

CONNECTICUT SITING COUNCIL

PETITION OF NEW CINGULAR)	
WIRELESS PCS, LLC ("AT&T") TO THE)	
CONNECTICUT SITING COUNCIL FOR A)	PETITION NO. 1010
DECLARATORY RULING THAT NO)	
CERTIFICATE OF ENVIRONMENTAL)	FEBRUARY 2, 2012
COMPATIBILITY AND PUBLIC NEED IS)	
REQUIRED FOR THE PROPOSED)	
INSTALLATION OF AN CONCEALED)	
TOWER ON A WATER TANK AND)	
RELATED FACILITIES LOCATED AT A)	
WATER TREATMENT PLANT AT)	
455 VALLEY ROAD)	
GREENWICH, CONNECTICUT)	

SUPPLEMENTAL SUBMISSION III

In furtherance of the captioned petition the following is submitted on behalf of AT&T:

1. FCC/FAA TOWAIR Screening Results indicating that no registration is required.

2. A Radio Frequency Analysis Report as prepared by C Squared Systems, LLC documenting AT&T's need for this proposed facility. AT&T submits this information regarding the technical need for this site to serve the public voluntarily and by doing so does not waive its right to object to considerations of public need or alternatives as a legal matter in Petition 1010.

CERTIFICATE OF SERVICE

I hereby certify that on this day, an original and 20 copies of the foregoing was sent electronically and by overnight delivery to the Connecticut Siting Council with a copy by first class mail to:

Mario F. Coppola, Esq.
Bercham, Moses, and Devlin, P.C.
27 Imperial Avenue
Westport, Connecticut 06880

Dated: February 2, 2012



Daniel M. Laub, Esq.

cc: Michele Briggs, AT&T
Liz Camerino-Schultz, Aquarion

Attachment 1

TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. The structure meets the 6.10-meter (20-foot) Rule criteria.

Your Specifications

NAD83 Coordinates

Latitude	41-04-05.4 north
Longitude	073-34-45.8 west

Measurements (Meters)

Overall Structure Height (AGL)	19.8
Support Structure Height (AGL)	13.7
Site Elevation (AMSL)	21.9

Structure Type

TANK - Any type of Tank (Water, Gas, etc)

Tower Construction Notifications

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW

Attachment 2

Radio Frequency Analysis Report

Proposed Site SR1887
Mianus Wash Water Tank
455 Valley Road
Greenwich, CT 06807



February 2, 2012



C Squared Systems, LLC
65 Dartmouth Drive, A3
Auburn, NH 03032

Phone: (603) 644-2800
Fax: (603) 644-2801
Support@csquaredsystems.com

Table of Contents

1. Overview	1
2. Coverage Objective	1
3. Conclusion	4
4. Statement of Certification	5
5. Attachments	6

List of Tables

Table 1: Area Coverage Statistics	2
Table 2: Population Captured Statistics	2
Table 3: Miles of Main Roads Covered by the Proposed Site	3
Table 4: Miles of Secondary Roads Covered by the Proposed Site	3

List of Attachments

- Attachment 1: Existing Coverage” for the Current AT&T network
- Attachment 2: Existing, Future & Proposed Coverage” for the AT&T network with Proposed site SR1887
- Attachment 3: 3D Terrain Map
- Attachment 4: Map of Distance to Neighbor Sites

1. Overview

C Squared Systems was retained by New Cingular Wireless PCS, LLC (“AT&T”) to investigate the extent of coverage that could be potentially obtained by constructing a stealth tower on top of the Mianus Wash Water Tank located at 455 Valley Road in Greenwich, CT. AT&T is licensed by the FCC to provide wireless communications services throughout the State of Connecticut, including the Town of Greenwich, where this proposed facility would be located.

This report addresses AT&T’s need for the proposed facility with the centerline of their antennas at 60 feet above ground level. C Squared Systems has reviewed and conducted this coverage analysis that shows AT&T has a gap in reliable service that exists in the area of North Mianus and the surrounding communities. The proposed site on Valley Road is needed to help fill in existing coverage gaps and provide connectivity to the rest of the AT&T network. Included as attachments in this report are maps detailing the existing network coverage, the network coverage resulting with the proposed facility, and additional maps to support and explain the need for the site.

2. Coverage Objective

There is a serious service deficiency in the AT&T wireless communications network in the subject area. A deficiency in coverage is evidenced by the inability to adequately and reliably transmit/receive quality calls and/or utilize data services. Seamless reliable coverage provides users with the ability to successfully originate, receive, and maintain quality calls and/or utilize data applications throughout a service area. Overlapping coverage is required for users to be able to move throughout the service area and reliably “hand-off” between cells to maintain uninterrupted calls.

AT&T’s network requires deployment of antennas throughout the area to be covered, which are connected to receivers and transmitters that operate in a limited geographic area known as a “cell.” AT&T’s wireless network, including their wireless handsets and devices, operate by transmitting and receiving low power radio frequency signals to and from these cell sites. The signals are transferred to and from the landline telephone network and routed to their destinations by sophisticated electronic equipment. The size of the area served by each cell site is dependent on several factors, including the number of antennas used, the height at which the antennas are deployed, the topography of the land, vegetative cover and natural or man-made obstructions in the area. As customers move throughout the service area, the transmission from the portable devices is automatically transferred to the AT&T facility with the best connection to the device, without interruption in service, provided that there is overlapping coverage from the cells.

Attachment 1 titled “Existing Coverage” shows a map of AT&T’s network coverage currently provided from their existing facilities, along with the locations of these facilities. The green colored areas reflect a more robust level of coverage considered sufficient to support “in-building” connectivity, and the yellow colored areas depict coverage to support “in-vehicle” connectivity. The areas not shaded in green or yellow are considered to be gaps in coverage characterized by the deficiencies noted above. As shown in Attachment 1, the existing coverage gap is affecting a significant portion of North Mianus, including Valley Road and Westover Road in Stamford.

In order to fill in these gaps and alleviate the service deficiencies, a new facility is needed in the area to provide the necessary levels of coverage to expand the area of reliability. Attachment 2 titled "Existing & Proposed Coverage" reflects the composite coverage of AT&T's existing sites with the additional coverage provided by the proposed facility at 455 Valley Road, as shown in the site plans included in the application package. The proposed facility will serve to improve AT&T's coverage along Valley Road and the adjacent residential neighborhoods in North Mianus, as well as along Westover Road in Stamford.

Due to terrain characteristics and the distance between the targeted coverage area and the existing sites, AT&T's options to provide services in this area are quite limited. Attachments 3 and 4, titled "3-D Terrain Map" and "Map of Distance to Neighbor Sites" respectively, are included to further reinforce these considerations that must be taken into account when determining appropriate locations for proposed facilities.

Our testing and technical analysis for this area of North Mianus confirmed that AT&T's network is not reliable and that there is a service deficiency. The current gap in coverage where signal strength is < -82 dBm required for reliable in-vehicle coverage and < -74 dBm for in-building reliability are fairly significant in this area. These gaps in coverage and the benefits of the proposed site can be summarized by the following statistics.

All statistics were compiled based on the proposed antenna centerline height of 60' AGL. This antenna centerline height is the proposed height to facilitate collocation of other operators while minimizing visual impact.

Coverage Level	Incremental Area Covered with Proposed Facility @ 60' AGL (sq. mi)
> -74 dBm (in-building)	0.69
> -82 dBm (in-vehicle)	0.75

Table 1: Area Coverage Statistics

Proposed Site - Population Captured (2000 Census)	Proposed Incremental Population Captured with Proposed Facility @ 60' AGL
> -74 dBm (in-building)	1120
> -82 dBm (in-vehicle)	994

Table 2: Population Captured Statistics¹

¹ Population Counts based upon 2010 U.S. Census Data.

In addition to these area and population benefits, the other goal of a proposed AT&T site in this area is to improve coverage to customers as they travel to and from North Mianus, as well as along the neighborhood roads. Table 3 below highlights the main roads in this area that will benefit from incremental coverage from the proposed site. Table 4 highlights the incremental coverage along the secondary roads in the area. Traffic count data from the Connecticut Department of Transportation shows Average Daily Traffic (ADT) of 2200 vehicles on Valley Road just north of the proposed site. A map of this data is provided as Attachment 5.

Street Name	Incremental Coverage (≥ -82 dBm) from Proposed Facility @ 60' AGL (mi)
Mianus Rd	0.29
Mimosa Dr	0.13
Palmer Hill Rd	0.09
Sheephill Rd	0.16
Valley Rd	0.3
Westover Rd	0.85
Total	1.82

Table 3: Miles of Main Roads Covered by the Proposed Site

Street Name	Incremental Coverage (≥ -82 dBm) from Proposed Facility @ 60' AGL (mi)
Azalea Ter	0.10
Barton Ln	0.12
Brodwood Dr	0.34
Caprice Dr	0.10
Cat Rock Rd	0.21
Cognewaugh Rd	0.41
Greenleaf Dr	0.16
Hillcrest Park Rd	0.10
Little Rd	0.09
Long Close Rd	0.29
Old Stone Bridge Rd	0.52
River Rd	0.11
Stony Brook Dr	0.10
Sundance Dr	0.12
W Glen Dr	0.15
West Bank Ln	0.13
Westgate Dr	0.11
Westhill Rd	0.46
Westover Ave	0.75
Westover Ln	0.11
TOTAL	4.48

Table 4: Miles of Secondary Roads Covered by the Proposed Site

3. DAS Suitability

The area of needed coverage improvement consists of a wide area of poor or no service. Alternative technologies, such as microcells or repeaters, are better suited to small areas for fill in use and/or commercial in building service such as stadiums, large office complexes, University campuses and transportation tunnels. Repeaters offer no added capacity in the network, and require a line of site donor facility which can be impeded by the terrain defining the area.

With respect to distributed antennas systems (“DAS”), we note that these are generally lower power, low gain systems used in high traffic areas (i.e. capacity demand) which rely on a combination of fiber optics, transmitting antenna sites and a base station facility. The service requirements in this area of North Mianus relate to coverage on a macro level as opposed to a discrete system such as a DAS network. Given the foregoing, alternate technologies were not investigated due to the area of required coverage improvement.

4. Conclusion

The proposed facility is needed to help close the coverage gaps affecting North Mianus, and the surrounding areas. No other existing structure was identified to provide the coverage requirements needed for this area. The location and the minimum height selected were chosen to achieve an optimal balance between meeting coverage objectives, clearing the tree line, minimizing the aesthetic impact to the community

As depicted in the enclosed plots, the proposed AT&T site at a height of 60 feet AGL will serve the public need for service in this area, providing an appropriate coverage footprint for the North Mianus community along with effective connectivity to the rest of AT&T’s existing network.

Without this site in this area, at the height requested, this significant gap in service will continue to exist within the North Mianus; and the identified public need for reliable wireless services in this area will not be met.

5. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate.

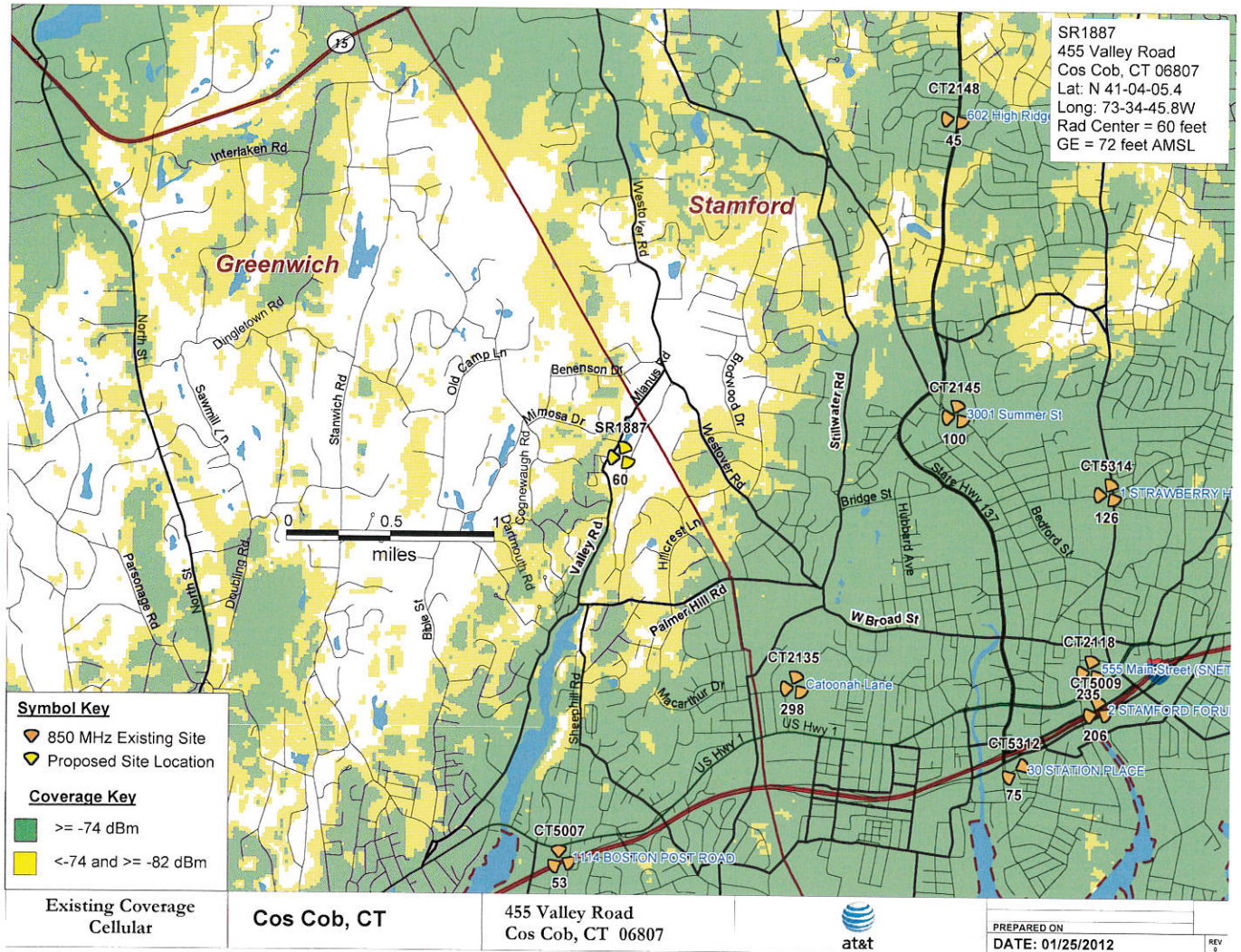
anthony wells

February 2, 2012

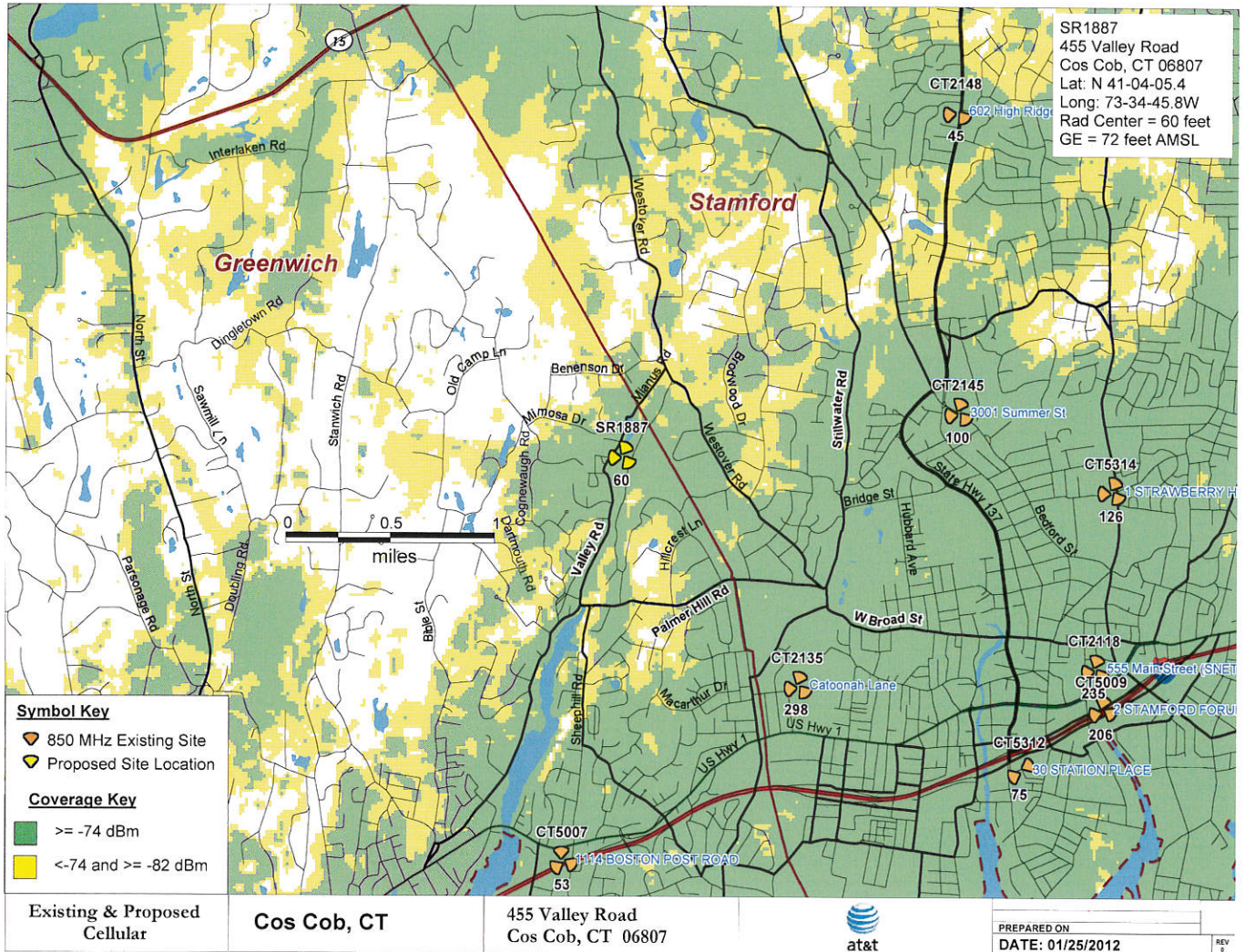
Tony Wells
C Squared Systems, LLC

Date

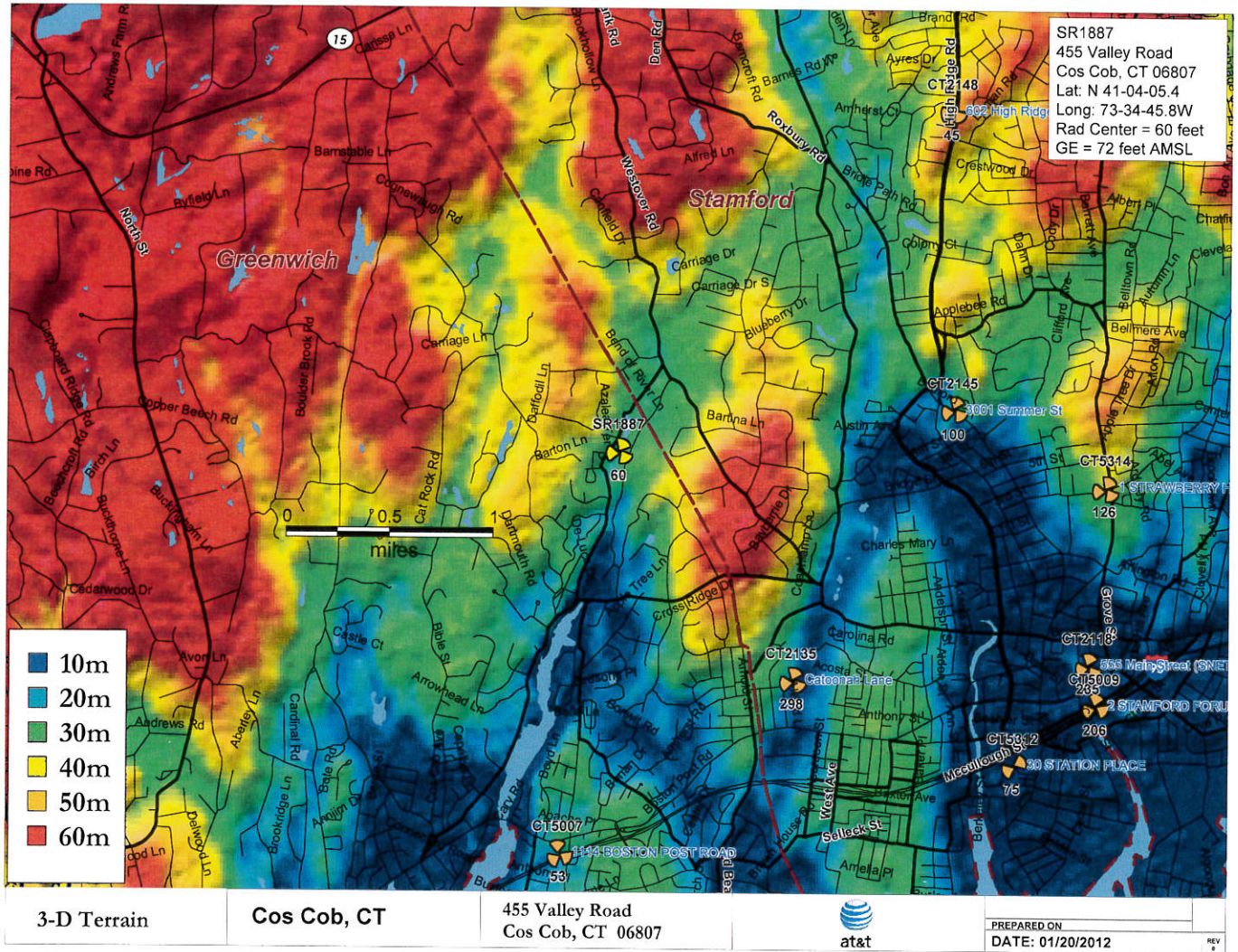
6. Attachments



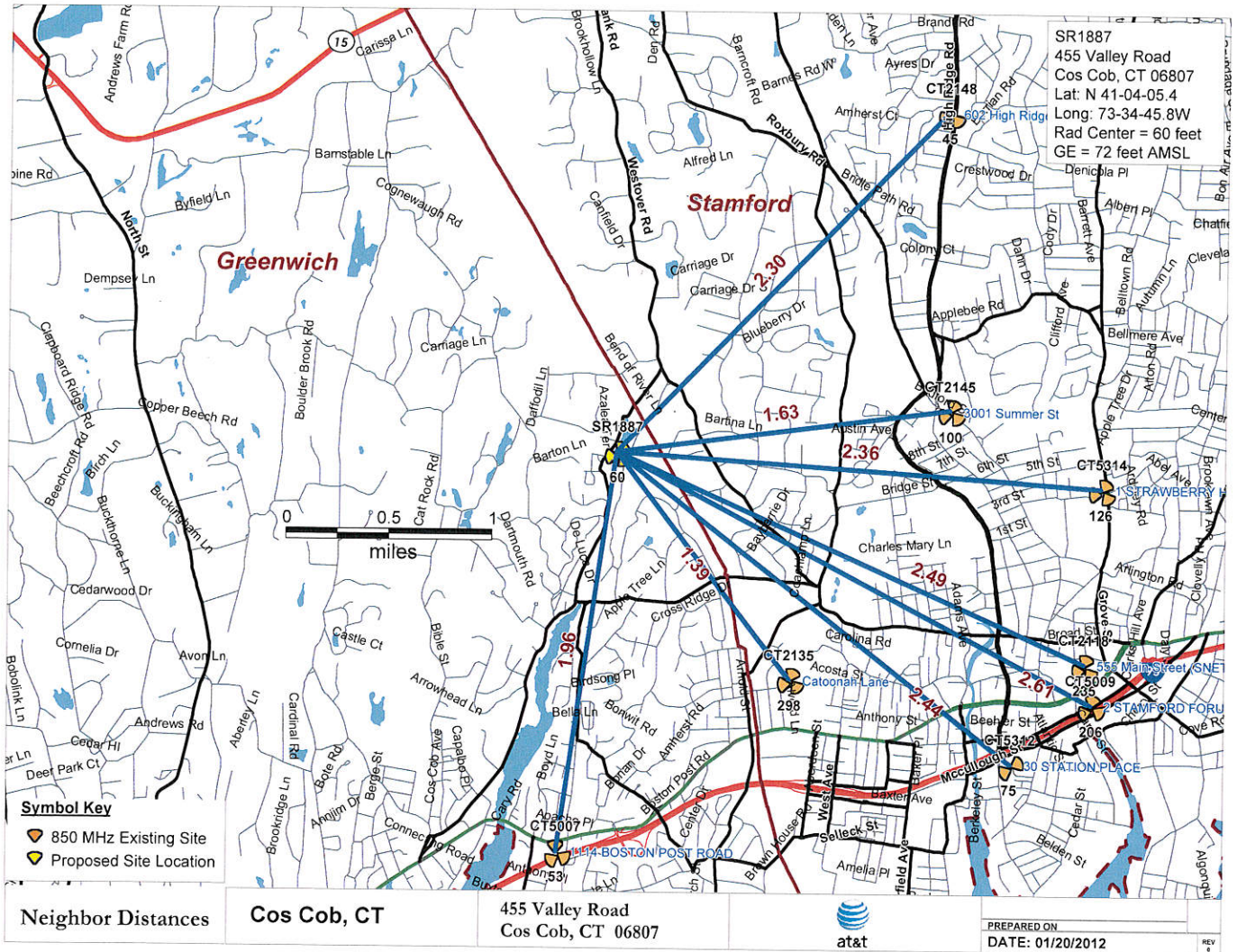
Attachment 1: "Existing Coverage" for the Current AT&T network



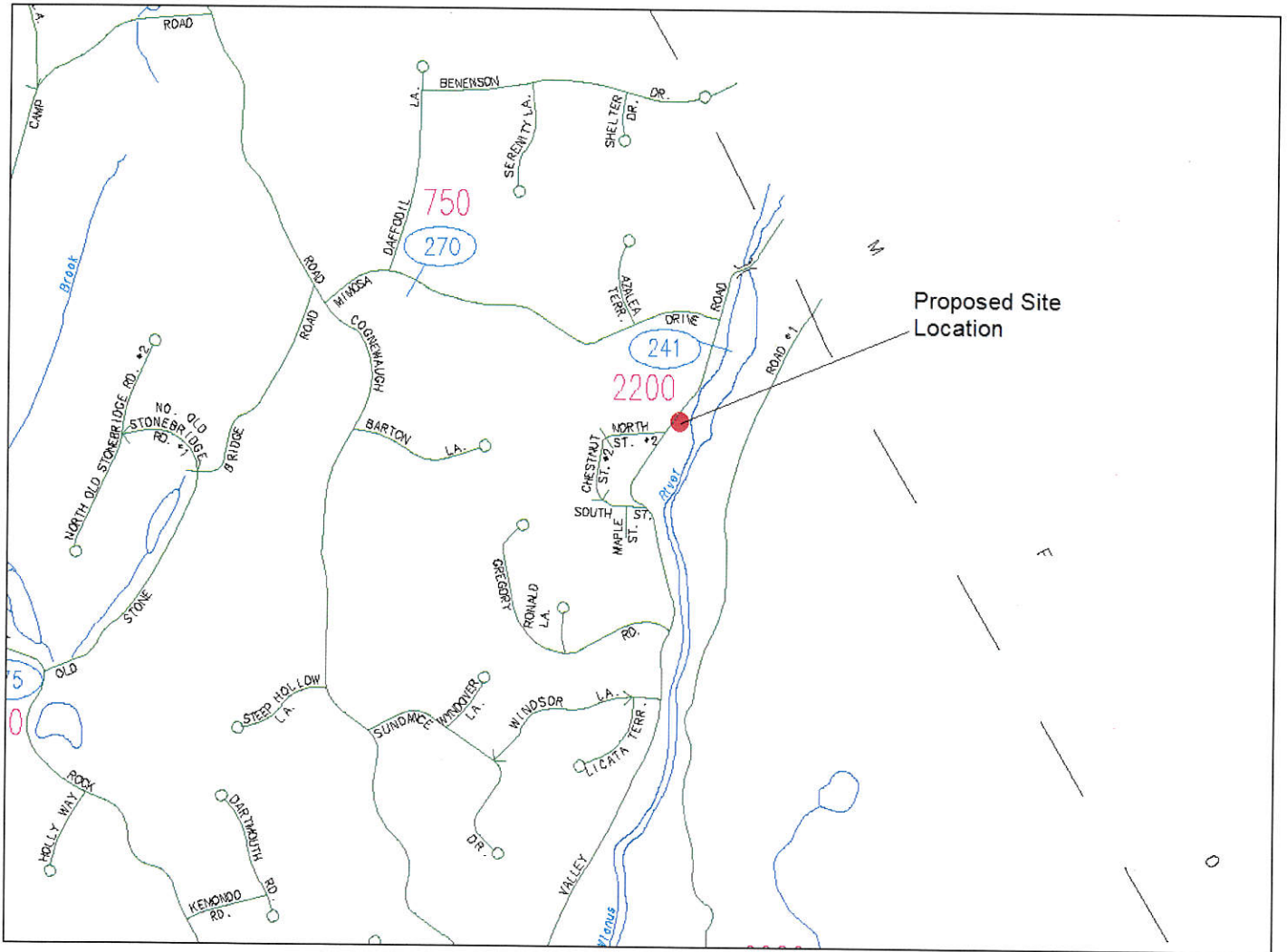
Attachment 2: "Existing & Proposed Coverage" for the AT&T network with coverage from Proposed site SR1887



Attachment 3: 3D Terrain Map



Attachment 4: Map of Distance to Neighbor Sites



Attachment 5: CT DOT Average Daily Traffic