1-2).

### C. Study Issues and Definitions

#### 1. Visual Effects

Available guidelines for SHPO assessment of visual effects on cultural resources appear in Section 16-50p(a)(4)(C) of PUESA, and in regulations of the federal Advisory Council on Historic Preservation (36CFR 800.5). Both sets of guidelines apply to properties listed, or eligible for listing, on the National Register of Historic Places. Based on Federal Power Commission guidelines to which it refers, PUESA mandates avoidance of National Register properties where possible, or, if avoidance is not possible, minimization of transmission structure visibility or effects on the character of National Register property environ. Advisory Council on Historic Preservation (ACHP) regulations, while not required in SHPO review of projects subject to Connecticut Siting Council approval, provide *de facto* guidelines commonly used by SHPO. Criteria for findings of adverse effects on historic properties include change of the physical features within a property's setting which contribute to property significance, and introduction of visual elements which diminish the integrity of a property's significant features.

These guidelines provide no established or objective criteria for determining when a visual effect is adverse, leaving identification of adverse effects to the judgement of the reviewer (2003 personal communications, David A. Poirier). In general, visual effects will be diminished if new structures are as low as possible, and/or if new structures are located further from historic properties. Based on results of similar, recent studies (Raber and Wiegand 2002, 2003) and discussions with SHPO, this assessment attempts to distinguish among three categories of visibility:

- Visibility with No Effect: the structure is too far from a historic property, and/or too masked by forest cover or built environments, to be perceived as a distinct landscape feature;
- Visibility with Non-Adverse Effect: the structure can be perceived as a distinct landscape feature, but because of distance, forest cover, or built environments there is no significant change to the visual environment of a historic property;

- Visibility with Adverse Effect: by virtue of proximity, size, or appearance, the structure degrades the existing visual environment of a historic property.

For historic architectural, cemetery, or engineering resources in the project vicinity, assessment objectives included:

- identifying all historic properties listed on, or previously determined as eligible for listing on, the state or national registers of historic places within 0.25 mile of proposed new structures;
- providing graphic evidence of the extent of potential visual effects for each such historic property, if appropriate.

The universe of inventoried historic properties, and the choice of an 0.25-mile distance as a viewshed corridor from proposed new structures, is also based on results of the similar recent studies for upgraded transmission facilities, and on discussions in 2003 with SHPO Historical Architect Susan R. Chandler and now-retired Staff Archaeologist David A. Poirier. Previous studies indicated that adverse visual effects from proposed new transmission structures were highly unlikely at distances exceeding 0.25 mile.

## 2. Archaeological and Other Resources

The present study included an archaeological assessment, from which recommendations for future reconnaissance investigations have been developed for implementation when the final project configuration is determined. The assessment was conducted to meet all standards of the SHPO *Environmental Primer for Connecticut's Archaeological Resources*, with the following objectives:

- identification of any known or possible archaeological resources in project areas, based on available background material and surface inspection;
- assessment of the known or potential eligibility of such resources to the national or state registers of historic places;
- development of recommendations on the need for any additional investigations to confirm or identify such resources, or to determine their eligibility to the national or state registers.

To be eligible for the national or state registers, cultural resources must possess physical integrity and meet at least one of the following criteria:

- A. Association with important historic events or activities;
- B. Association with important persons;
- C. Distinctive design or physical characteristics, including representation of a significant entity whose individual components may lack distinction;
- D. Potential to provide important information about prehistory or history.

Resource identification also included cemeteries used in whole or in part more than 100 years ago. Cemetery areas 100 years or older are protected as Ancient Burying Grounds under Connecticut General Statutes 19a-315.

## C. Assessment Study Methods

Assessment methods included:

- review of National and State Register of Historic Places listings and nominations, historic resource inventories, local histories, historic maps, historic aerial photographs, state archaeological site file data, plans of recent road construction work, and recent geotechnical investigations;
- surface inspection of all areas within proposed project limits.

## II. PROJECT AREA DESCRIPTION AND ENVIRONMENT

The operations center project area includes approximately 16 acres bounded by Marsh Hill Road to the east and Interstate 95 to the south, within a quarter mile of the Indian River or its Silver Brook tributary, which flow into Long Island Sound and are abutted by wetlands extending to the west edges of project limits. The project area is on a north-south drumlin of glacial till and outwash founded on relatively high metamorphic greenstone, with most slopes under 15%, and characterized until the late 20<sup>th</sup> century by well-drained sandy loam soils with some exposed bedrock or glacial erratics. The drumlin's east side is flanked by the Oyster River, another small Long Island Sound tributary. Prior to historical developments beginning in the 18<sup>th</sup> or 19<sup>th</sup> centuries, the project area and vicinity provided natural resource attractions to Native American and Euroamerican populations including tillable land, various freshwater and anadromous fish species in the rivers, and mammal and bird game sources in the wetlands (Figure 1; U.S. Department of Agriculture 1979; Rodgers 1985; Stone *et al.* 1992, 1998; GEI Consultants, Inc. 2009).

The operations center project area was developed as a cinema from the late 1960s to the early 1990s, and until recently consisted almost entirely of existing or demolished buildings and access drives, underground utilities, and paved parking areas. There appears to be virtually no undisturbed soil on this parcel. The proposed telecommunications tower will be located within the former footprint of the demolished cinema building (Figure 2).

## III. SUMMARY OF CULTURAL RESOURCE BACKGROUND DATA

### A. Native American Resources

Published reports, and private and institutional artifact collections, indicate continuous human occupation in western Connecticut over the past 12,000 years. Archaeological researchers divide this span of time into several periods, beginning with the Paleoindian c12,000-10,000 B.P. (years before present), and continuing through Archaic (c10,000-3,000 B.P.) and Woodland times to the period of European contact. Many reported sites represent surface collections or undocumented excavations by area residents, and the Native American occupation of western Connecticut remains very incompletely known or understood despite over three decades of professional archaeological investigations. The immediate project area vicinity is somewhat typical of these conditions. There are no reported Native American archaeological sites within at least a mile of the project area in files of the Connecticut State Archaeologist, but several poorly-documented sites are reported in the Indian River drainage further north in Orange.

From a variety of avocational and professional finds or excavations, it is likely that glacial drumlins and Holocene floodplains or wetlands along the Indian River in the project area vicinity offered seasonal hunting and fishing resources throughout all Native American occupation periods. Prior to the introduction of agriculture in southern New England late in the first millennium A.D., regional archaeological evidence suggests there was generally more seasonal movement and less semi-permanent settlement through periods extending back to Paleoindian times. By Middle Archaic times, some 6,000-8000 years ago, seasonal resource use was well established, and site types included spring fishing camps along major streams. In Woodland and early historic times (c3000-450 years ago), Native American settlement patterns focused on semi-permanent villages near planting fields, with seasonal movements to hunting or sheltered winter camps, and continual short trips to hunt or collect mammals, fish, shellfish, and a wide variety of plant resources. The larger settlements in these later periods were closer to the coast and the major rivers. It is also likely that by Late Woodland times (c1000-400 years ago), these settlements included horticulture (e.g., Raber and Wiegand 1990; Cassedy 1998).

In the Contact period, the Paugussetts inhabited the area from the West River (between New Haven and Orange) on the east to Fairfield on the west (Orcutt 1882). According to Guillette (1979), the Paugusset nation was made up of five tribes: the Pequannocks, Wepawaugs, Pootatucks, Naugatucks and Paugussetts. Their combined territories covered not only much of Fairfield County and parts of New Haven County, but continued in a narrow strip north almost to Massachusetts. DeForest shows that these tribes were connected by kinship ties, with the Wepawaugs on the east side of the Housatonic River and the Paugussetts on the west

side (1851:49). The other Paugussett tribes were located either further inland (Pootatucks and Naugatucks) or to the west (Pequannocks). At the time of contact, there were Indian forts on both sides of the Housatonic River. Lands of the Paugussetts were sold to the English in a series of transactions. In Milford, the Wepawaugs' first sale was made for the area in the center of town on Feb. 12, 1639; other lands along or near the east bank of the Housatonic River were sold in a series of purchases made by the English between 1655 and 1702 (Orcutt 1882; Ford 1914). A reservation of 20 acres was established in 1660 on Indian Neck but was sold the following year. A 100-acre tract along the east side of the Housatonic River between Turkey Hill Brook on the south and Two Mile Brook on the north was established as the Turkey Hill Reservation in 1680, but may not have been much used as most of the local Wepawaug had by then moved to the Derby area where they remained into the 19<sup>th</sup> century (DeForest 1851). Many Wepawaugs moved to the Schaghticoke tribal area near Kent in the early 18<sup>th</sup> century, but one family — the Oviatts — returned to what is now Orange c1776 and lived on Indian Hill near the Maltby Lakes until the late 19<sup>th</sup> century. The Indian Hill cemetery used by the Oviatts survives a short distance north of Route 34. from the overhead route section (State Site No. 107-12; Woodruff 1949; Raber Associates 1982).

Reported Native American sites typically occur in undisturbed well-drained soils on slopes of under 20%. Given the severe disturbance to local soils associated with construction of the former cinema, there appears to be no potential for such sites anywhere within the proposed operations center project area, including the telecommunications tower location.

## **B. Euroamerican Resources and Potential Visual Effects**

### **1. Summary of Background Information and Archaeological Sensitivity**

Connecticut's earliest English colonists established themselves at Windsor (1633), Wethersfield (1634), and Hartford (1635), near the center of the large area of easily-worked soils in the Connecticut River Valley. The next arrivals founded New Haven (1638), Milford (1639), Fairfield (1639) and Guilford (1639) on the plains of glacial outwash along the coast. Milford eventually included almost all of present Orange, and parts of present Woodbridge and Bethany. As seventeenth-century Connecticut farmers depleted the soil nutrients in their fields, they cleared more land and converted worn-out fields to pastures. Large families and continuing immigration so accelerated the expansion of cultivated land that the second generation of colonists settled most of the tillable land in the coastal plain, the Connecticut River Valley, and the tidal reaches of the Housatonic and Thames rivers by the 1670s. The third generation had to move into uplands with more limited areas suitable for raising cash crops, sometimes settling near meadows or river bottoms to take advantage of hay and pasturage for cattle. Settlements in this period from Milford included the beginnings of Woodbridge and Bethany, settled in part from New Haven in the late 17<sup>th</sup> century and c1725, respectively (Federal Writers Project 1939; Woodruff 1949)

The coastal settlements were usually centered on secondary streams draining into Long Island Sound. From the mid-17<sup>th</sup> century until the early 19<sup>th</sup> century, Milford had a small but active port involved in the West Indies trade and coastal traffic between Boston and New York. In addition to farm produce and livestock, some coastal areas also became involved in domestic and commercial harvesting of oysters and, in the lower Housatonic River, shad. Road development remained poor with water traffic the principal means of movement along the coasts and rivers. The King's Highway, established as a post road between Boston and New York in 1673, was one of the few regional arteries, and corresponds to much of present Route 1.

After the Revolution, there was a surge of new town formation spurred by economic recovery. The Non-intercourse Act and the Embargo of 1806-1809 stimulated industry by driving up the price of woolens and other import. This period of growth was marked by the first sustained attempts to improve road transportation by private turnpike companies, c1798-1806, including the Derby Turnpike established in 1798 along most of present Route 34, and the 1802 New Haven and Milford Turnpike along present Route 1. Part of present Orange was recognized as North Milford Parish in 1804. After the final decline of the West Indies trade c1810, coastal traffic in garden crops to the growing Port of New York sustained growth in Milford, and was a factor in the creation of new independent towns including Orange, incorporated in 1822 from North Milford Parish and part of New Haven's West Farms area. Although the rapid construction of railroads in the 1840s,

including the 1848 opening of the New York and New Haven along the coast, stimulated dramatic urban industrial changes in many Connecticut towns and cities, most of Orange remained agricultural until well into the 20<sup>th</sup> century. The most commercially-developed section of Orange, in West Haven, became an borough and, in 1921, one of the state's last incorporated towns. Elsewhere in Orange, industrial development was largely limited to several small sawmills, gristmill, and textile factories on the Wepawaug River and Race Brook. Twentieth-century highway projects, notably Interstate 95, accelerated residential and commercial growth (Smith and Smith 1856; Beers 1868; Wood 1919; Woodruff 1949; Jones and Jamren 1998).

The project area was part of 17<sup>th</sup>-century farms established within Milford. Marsh Hill Road was in place by the early 19<sup>th</sup> century. There appear to have been no residences near the proposed telecommunications tower until the late 19<sup>th</sup> or early 20<sup>th</sup> centuries, when a home along Marsh Hill Road was constructed near the northeast corner of the proposed operations center. This structure and an associated garage were demolished during the recent reconstruction of Marsh Hill Road. Background research did not suggest any potentially significant Euroamerican resources in the disturbed soils of the project area project areas (Smith and Smith 1856; Beers 1868; U.S. Geological Survey 1893, 1953; Fairchild Aerial Survey 1934; Keystone Aerial Surveys, Inc. 1965; John Meyer Consulting 1999).

## **2. Historic Properties and Visual Effects**

Identification of significant historic properties within 0.25 mile of the proposed telecommunications tower was based primarily on:

- maps available with National Register of Historic Places nomination forms, State Register of Historic Places nominations or other materials, and townwide surveys of historic architectural or industrial resources
- lists with addresses of properties considered eligible for the National Register in townwide surveys of historic architectural or industrial resources
- a statewide inventory of many historic bridges, and application of inventory criteria to other potentially significant bridges indicated in statewide bridge logs (Historic Resource Consultants 1990, 1991)
- a statewide inventory of cemeteries which would be classified as Ancient Burying Grounds under Connecticut General Statutes 19a-315.

No historic resource surveys have been completed for Orange, and the nearest property listed on the National or State Registers of Historic Places is nearly a mile away from the proposed telecommunications tower. A historic resource survey of Milford had no recommendations for National-Register-eligible properties, but the map accompanying the survey did not include any properties less than approximately .9 miles from the proposed telecommunications tower (Meredith and Ryan 1977). No significant bridges or Ancient Burying Grounds were found within 0.25 miles of the project area. Given the distances involved, no further analysis of potential visual effects appeared necessary, and if the proposed tower is visible from any historic resources, such visibility would appear to have no effects on the resources.

## **IV. CONCLUSION AND RECOMMENDATIONS**

The proposed telecommunications tower does not appear to have any likely archaeological or visual effects on cultural resources listed on, or eligible for, the National or State Registers of Historic Places. No further investigations are recommended.

## REFERENCES

- Andrews, Gregory E., and David F. Ransom  
1989 Orange Center Historic District. National Register of Historic Places Inventory-Nomination Form. On file, Connecticut Historical Commission.
- Beers, F.W.  
1868 *Atlas of New Haven County, Connecticut*. New York: Beers, Ellis, & Soule.
- Cassedy, Daniel F.  
1998 From the Erie Canal to Long Island Sound: Technical Synthesis of the Iroquois Pipeline Project, 1989-1993. Report prepared for Iroquois Gas Transmission System. Atlanta: Garrow & Associates Inc.
- DeForest, John W.  
1851 *History of the Indians of Connecticut from the Earliest Known Period to 1850*. Hartford: Wm. J. Hamersley.
- Fairchild Aerial Survey  
1934 Aerial survey of the State of Connecticut. Record Group 89, Records of the Department of Transportation. Connecticut State Archives. Available on World Wide Web at <http://www.cslib.org/aerials/>
- Ford, George H.  
1914 *Historical Sketches of the Town of Milford*. New Haven: Tuttle, Morehouse & Taylor Co.
- GEI Consultants, Inc.  
2009 Preliminary Geotechnical Report, United Illuminating Company Central Facility Project, Marsh Hill Road, Orange, Connecticut. Report prepared for The S / L / A / M Collaborative, Inc. Glastonbury, CT.
- Guillette, Mary  
1979 American Indians in Connecticut: Past to Present. Prepared for the Connecticut Indian Affairs Council, Dept. of Environmental Protection.
- Hale, Charles R.  
1932 Cemeteries and Burial Plots in Connecticut, under auspices of the Connecticut State Library. Mss., Connecticut State Library, Hartford.
- Historic Resource Consultants  
1990 Connecticut Historic Bridge Survey/Inventory-Phase Final Report: Project Narrative, Inventory and Recommendations. Report prepared for Connecticut Department of Transportation. Hartford.
- 1991 Connecticut Historic Bridge Inventory/Final Report: Preservation Plan. Report prepared for Connecticut Department of Transportation. Hartford.
- John Meyer Consulting  
1999 Preliminary Property Acquisition and Easement Plan/Showcase Cinemas/I-95 & Marsh Hill Road, Orange, Connecticut. On file, Office of Town Engineer, Orange, CT.
- Jones, Harvey W., and Marvin A. Jamren  
1998 *Images of America: Orange*. Dover, NH: Arcadia Publishing.



Keystone Aerial Surveys, Inc.

- 1965 Aerial survey of the State of Connecticut. Record Group 79, Records of the Department of Transportation. Connecticut State Archives. Available on World Wide Web at <http://www.cslib.org/aerials/>

Luchs Consulting Engineers

- 2000 Connecticut Department of Transportation Plan for the Reconstruction of Marsh Hill Road and South Lambert Road in the Town of Orange. Projects No. 106-111 and 106-112. On file, Office of Town Engineer, Orange, CT.

Orcutt, Samuel

- 1882 *The Indians of the Housatonic and Naugatuck Valleys*. Hartford: Case, Lockwood & Brainerd Company.

Raber Associates

- 1982 Preliminary Cultural Resource Assessment of Selected Archaeological Sites on Lands Owned by the New Haven Water Company. Report on file as CHPC #331, Connecticut Historic Preservation Collection, Dodd Center, University of Connecticut, Storrs.

Raber, Michael S., and Ernest A. Wiegand

- 1990 Archaeological Data Recovery at Maltby Lakes Site 2, West Haven, Connecticut, for Construction of the Pavilion Complex, Towns of West Haven and Orange, Connecticut. Report prepared for Sursum Corda Properties, Inc. South Glastonbury, CT: Raber Associates. Report on file as CHPC #433, Connecticut Historic Preservation Collection, Dodd Center, University of Connecticut, Storrs.
- 2002 Cultural Resources Assessment in Support of Proposed Electric Transmission Line Facilities Between Plumtree and Norwalk Substations Bethel, Redding, Weston, Wilton, and Norwalk, Connecticut. Report prepared for Northeast Utilities Service Company. South Glastonbury, CT: Raber Associates. Report on file as CHPC #1070, Connecticut Historic Preservation Collection, Dodd Center, University of Connecticut, Storrs.
- 2003 Cultural Resources Assessment of Proposed Middletown-Norwalk 345 Kv Transmission Project: Proposed Route with Supported Changes and Alternative Routes. Report prepared for Northeast Utilities Service Company. South Glastonbury, CT: Raber Associates. Report on file as CHPC #1283, Connecticut Historic Preservation Collection, Dodd Center, University of Connecticut, Storrs.

Rodgers, John, comp.

- 1985 Bedrock Geological Map of Connecticut. Hartford: Connecticut Department of Environmental Protection.

Smith, H., and C.Y. Smith, pub.

- 1856 Map of New Haven County, Connecticut. Philadelphia.

Stone, J.R., *et al.*

- 1992 Surficial Materials Map of Connecticut. Hartford: Connecticut Department of Environmental Protection.
- 1998 Quaternary geologic map of Connecticut and Long Island Sound basin. U.S. Geological Survey Open-File Report 98-371.

U.S. Department of Agriculture, Soil Conservation Service  
1979 *Soil Survey of New Haven County, Connecticut*. Washington: Government Printing Office.

U.S. Geological Survey  
1893 *Topographical Atlas of the State of Connecticut*.

1953 Ansonia, Conn. 7.5-minute quadrangle sheet.

Wood, Frederic J.  
1919 *The Turnpikes of New England*. Boston: Jones.

Woodruff, Mary  
1949 History of Orange-North Milford, Connecticut 1639-1949.

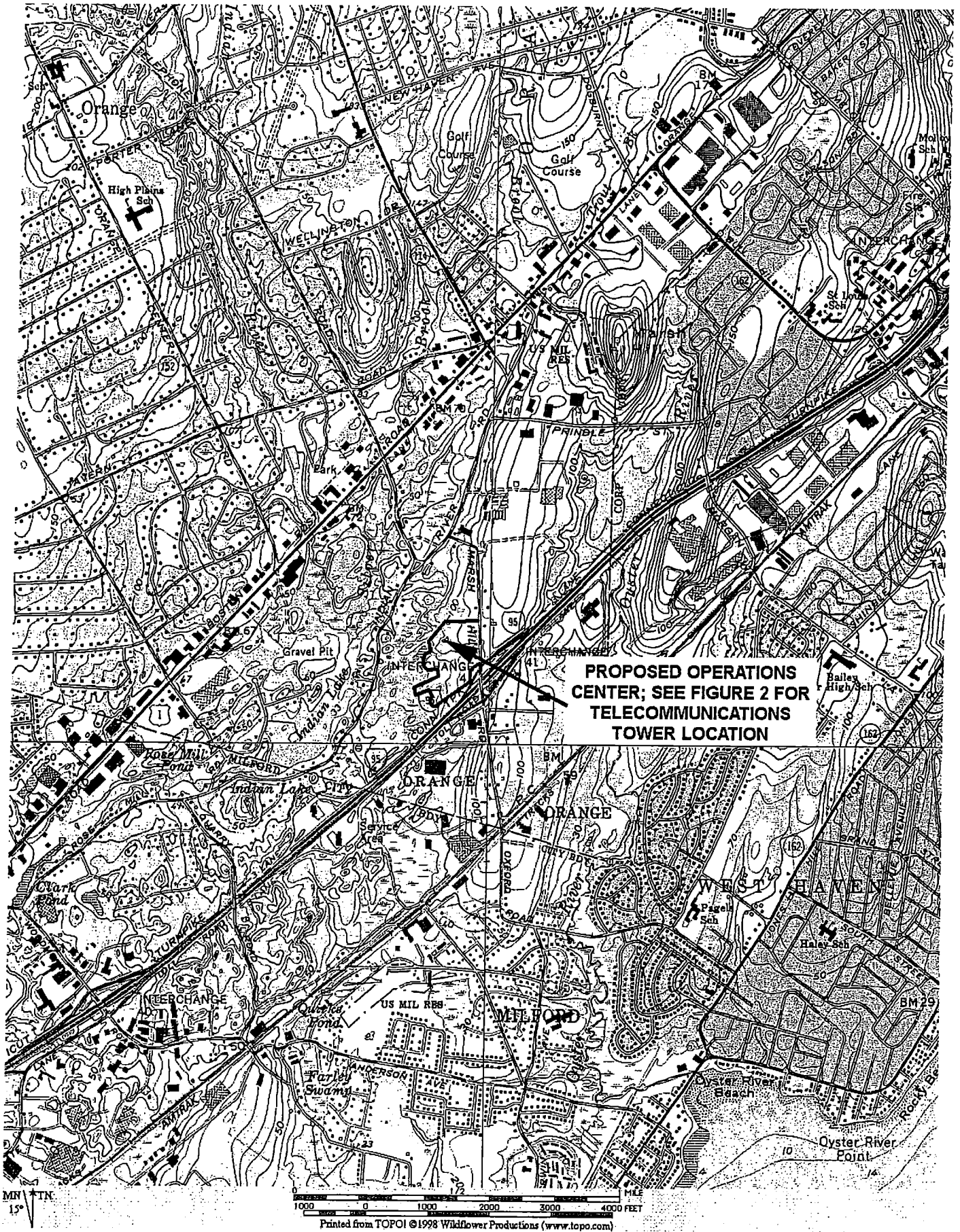
#### **PERSONAL COMMUNICATIONS**

Nicholas F. Bellantoni, Connecticut State Archaeologist (2009)

Susan Chandler, Historical Architect, Connecticut State Historic Preservation Office (2003)

Edward Lieberman, Town Engineer, Town of Orange, Connecticut

David A. Poirier, Staff Archaeologist (retired), Connecticut State Historic Preservation Office (2003)



**Figure 1. PROJECT AREA LOCATION**

base map: U.S. Geological Survey Ansonia, Milford, New Haven & Woodmont 7.5-minute Quadrangles

