Section 5

HOMELAND TOWERS, LLC
&
NEW CINGULAR WIRELESS PCS, LLC (AT&T)

TECHNICAL REPORT TO THE TOWN OF NEW CANAAN
PROPOSED WIRELESS TELECOMMUNICATIONS FACILITY

183 Soundview Lane, New Canaan, Connecticut

NEW CINGULAR
WIRELESS PCS, LLC
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

HOMELAND TOWERS, LLC
9 HARMONY STREET
DANBURY, CT 06810

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Introduction

Homeland Towers, LLC ("Homeland Towers") and New Cingular Wireless PCS, LLC ("AT&T") respectfully submit this Technical Report to the Town of New Canaan pursuant to Section 16-50/ of the Connecticut General Statutes. AT&T has contracted with Homeland Towers to assist in the search and development of various facilities in Connecticut for infrastructure to provide reliable wireless services, including one search ring in the northeast portion of New Canaan. As part of its coordination with AT&T, Homeland Towers identified and leased a portion of an approximately 4.05-acre parcel of land owned by Keith S. and Marina O. Richey and located at 183 Soundview Lane in the Town of New Canaan (the "Parcel"). Homeland Towers has entered into a long-term ground lease with the property owner and would construct, own and operate a wireless telecommunications tower facility on the Parcel. AT&T's agreement with Homeland Towers includes a long-term lease obligation for AT&T's use of the proposed tower facility.

The tower component as proposed is an 85' tall monopole designed to resemble a pine tree ("monopine") with faux branches extending an additional 5' above the top of the pole, for use by AT&T as well as other FCC licensed wireless carriers to provide reliable wireless services in this area of New Canaan. The purpose of this Technical Report is to provide the Town with information concerning the need for a new tower in this area of the State (Section 1), the site search history and selection process (Section 2), the facility design (Section 3), and current status of environmental assessments for the project including various information (Section 4) and a Visibility Analysis (Section 5). This information is provided for purposes of technical consultation with the Town and as provided for in Section 16-50/ of the Connecticut General Statutes.

SECTION 1

Statement of Public Need

The proposed tower facility will provide reliable wireless communications services to the northeastern portion of New Canaan. The facility is needed by AT&T in conjunction with other existing and proposed facilities to provide reliable services to the public that is not currently provided in this part of New Canaan. AT&T seeks to provide wireless service to key traffic corridors through residential and retail areas of the Town. The proposed tower facility will bring the required coverage to significant portions of Soundview Lane, Colonial Road, Laurel Road, North Wilton Road, Michigan Road, Briscoe Road, Benedict Hill Road, South Bald Hill Road, Lantern Ridge Road, Knollwood Lane, Evergreen Road and the residential neighborhoods and business/ retail areas near the proposed tower location. Attached is a Radio Frequency Engineering Report with coverage plots depicting the "Current Coverage" provided by AT&T's existing facilities in this area of the state and "Proposed Coverage" as predicted from the proposed facility together with existing coverage from adjacent sites. Additional statistics regarding the overall area, population and roadway miles of expanded coverage in the community are included in the attached Radio Frequency Engineering Report.

Radio Frequency Analysis Report

CT2652S
183 Soundview Lane, New Canaan, CT

September 19, 2019

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

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

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1. Overview

C Squared Systems was retained by New Cingular Wireless PCS, LLC ("AT&T") to evaluate the proposed wireless communications facility at 183 Soundview Lane, New Canaan, CT at 81 feet AGL.

AT&T is licensed by the FCC to provide wireless communications services throughout the State of Connecticut including the Town of New Canaan where the proposed facility would be located.

This report addresses AT&T's need for the proposed wireless facility and confirms that there are no other suitable existing structures that could address the coverage gaps in their wireless communications network.

The coverage analysis completed by C Squared Systems confirms: AT&T has a gap in reliable service in New Canaan, and that the Proposed Facility provides AT&T with coverage in that service gap. Included as attachments in this report are coverage maps detailing the existing network and expected coverage from the proposed facility, pertinent site information, terrain and network layout maps.

2. Technology Advances & Design Evolution

AT&T provides digital voice and data services using 3rd Generation (3G) UMTS technology in the 800 MHz and 1900 MHz frequency band, and advanced 4th Generation (4G) services over LTE technology in the 700 MHz and 1900 MHz frequency bands as allocated by the FCC. These data networks are used by mobile devices for fast web browsing, media streaming, and other applications that require broadband connections. The mobile devices that benefit from these advanced data networks are not limited to basic handheld phones, but also include devices such as smartphones, PDA's, tablets, and laptop air-cards. 4G LTE services and devices have enabled AT&T customers to have even faster connections to people, information, and entertainment.

It is important to note that with AT&T's migration from 3G to 4G services come changes in the base station infrastructure and resultant changes in the operating thresholds required by the LTE network. In the past, AT&T has presented receive signal thresholds of -74 dBm for their in-building coverage threshold and -82 dBm for their in-vehicle coverage threshold. Those thresholds were based on network requirements to support 2G/3G data speeds and past usage demand. Today, customers expect low latency and faster data speeds as evidenced by increasing data usage trends and customer demand.

AT&T's 4G LTE technology is designed to thresholds of -83 dBm and -93 dBm for their 700 MHz LTE and -86 dBm and -96 dBm for their 1900 MHz LTE.[1] The stronger thresholds (-83 dBm and -86 dBm) yield greater throughputs and improved customer experience. The -93 dBm and -96 dBm thresholds are the minimum acceptable levels required to meet customer expectations for 4G service.

[1] The threshold range differences between the 700 MHz and 1900 MHz frequency bands directly correlates to the type branch diversity receivers deployed in AT&T's receiver design.

3. Coverage Objective

There is a significant coverage deficiency in the existing AT&T wireless communications network along Soundview Lane, Colonial Road, Laurel Road, North Wilton Road, Michigan Road, Briscoe Road, Benedict Hill Road, South Bald Hill Road, Lantern Ridge Road, Knollwood Lane, Evergreen Road and the neighboring residential and business/retail areas in New Canaan, referred to herein as the "targeted area". A deficiency in coverage is evidenced by the inability to adequately and reliably transmit/receive quality calls and/or utilize data services offered by the network. Seamless reliable coverage provides users with the ability to successfully originate, receive, and maintain quality calls and data applications throughout a service area. Appropriate overlapping coverage is required for users to be able to move throughout the service area and reliably "hand-off" between cells to maintain uninterrupted connections.

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 (maps of the terrain in this area and the distance to neighboring AT&T sites from the proposed site are included as Attachments 1 & 2, respectively.). AT&T's network requires deployment of antennas throughout the area to be covered. These antennas 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.

In order to define the extent of the coverage gap to be filled, both propagation modeling and real-world drive testing has been conducted in the area of New Canaan. Propagation modeling uses PC software to determine the network coverage based on the specific technical parameters of each site including, but not limited to, location, ground elevation, antenna models, antenna heights, and also databases of terrain and ground cover in the area. Drive testing consists of traveling along area roadways in a vehicle equipped with a sophisticated setup of test devices and receivers that collect a variety of network performance metrics. The data are then processed and mapped in conjunction with the propagation modeling to determine the coverage gaps.

Analysis of the propagation modeling and drive testing in New Canaan reveal that AT&T's network is unreliable throughout much of the area due to gaps in coverage, and that there is a service deficiency as a result. In order to fill in these coverage gaps and improve the network reliability to New Canaan, a new facility is needed in the area.

Table 1 below approximates the current coverage gap of AT&T's 700 MHz LTE technology in the vicinity of the proposed site.

	Existing 700 MHz LTE Coverage Gap	
Population:[2]	(≥ -83 dBm)	7,907
	(≥ -93 dBm)	5,273
Business Pops: [3]	(≥ -83 dBm)	1,363
	(≥ -93 dBm)	850
Area (mi²):	(≥ -83 dBm)	17.36
	(≥ -93 dBm)	11.69
Roadway (mi):	Main (-93 dBm):	4.9
	Secondary (-93 dBm):	45.7
	Total (-93 dBm):	**50.6**

Table 1: Estimated Existing Coverage Gap Statistics

[2] Population figures are based upon 2010 US Census Block Data
[3] Employee population counts are based upon the 2011 U.S. Census Bureau LEHD database.

Included in this report are Attachments 1 through 5, which are explained below to help describe AT&T's 4G network deployment in and around New Canaan, and the need for the proposed facility.

- Attachment 1: "*CT2652 Area Terrain Map"* details the terrain features around the area of deficient service being targeted by the proposed site in New Canaan. These terrain features play a key role in determining site designs and dictating the unique coverage achieved from a given location. This map is included to provide a visual representation of the ridges and valleys that must be considered when siting a wireless facility. The darker green, blue and purple shades correspond to lower elevations, whereas the orange, red and white shades indicate higher elevations.

- Attachment 2: "*CT2652 Neighbor Site Data"* provides site specific information of existing neighboring sites used to perform the coverage analysis provided in Attachments 1 and 4.

- Attachment 3: *"CT2652 Existing 700 MHz LTE Coverage" for the Current AT&T Network* depicts 700 MHz LTE coverage from existing sites and demonstrates that there are currently gaps in 700 MHz LTE coverage effecting service within the targeted area. The coverage shown is where the signal strengths are: > -83 dBm (minimum level required reliable, high quality service and performance at 700 MHz) and, > -93 dBm (minimum required for adequate level of service at 700 MHz). In an effort to provide the required levels of coverage to these areas, AT&T is proposing to install a wireless facility at the Soundview Lane location.

- Attachment 4: *"CT2652 Existing 700 MHz LTE Coverage with Proposed Site"* shows how this proposed site would fill in the existing coverage gaps and improve AT&T's 700 MHz LTE network.

- Attachment 5: Connecticut DOT Average Annual Daily Traffic Data – New Canaan shows the available vehicular traffic volume data for the subject area from the Connecticut Department of Transportation. These data show as many as 3,200 vehicles per day passing through North Wilton Road.

It should also be noted that in the "Wireless Market Study for the Town of New Canaan, CT" (December 1, 2014) prepared by Centerline Solutions for the Town of New Canaan Utilities Commission, this area where the proposed site is located is identified as the next most likely location for 3 carriers to provide service:

> *"Of the 3 Private Property locations provided, all are Most Likely or Next Likely candidates for at least 3 of the carriers. St. Luke's School is overall the best Private candidate, being Most Likely or Next Likely for all 4 carriers."*

Table 2 below lists the coverage statistics compiled for the AT&T's 700 MHz 4G LTE network with the deployment of the Proposed Site.

	Incremental Coverage from Proposed Site (700 MHz)	
Population:[4]	(≥ -83 dBm)	369
	(≥ -93 dBm)	1,113
Business Pops: [5]	(≥ -83 dBm)	78
	(≥ -93 dBm)	142
Area (mi²):	(≥ -83 dBm)	0.89
	(≥ -93 dBm)	2.37
Roadway (mi):	Main (-93 dBm):	0.5
	Secondary (-93 dBm):	11.0
	Total (-93 dBm):	**11.5**

Table 2: Coverage Statistics

[4] Population figures are based upon 2010 US Census Block Data
[5] Employee population counts are based upon the 2011 U.S. Census Bureau LEHD database.

4. Conclusion

AT&T has identified an area of deficient coverage affecting a significant portion of New Canaan CT, including key traffic corridors through the residential and business/retail areas of the Town. The proposed New Canaan Proposed facility will bring the needed fill-in coverage to significant portions of Soundview Lane, Colonial Road, Laurel Road, North Wilton Road, Michigan Road, Briscoe Road, Benedict Hill Road, South Bald Hill Road, Lantern Ridge Road, Knollwood Lane, Evergreen Road and the residential neighborhoods, business/retail areas and St. Luke's School in the vicinity of the proposed location.

No existing structures were identified and available that would be able to satisfy the coverage requirements needed for this area.

As discussed in this report and depicted in the attached plots, the proposed interim AT&T site will provide a substantial portion of the coverage being lost to the "Target Area" while maintaining effective connectivity to the rest of AT&T's existing network and, facilitate the transparent migration from its 3G to 4G network.

5. Statement of Certification

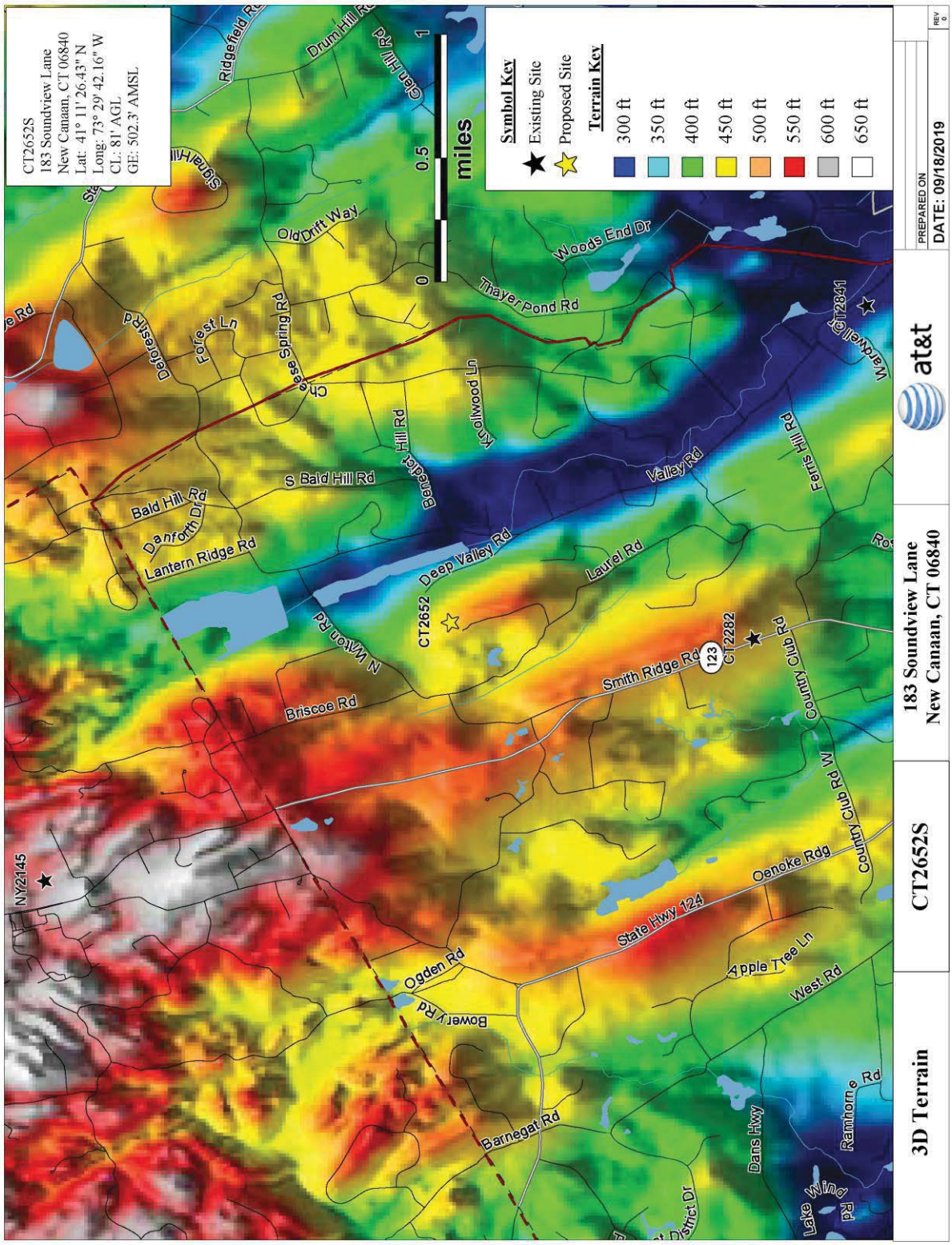
I certify to the best of my knowledge that the statements in this report are true and accurate.

September 19, 2019

Martin J. Lavin
C Squared Systems, LLC

Date

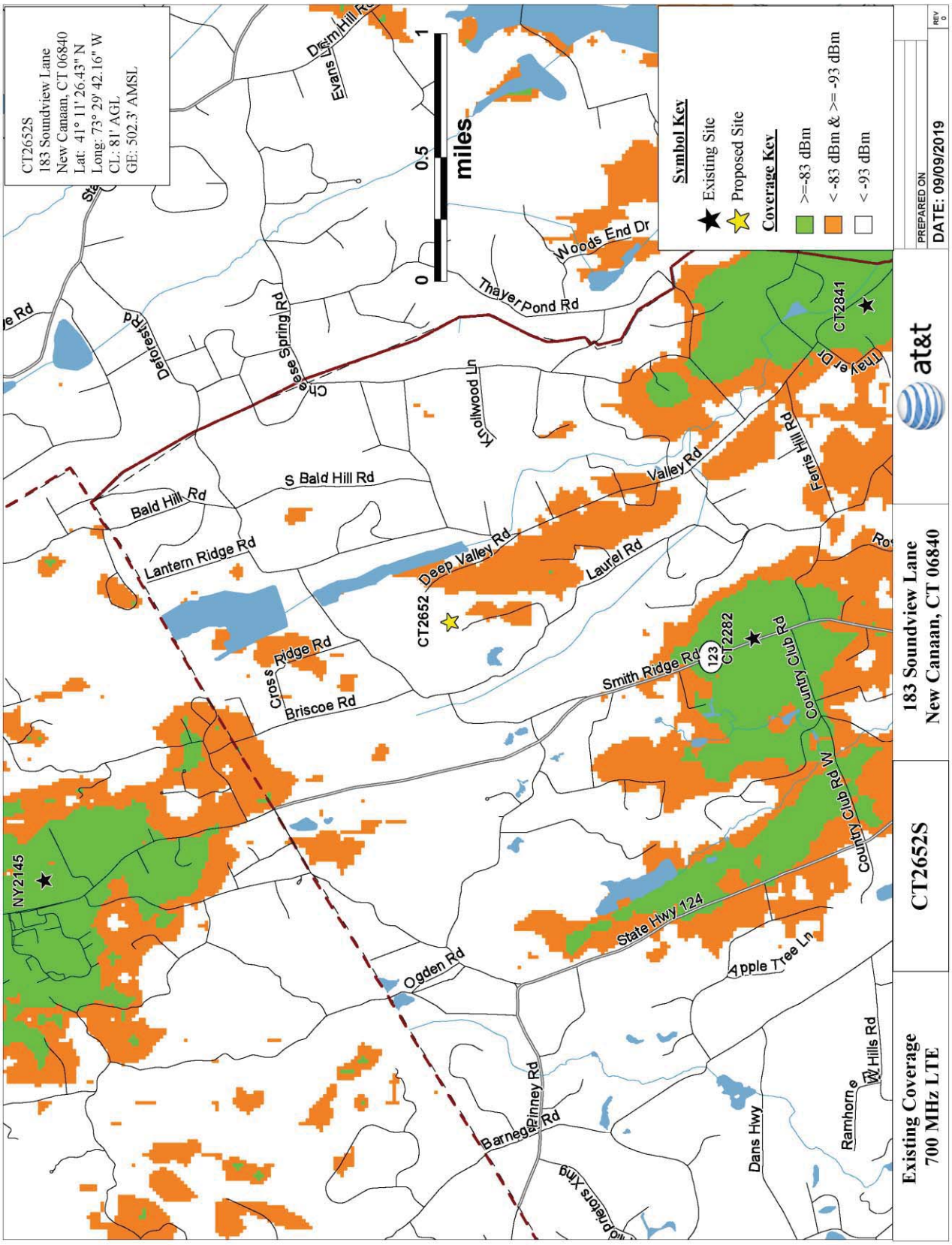
6. Attachments



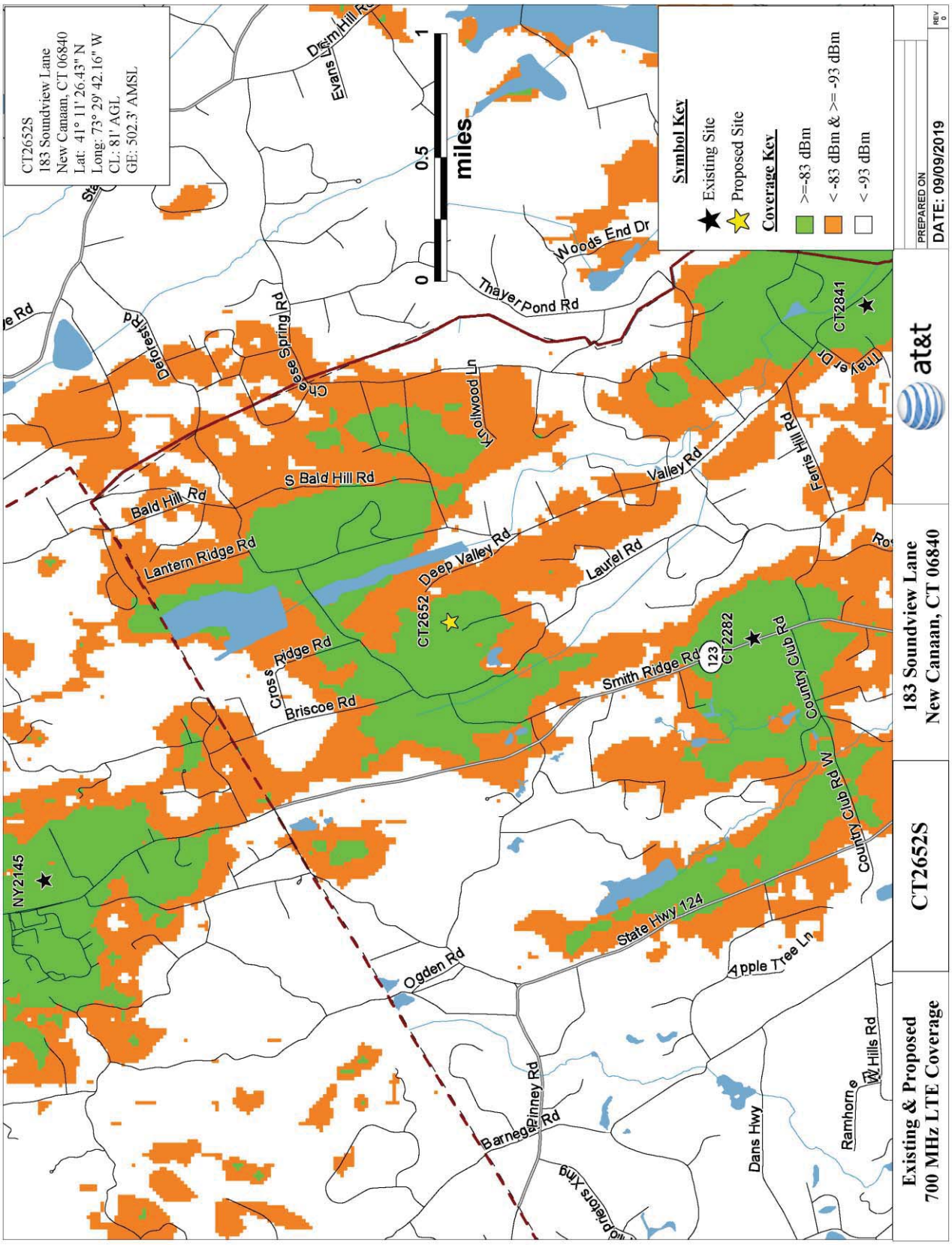
Attachment 1: CT2652 Area Terrain Map

Site Name	Address	City/State	Latitude	Longitude	Antenna Height (ft AGL)	Ground Elevation
CT2143	46 Fenwood Lane	Wilton	41.1726	-73.4339	163	367
CT2282	95 Country Club Road	New Canaan	41.1729	-73.4963	89	495
CT2841	208 Valley Road	New Canaan	41.1662	-73.4705	86	266
CT5057	187 Danbury Road	Wilton	41.1841	-73.4215	72	157
CT5058	289 Danbury Road	Wilton	41.1950	-73.4314	96	177
CT5060	27 Cannon Road	Wilton	41.2137	-73.4275	102	217
NY2145	377 Smith Ridge Road	South Salem	41.2144	-73.5151	140	587

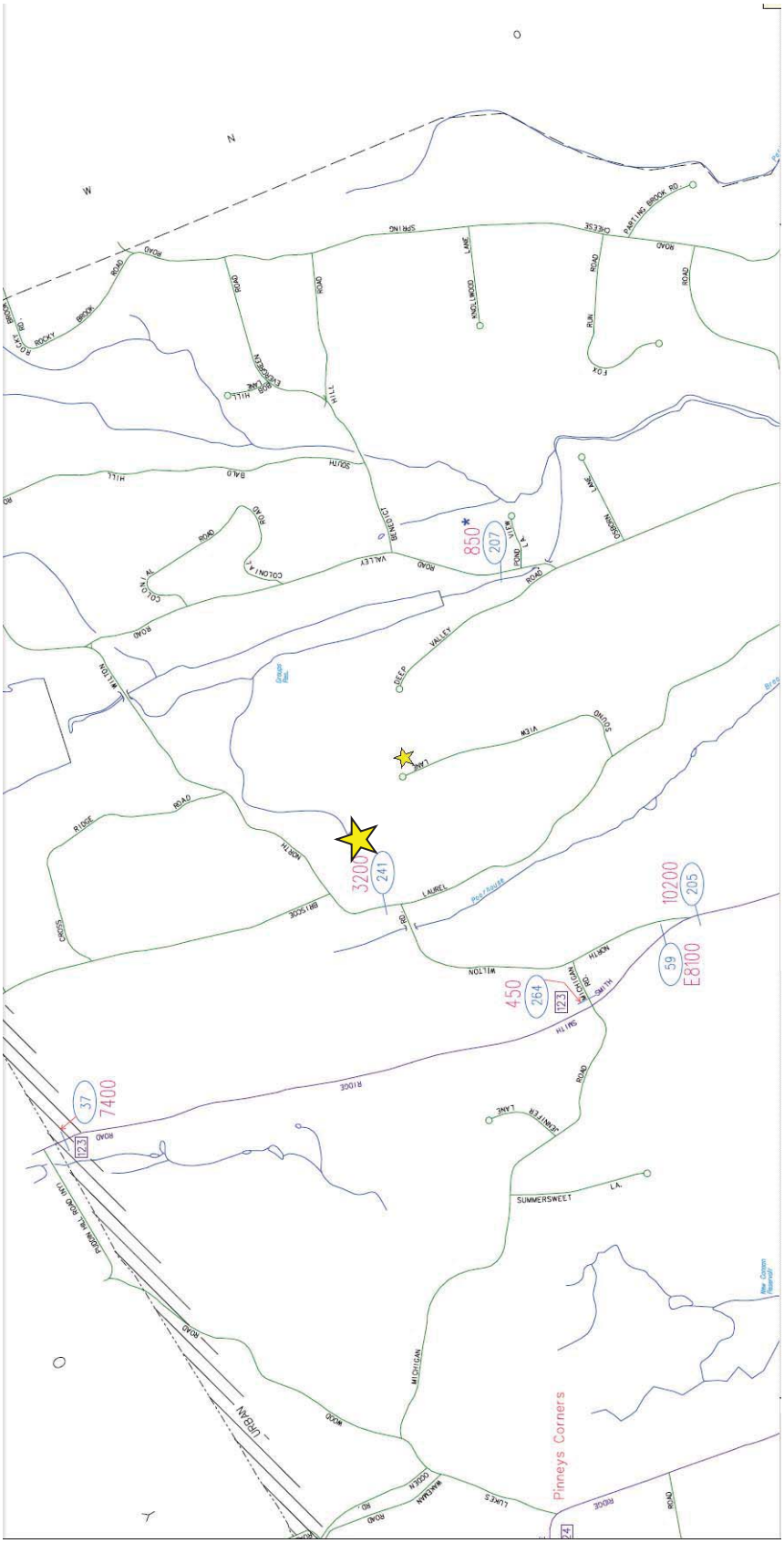
Attachment 2: CT2652 Neighbor Site Data



Attachment 3: CT2652 Existing 700 MHz LTE Coverage" for the Current AT&T Network



Attachment 4: CT2652 Existing 700 MHz LTE Coverage with Proposed Site" for the AT&T Network



Attachment 5: Connecticut DOT Average Annual Daily Traffic Data – New Canaan

SECTION 2

Homeland Towers

Site Search Summary

In general, a "site search area" is developed to initiate a site selection process in an area where a coverage need has been identified. The site search area is a general location where the installation of a wireless facility would address an identified coverage need while still allowing for orderly integration of the site into a network such as AT&T's, based on the engineering criteria hand-off, frequency reuse and interference. In any site search area, the Applicants seek to avoid the unnecessary proliferation of towers and to reduce the potential adverse environmental effects of a needed facility, while at the same time ensuring the quality of service provided by the site to users of its network.

The candidate identification process includes reviewing the applicable zoning ordinance to identify areas within which the proposed use is allowed. Viable candidates consist of existing structures of sufficient height from which an antenna installation can provide sufficient coverage, or lacking such a structure, parcels located within the narrowly defined search area upon which a tower may be constructed to a sufficient height. In order to be viable, a candidate must provide adequate coverage to the significant gap in AT&T's network. In addition, all viable candidates must have a willing landowner with whom commercially reasonable lease terms may be negotiated. Preference is given to locations that closely comply with local zoning ordinances, or in the event no viable candidates are determined to be located within such areas, to identify other potentially suitable locations. In the case of this particular site search area in New Canaan, no tall, non-tower structures were located within the identified area of need that were available for leasing. The area consists of mainly residential parcels along with challenging topography.

It should be noted that the New Canaan Utilities Commission commissioned Centerline Solutions, an independent, 3rd party, to evaluate all municipal parcels along with private

parcels where the siting of a cell tower would help remedy gaps in carrier's networks. Centerline's December 1, 2014 report concluded that Saint Luke's School was the "next likely" location for AT&T and the "most likely" location of a cell tower for Verizon, T-Mobile and Sprint in the northeast section of New Canaan. The Applicant's proposed location abuts Saint Luke's School.

Homeland Towers investigated twenty-three (23) different parcels of land within and near this area for construction of a new facility. The Applicants found these sites to be adequate and available for the siting of a wireless facility or, for the reasons cited below, unavailable or inappropriate for the siting of a facility or technically inadequate to satisfy AT&T's coverage requirements in this area of need.

Properties Investigated by Homeland Towers

Homeland Towers identified and investigated twenty-three (23) sites in and around the New Canaan site search area where the construction of a new tower might be feasible for radio frequency engineering purposes. Descriptions of Homeland's sites investigated are set forth below along as well as a map depicting the approximate location of the sites investigated.

A. 183 Sound View Lane, New Canaan, CT

Section-Block-Lot: 40-105-74
Owner: Keith and Marina Richey
Zoning District: Residential
Parcel Size: 4.05 acres
Lat/Long: 41°11'26.43"N/ 73°29'42.16"W
Ground Elevation: 502.3' +/- AMSL
This property is the Candidate site.

B. 1192 Smith Ridge Road, New Canaan, CT

Section-Block-Lot: 40-38-39
Owner: New Canaan Land Conservation Trust, Inc.

Zoning District: Residential
Parcel Size: 4.08 acres
Lat/Long: 41°11'35.66"N/73°30'27.04"W
Ground Elevation: 541' +/- AMSL
The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

C. <u>1160 Smith Ridge Road, New Canaan, CT</u>

Section-Block-Lot: 34-38-19
Owner: Garret Camporine
Zoning District: Residential
Parcel Size: 2.02 acres
Lat/Long: 41°11'33.94"N/73°30'26.92"W
Ground Elevation: 551' +/- AMSL
The owner reached out to Homeland with potential interest. Upon further correspondence the owner decided not to pursue a lease with Homeland Towers.

D. <u>1211 Smith Ridge Road, New Canaan CT</u>

Section-Block-Lot: 41-102-10
Owner: Scott P. Vallely and Michelle D. Vallely
Zoning District: Residential
Parcel Size: 10.57 acres
Lat/Long: 41°11'45.13"N/ 73°30'15.76"W
Ground Elevation: 537' +/- AMSL
The owner did not claim certified mail containing a proposal that was sent from Homeland Towers. A follow up letter was sent by regular US postal service. Owner did not respond with interest.

E. <u>North Wilton Road, New Canaan, CT</u>

Section-Block-Lot: 40-102-P4
Owner: New Canaan Land Conservation Trust, Inc.
Zoning District: Residential
Parcel Size: 5.45 acres
Lat/Long: 41°11'16.30"N/73°30'11.91"W

Ground Elevation: 507’ +/- AMSL

The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

F. <u>82 Puddin Hill, New Canaan, CT</u>

Section-Block-Lot: 41-38-26

Owner: Grace Farms Foundation Inc.

Zoning District: Residential

Parcel Size: 4.61 acres

Lat/Long: 41°11'54.35"N/ 73°30'40.53"W

Ground Elevation: 567’ +/- AMSL

The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

G. <u>365 Lukes Wood Road, New Canaan, CT</u>

Section-Block-Lot: 41-38-77

Owner: Grace Farms Foundation Inc.

Zoning District: Residential

Parcel Size: 79.39 acres

Lat/Long: 41°11'48.08"N/73°30'30.04”W

Ground Elevation: 534’ +/- AMSL

The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

H. <u>627 Laurel Road, New Canaan, CT</u>

Section-Block-Lot: 40-105-136

Owner: Theresa E. Bowling

Zoning District: Residential

Parcel Size: 4.34 acres

Lat/Long: 41°11'23.15"N/73°29'48.48"W

Ground Elevation: 455’ +/- AMSL

The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

I. <u>Laurel Road, New Canaan, CT</u>

Section-Block-Lot: 40-101-103
Owner: The Ahern Family Limited Partnership
Zoning District: Residential
Parcel Size: 4.01 acres
Lat/Long: 41°11'23.17"N/73°30'1.58"W
Ground Elevation: 471' +/- AMSL
The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

J. Laurel Road, New Canaan, CT

Section-Block-Lot: 40-101-104
Owner: The Ahern Family Limited Partnership
Zoning District: Residential
Parcel Size: 4 acres
Lat/Long: 41°11'19.11"N/ 73°29'59.34"W
Ground Elevation: 464' +/- AMSL
The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

K. 463 North Wilton Road, New Canaan, CT

Section-Block-Lot: 40-105-95
Owner: Robin O. Guynn and Randall D. Guynn
Zoning District: Residential
Parcel Size: 4.29 acres
Lat/Long: 41°11'36.10"N/73°29'42.88"W
Ground Elevation: 412' +/- AMSL
The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

L. 200 North Wilton Road, New Canaan, CT

Section-Block-Lot: 40-102-39
Owner: Pamela C. Work
Zoning District: Residential
Parcel Size: 6.12 acres
Lat/Long: 41°11'28.96"N/ 73°30'13.44"W

Ground Elevation: 541’ +/- AMSL

The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

M. <u>101 Sound View Lane, New Canaan, CT</u>

Section-Block-Lot: 40-105-78

Owner: Christine M/ Pesaturo and Gregory Pesaturo

Zoning District: Residential

Parcel Size: 4.16 acres

Lat/Long: 41°11'19.86"N/73°29'32.99"W

Ground Elevation: 471’ +/- AMSL

The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

N. <u>174 Sound View Lane, New Canaan, CT</u>

Section-Block-Lot: 40-105-135

Owner: Saint Lukes Foundation

Zoning District: Residential

Parcel Size: 4.07 acres

Lat/Long: 41°11'24.95"N/73°29'44.72"W

Ground Elevation: 504’ +/- AMSL

The owner did not respond to certified proposal letter from Homeland Towers.

O. <u>377 North Wilton Road, New Canaan, CT</u>

Section-Block-Lot: 40-105-90

Owner: Saint Lukes Foundation Inc.

Zoning District: Residential

Parcel Size: 41.21 acres

Lat/Long: 41°11'26.13"N/73°29'44.76"W

Ground Elevation: 505’ +/- AMSL

After meeting with Saint Lukes School, they decided not to pursue a lease with Homeland Towers.

P. <u>465 North Wilton Road, New Canaan, CT</u>

Section-Block-Lot: 40-105-117

Owner: Conner McGee and Katherine E. McGee
Zoning District: Residential
Parcel Size: 4.71 acres
Lat/Long: 41°11'40.41"N/73°29'39.50"W
Ground Elevation: 363' +/- AMSL
The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

Q. <u>467 North Wilton Road, New Canaan, CT</u>

Section-Block-Lot: 40-105-116
Owner: Daniel J. Crowley
Zoning District: Residential
Parcel Size: 4.98 acres
Lat/Long: 41°11'42.19"N/ 73°29'42.82"W
Ground Elevation: 371' +/- AMSL
The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

R. <u>469 North Wilton, New Canaan, CT</u>

Section-Block-Lot: 40-105-115
Owner: North Wilton LLC
Zoning District: Residential
Parcel Size: 5.56 acres
Lat/Long: 41°11'44.37"N/ 73°29'43.74"W
Ground Elevation: 375' +/- AMSL
The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

S. <u>67 Cross Ridge Road, New Canaan, CT</u>

Section-Block-Lot: 41-104-4
Owner: Charles P. Kontulis III and Elizabeth F. Kontulis
Zoning District: Residential
Parcel Size: 8.04 acres
Lat/Long: 41°11'53.23"N/73°29'55.05"W
Ground Elevation: 511' +/- AMSL

The owner did not respond to a proposal sent to them by certified mail from Homeland Towers.

T. Clark Property, Smith Ridge Road, New Canaan, CT

Section-Block-Lot: 34-38-14
Owner: Town of New Canaan
Zoning District: Residential
Parcel Size: 23.1 acres
Lat/Long: 41°11'23.16"N/ 73°30'23.20"W
Ground Elevation: 546' +/- AMSL
This property contains deed restrictions that would not allow for the development of a cell tower. In addition, there are existing wetlands on this property.

U. 1191 Smith Ridge Road, New Canaan, CT

Section-Block-Lot: 41-102-9
Owner: Simat LLC
Zoning District: Residential
Parcel Size: 8.29 acres
Lat/Long: 41°11'40.59"N/ 73°30'13.35"W
Ground Elevation: 522' +/- AMSL
The owner did not claim certified mail containing a proposal that was sent from Homeland Towers. A follow up letter was sent by regular US postal service. Owner did not respond with interest.

V. 92 Briscoe Road, New Canaan, CT

Section-Block-Lot: 41-102-51
Owner: Jodi Borner
Zoning District: Residential
Parcel Size: 6.02 acres
Lat/Long: 41°11'41.74"N/73°30'8.84"W
Ground Elevation: 491' +/- AMSL
The owner did not claim certified mail containing a proposal that was sent from Homeland Towers. A follow up letter was sent by regular US postal service. Owner did not respond with interest.

W. North Wilton Road, New Canaan, CT

Section-Block-Lot: 41-105-25

Owner: Marjorie Schwesinger

Zoning District: Residential

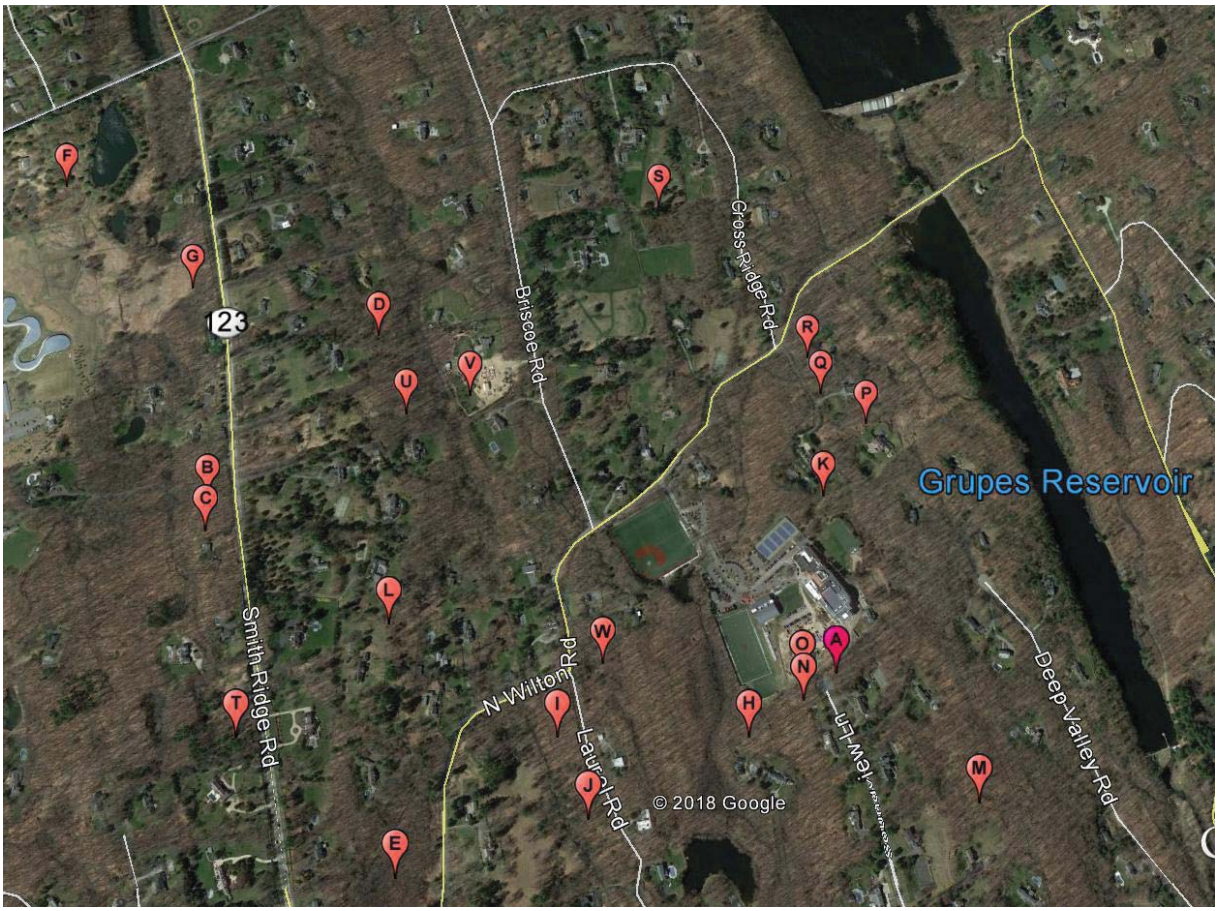
Parcel Size: 4.68 acres

Lat/Long: 41°11'26.94"N/73°29'58.61"W

Ground Elevation: 456' +/- AMSL

The owner did not claim certified mail containing a proposal that was sent from Homeland Towers. A follow up letter was sent by regular US postal service. Owner did not respond with interest.

Figure 1: Aerial Map of Homeland Towers Search and Proposed Site



SECTION 3

General Facility Description

183 Soundview Lane, New Canaan, Connecticut

Tax/PIN Identification: Map: 40 Block: 105 Lot: 74

4.05 Acre Parcel

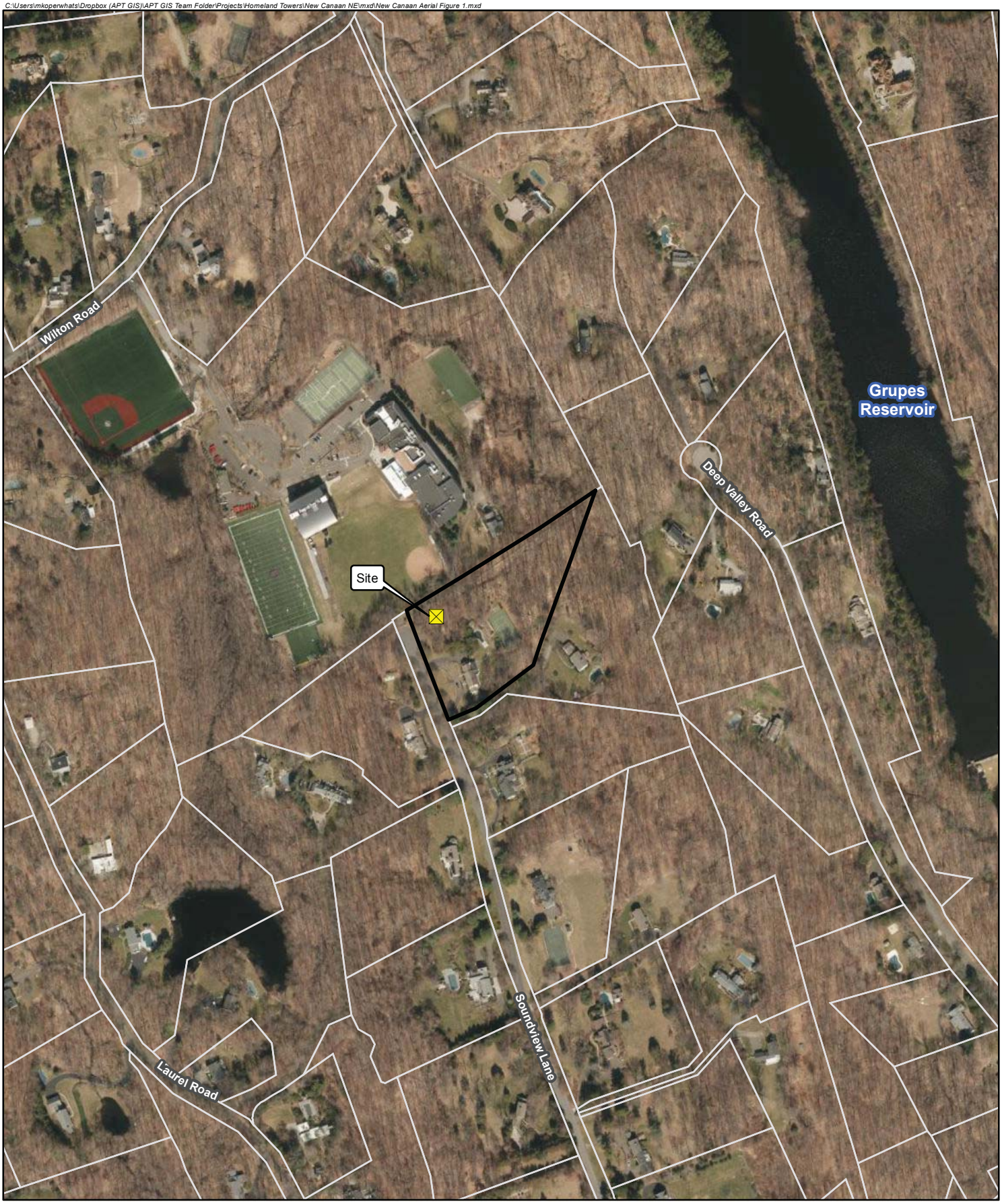
The proposed tower site is located on an approximately 4.05-acre parcel located at 183 Soundview Lane owned by Keith S. and Marina O. Richey. It is classified in the 4-acre Residence Zoning District and is improved with a single-family residence, pool and tennis court. The proposed telecommunications facility includes an approximately 2,310 s.f. lease area located in the northwestern section of the host parcel.

The facility consists of a new self-supporting monopole designed to resemble a pine tree ("monopine") that is 85' in height with faux branches extending an additional 5' above the top of the pole, bringing the total height to approximately 90'. AT&T would install up to six (6) panel antennas and related equipment at a centerline height of 81' above grade level (AGL). The tower would be designed for future shared use of the structure by other FCC licensed wireless carriers. AT&T's walk-in equipment cabinet would be installed on a steel platform within the 23' 6" x 75' fenced tower compound area at the base of the monopine. AT&T would also install a separate steel platform for an emergency backup power generator within the equipment compound.

The tower compound would consist of a 1,763 s.f area to accommodate AT&T's equipment and provide for future shared use of the facility by other carriers. The tower compound would be enclosed by an eight (8) foot high chain link fence along the access drive and an eight (8) foot high wood shadowbox fence along the southeast and southwest sides of the compound. Vehicle access to the facility would be provided from Soundview Lane starting at the northeast portion of the cul-de-sac over a gravel

access drive a distance of approximately 140' to the proposed compound. Utility connections would be routed underground along the access easement.

C:\Users\mkoperwhats\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Homeland Towers\New Canaan NE\mxd\New Canaan Aerial Figure 1.mxd



Legend

- Site
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)

Site Location Map

Proposed Wireless Telecommunications Facility
183 Soundview Lane
New Canaan, Connecticut

N
W E
S

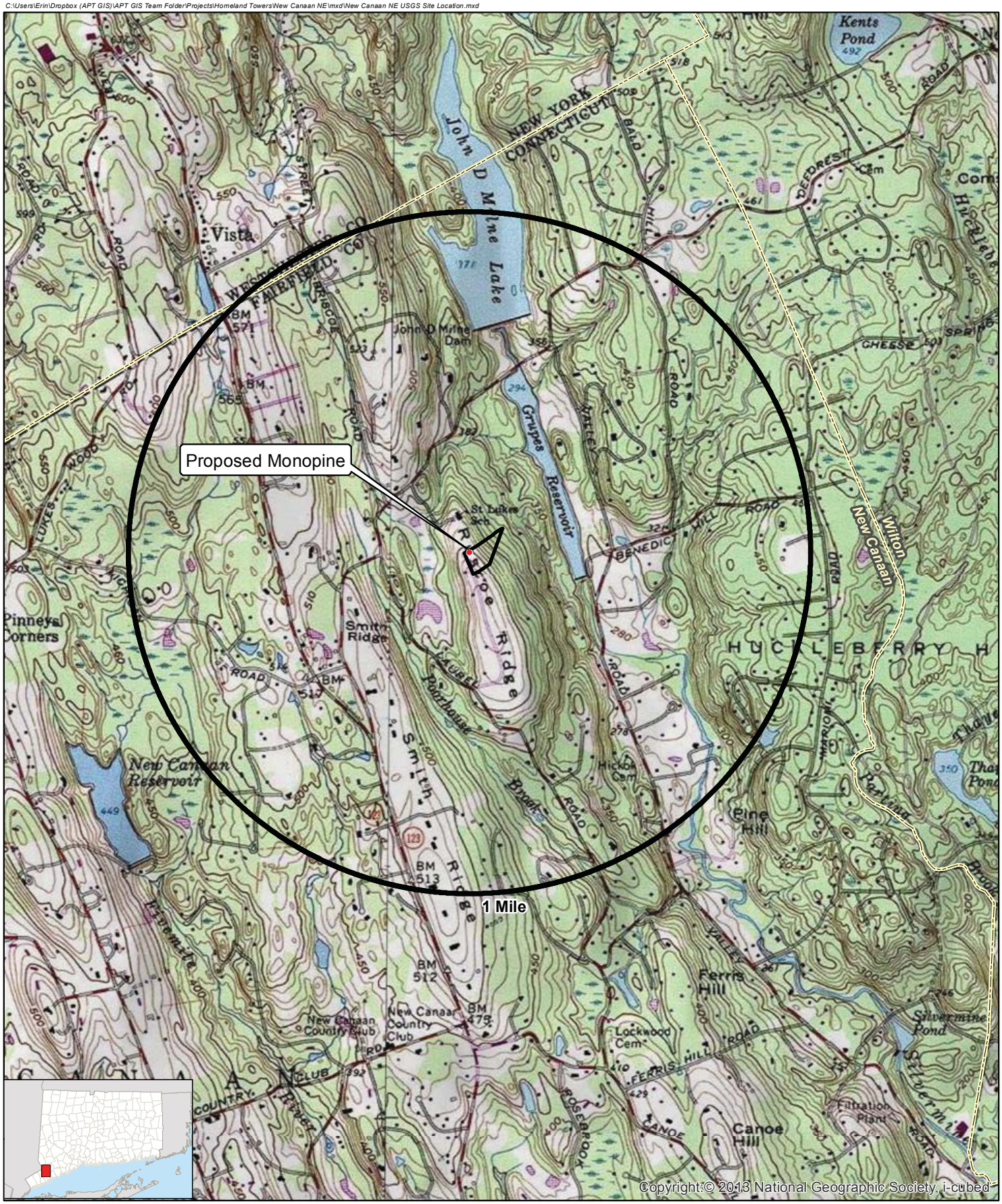
400 200 0 400
Feet

Map Notes:
Base Map Source: 2016 CT ECO Imagery
Map Scale:1 inch = 400 feet
Map Date: May 2019

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

C:\Users\Erin\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Homeland Towers\New Canaan NE\mxd\New Canaan NE USGS Site Location.mxd



Legend

- Site
- Municipal Boundary
- Proposed Monopine
- 1-Mile Radius

Site Location Map

Proposed WirelessTelecommunications Facility
183 Soundview Lane
New Canaan, Connecticut

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps:
Norwalk North (1975), CT
Map Scale: 1 inch =2,000 feet
Map Date: July 2019

2,000 1,000 0 2,000 Feet

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

SITE EVALUATION REPORT
NEW CANAAN NE CT027

I. LOCATION

A. COORDINATES: 41° 11' 26.43" N
73° 29' 42.16" W

B. GROUND ELEVATION: 502.3'± AMSL

C. USGS MAP: USGS 7.5 quadrangle for Norwalk

D. SITE ADDRESS: 183 Soundview Lane
New Canaan, CT 06840

E. ZONING WITHIN ¼ MILE OF SITE: Abutting areas to the north, south, east and west are zoned 4 Acre Residence Zone.

II. DESCRIPTION

A. SITE SIZE: 4.05 Ac (Vol 478 - Page 549)

LEASE AREA/COMPOUND AREA: 2,310 SF/1,763 SF

B. TOWER TYPE/HEIGHT: A 90' Monopine.

C. SITE TOPOGRAPHY AND SURFACE: Subject site slopes and decreases from west to east.

D. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER: The proposed compound is located in the northwestern corner of a 4.05 acre residential parcel. To the north is St. Lukes school property. To the south, east and west are residential properties. There are off-site wetlands located 420'± east of the proposed compound.

E. LAND USE WITHIN ¼ MILE OF SITE: Residential properties to the south, east and west. St. Lukes school to the north.

III. FACILITIES

A. POWER COMPANY: Eversource

B. POWER PROXIMITY TO SITE: 150'±

C. TELEPHONE COMPANY: Frontier

D. PHONE SERVICE PROXIMITY: 150'±

E. VEHICLE ACCESS TO SITE: Access to the proposed telecommunication facility will be along a proposed gravel access driveway (140'+/-).

F. OBSTRUCTION: None.

G. CLEARING AND FILL REQUIRED: Total area of disturbance is 8,700 sf.; 24 trees will need to be removed. The site improvements shall entail approximately 60 CY of cut for utility trenching and net 130 CY of fill for the construction of the compound and access driveway. Approximately 60 CY of broken stone is needed for the compound and driveway construction.

IV. LEGAL

A. PURCHASE [ ] LEASE [X]

B. OWNER: Keith S. & Marina O. Richey

C. ADDRESS: 183 Soundview Lane, New Canaan, CT 06840

D. DEED ON FILE AT: Volume 478 - Page 549

FAA I-A SURVEY CERTIFICATION

Applicant: Homeland Towers
9 Harmony Street, 2nd Floor
Danbury, CT 06810

Site Name: New Canaan NE

Site Address: Map 40 Block 105 Lot 74
#183 Soundview Lane
New Canaan, CT 06840

Source of Coordinates: X GPS Survey Ground Survey

Vertical Datum: NAVD 1988 (AMSL) X GPS Survey Ground Survey

Structure Type: X New Tower Existing Tower Roof Top

Water Tank Smoke Stack Other_____

Latitude: (NAD 83) 41-11-26.43

Longitude: (NAD 83) 73-29-42.16

Ground Elevation: AMSL Elevation (in feet) 502.3'

Top of Tower: AMSL Elevation (in feet) 592.3'

Certification: I certify that the latitude of 41-11-26.43 and the longitude of 73-29-42.16 are accurate to within + 15 feet horizontally, and that the ground elevation of 502.3' AMSL is accurate to within + 3 feet vertically. With a structure height of 90' AGL, the overall height will be 592.3' AMSL. The horizontal datum (coordinates) are in the terms of the North American Datum of 1983 (NAD 83) and are expressed in degrees, minutes, seconds to the nearest hundredth of a second.

The vertical datum (heights) are in terms of the North American Vertical Datum of 1988 and are determined to the nearest 1/10 of a foot.

Company: Langan CT, Inc.

Surveyor Signature/Seal:

Andrew G. Ives, CT P.L.S. #70286

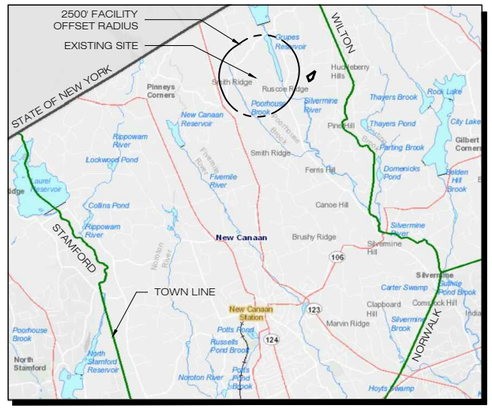
STATE OF CONNECTICUT
ANDREW G. IVES
No. 70286
LICENSED
LAND SURVEYOR

Date: June 24, 2019

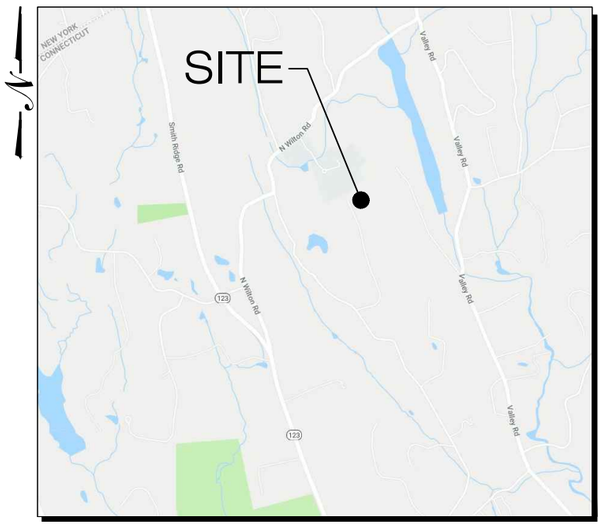
HOMELAND TOWERS, LLC

WIRELESS TELECOMMUNICATIONS FACILITY

NEW CANAAN NORTHEAST
183 SOUNDVIEW LANE
NEW CANAAN, CT 06840



MUNICIPAL NOTIFICATION LIMIT MAP
SCALE : 1" = 1 Mile



VICINITY MAP
SCALE: 1" = 500'

DRAWING INDEX

SITE INFORMATION

PROJECT LOCATION: 183 SOUNDVIEW LANE
NEW CANAAN, CT 06840

PROJECT DESCRIPTION: RAWLAND SITE W/ GROUND EQUIPMENT WITHIN 2,310 SF TELECOMMUNICATIONS LEASE AREA W/ NEW 90'± AGL MONOPINE.

PROPERTY DEVELOPER: HOMELAND TOWERS, LLC
9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810

DEVELOPER CONTACT: RAY VERGATI
(203) 297-6345

ENGINEER CONTACT: ROBERT C. BURNS, P.E.
(860) 663-1697 x206

LATITUDE: 41° 11' 26.43"N
LONGITUDE: 73° 29' 42.16"W
ELEVATION: 502.3'± AMSL

MAP: 40
BLOCK: 105
LOT: 74
ZONE: 4 ACRE RESIDENCE ZONE

OWNER:

KEITH S. & MARINA O. RICHEY
183 SOUNDVIEW LANE
NEW CANAAN, CT 06840

APPLICANTS:

HOMELAND TOWERS, LLC
9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810
RAY VERGATI
(203) 297-6345

AT&T
340 MOUNT KEMBLE AVE.
MORRISTOWN, NJ 07960

HOMELAND PROJECT ATTORNEY:

CUDDY & FEDER, LLP
445 HAMILTON AVENUE
14TH FLOOR
WHITE PLAINS, NY 10601
(914) 761-1300

POWER PROVIDER:

EVERSOURCE: (800) 286-2000

TELCO PROVIDER:

FRONTIER (800) 921-8102

CALL BEFORE YOU DIG:

(800) 922-4455

GOVERNING CODES:

CONNECTICUT STATE BUILDING CODE, LATEST EDITION
NATIONAL ELECTRIC CODE, LATEST EDITION
TIA-222-G

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

at&t
340 MOUNT KEMBLE AVENUE
MORRISTOWN, NEW JERSEY 07960

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	08/29/19	FOR REVIEW: RCB
1	09/04/19	CLIENT COMMENTS: RCB
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS NEW CANAAN NORTHEAST

SITE ADDRESS: 183 SOUNDVIEW LANE NEW CANAAN, CT 06840

APT FILING NUMBER: CT283450

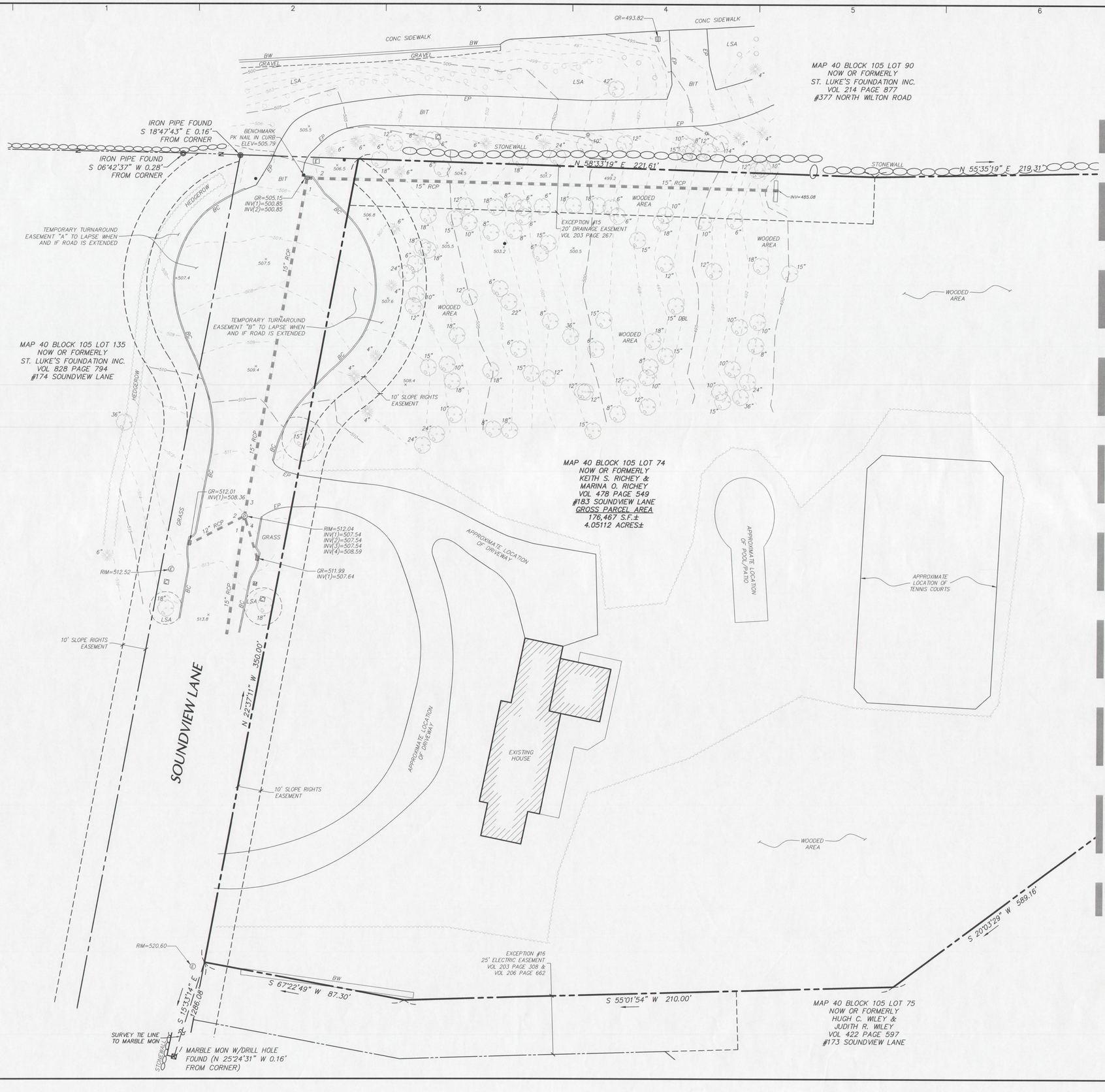
DATE: 08/29/19 | DRAWN BY: ELZ | CHECKED BY: RCB

SHEET TITLE:

TITLE SHEET & INDEX

SHEET NUMBER:

T-1



Date	Description	No.
REVISIONS		

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

6/5/2019

ANDREW G. IVES — DATE SIGNED
PROFESSIONAL LAND SURVEYOR
CT STATE LIC. NO. 70286

LANGAN

Langan CT, Inc.
555 Long Wharf Drive
New Haven, CT 06511

T: 203.562.5771 F: 203.789.6142 www.langan.com

Project

183 SOUNDVIEW LANE

NEW CANAAN — CONNECTICUT

Drawing Title

BOUNDARY & TOPOGRAPHIC SURVEY

Project No.	Drawing No.
140205701	VB101
Date: MAY 24, 2019	
Drawn By: JJS	
Checked By: AGI	Sheet 1 of 2

PROJECT NO. 140205701

Filename: \\langan.com\data\NHV\data7\140205701\Project Data_Discipline\Survey\CADD\Existing\140205701-V-EX0101.dwg Date: 6/5/2019 Time: 15:41 User: akapushinski Style Table: Langan.stb Layout: VB101

NOTES

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20–300b–1 THROUGH 20–300b–20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.
   a. THIS SURVEY IS A PROPERTY SURVEY CONFORMING TO A HORIZONTAL ACCURACY OF A–2 AND A TOPOGRAPHIC SURVEY CONFORMING TO A T–2 ACCURACY. THE BOUNDARY DETERMINATION IS A RESURVEY. THE PURPOSE OF THIS SURVEY IS TO PROVIDE A BOUNDARY OPINION AND DEPICT SITE FEATURES FOR FUTURE SITE DEVELOPMENT.

2. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, DEED INFORMATION AND THE FOLLOWING REFERENCES:

   A. COMMITMENT FOR TITLE INSURANCE ISSUED BY SOUND TITLE, LLC. FILE NUMBER: ST25031, EFFECTIVE: DATE JULY 24, 2017, EXCEPT AS HEREINAFTER SET FORTH:

      1. NOT SURVEY RELATED.

      2. SURVEY PROVIDED.

      3–5. NOT SURVEY RELATED.

      6. RIGHTS MAY EXIST.

      7–8. NOT SURVEY RELATED.

      9. SURVEY PROVIDED.

      10–14. NOT SURVEY RELATED.

      15. DRAINAGE EASEMENT AS DEFINED IN VOL 203 PAGE 267. DEPICTED ON SURVEY.

      16. ELECTRIC EASEMENT AS DEFINED IN VOL 203 PAGE 308 AND VOL 206 PAGE 662. DEPICTED ON SURVEY.

      17. MAP REFERENCED IN NOTE 2B OF SURVEY.

   B. MAP TITLED "RE–SUBDIVISION MAP #5336 PREPARED FOR JOHN P. CRETELLA NEW CANAAN, CONNECTICUT FOUR ACRE RESIDENCE ZONE TOTAL AREA (NEW LOTS ONLY) = 47.361 ACRES (EXCLUDING ROADWAY)", SCALE: 1"=100', DATED: JUNE 27, 1969

   C. MAP TITLED "MAP #6815 SHOWING EXCHANGE OF PROPERTY BETWEEN KENNETH G. TROPIN & KATHLEEN O. TROPIN AND JOHN E. COX & NANCY E. COX NEW CANAAN, CONNECTICUT", SCALE: 1"=100', DATED: JULY 13, 1993, BY: MOODY & O'BRIEN, SURVEYORS

   D. MAP TITLED "COMPILATION PLAN DEPICTING CONSOLIDATION OF PROPERTY AT ST. LUKE'S SCHOOL IN NEW CANAAN, CONNECTICUT PREPARED FOR ST. LUKE'S FOUNDATION INC.", SCALE: 1"=100', DATED: DECEMBER 14, 2010, BY: ROCCO V. D'ANDREA, INC., MAP #7522

   E. MAP TITLED "ZONING LOCATION SURVEY DEPICTING ST. LUKE'S SCHOOL LOCATED AT 377 NORTH WILTON ROAD IN NEW CANAAN, CONNECTICUT PREPARED FOR ST. LUKE'S FOUNDATION, INC." SCALE: 1"=100', DATED: JULY 1, 2010, LAST REVISED: AUGUST 9, 2017, BY: ROCCO V. D'ANDREA, INC., MAP #7726

3. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO CONNECTICUT STATE PLANE COORDINATE SYSTEM NAD 83 AS ESTABLISHED THROUGH GPS METHODS.

4. ELEVATIONS SHOWN ARE REFERENCED TO NAVD 88 ESTABLISHED THROUGH GPS METHODS.

5. PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN CT, INC. FIELD WORK COMPLETED DURING THE MONTH OF MAY 2019.

6. AS PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP ENTITLED "FAIRFIELD COUNTY, CONNECTICUT, PANEL 378 OF 626, MAP NUMBER: 09001C0378F, EFFECTIVE DATE: JUNE 18, 2010" THE PROJECT AREA IS IN ZONE X (UNSHADED).

7. UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES/CATCH BASINS, ETC). CONDITIONS CAN VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND LOCATIONS WHERE DATA IS OBTAINED. DESPITE MEETING THE REQUIRED STANDARD OF CARE, THE SURVEYOR CANNOT, AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES.

8. ADDITIONAL UTILITY (WATER, GAS, ELECTRIC ETC.) DATA MAY BE SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING STRUCTURES, AND/OR FROM EXISTING DRAWINGS.

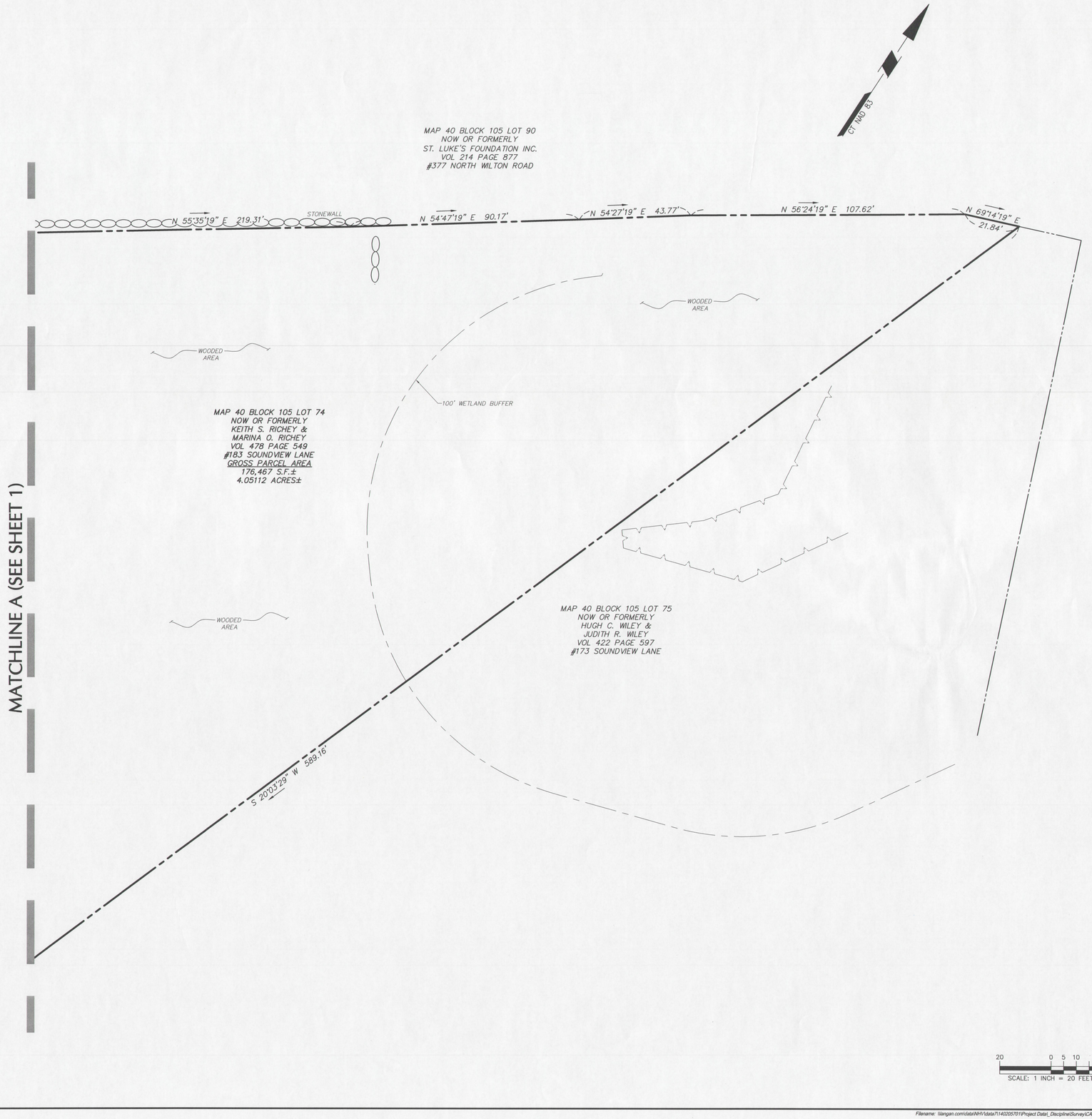
9. UNLESS SPECIFICALLY NOTED HEREON, THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEES THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON.

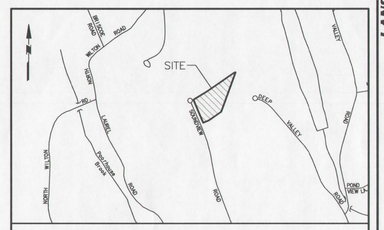
10. ALL BUILDINGS AND STRUCTURES WERE LOCATED AND MEASURED AT GROUND LEVEL. THE SURVEYOR MAKES NO DETERMINATIONS OR GUARANTEES AS TO THE ABSENCE, EXISTENCE OR LOCATION OF UNDERGROUND STRUCTURES, FOUNDATIONS, FOOTINGS, PROJECTIONS, WALLS, TANKS, SEPTIC SYSTEMS, ETC. NO TEST PITS, EXCAVATIONS OR GROUND PENETRATING RADAR WERE PERFORMED AS PART OF THIS SURVEY.

11. WETLANDS WERE DELINEATED IN JUNE 2019 BY ALL–POINTS TECHNOLOGY CORP., P.C.

12. PRIOR TO ANY DESIGN OR CONSTRUCTION, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.

13. THIS SURVEY IS NOT VALID WITHOUT THE EMBOSSED OR INKED SEAL OF THE PROFESSIONAL.





PROJECT LOCATION MAP
SCALE: 1"=1000'
SOURCE: CONNECTICUT DEPARTMENT OF TRANSPORTATION

STATE OF CONNECTICUT
ANDREW G. IVES
NO. 70286
LICENSED LAND SURVEYOR

06/05/19	ADD WETLANDS INFORMATION	1
Date	Description	No.

REVISIONS

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

6/5/2019
ANDREW G. IVES — DATE SIGNED
PROFESSIONAL LAND SURVEYOR
CT STATE LIC. NO. 70286

LANGAN
Langan CT, Inc.
555 Long Wharf Drive
New Haven, CT 06511
T: 203.562.5771 F: 203.789.6142 www.langan.com

Project
183 SOUNDVIEW LANE
NEW CANAAN CONNECTICUT

Drawing Title
BOUNDARY & TOPOGRAPHIC SURVEY

Project No.	Drawing No.
140205701	VB102
Date: MAY 24, 2019	
Drawn By: JJS	
Checked By: AGI	Sheet 2 of 2

LANGAN
PROJECT NO. 140205701

Filename: I:\langan.com\data\NH\data7\140205701\Project Data_Discipline\Survey\CAD\Existing\140205701-V-EX0101.dwg Date: 6/5/2019 Time: 15:41 User: akapushinski Style Table: Langan.stb Layout: VB102

SITE AREAS & VOLUMES OF EARTHWORK

SITEWORK ENTAILS APPROXIMATELY NET 130 CUBIC YARDS OF FILL. THE COMPOUND AND ROADWAY WILL IMPORT APPROXIMATELY 60 CUBIC YARDS OF CLEAN BROKEN STONE. THE UTILITY TRENCH FROM THE DEMARC TO THE COMPOUND WILL EXCAVATE APPROXIMATELY 60 CUBIC YARDS OF MATERIAL THAT WILL BE USED TO BACKFILL THE TRENCH.

COMPOUND AREA SLOPES:
EXISTING - 10%
PROPOSED - 4.5%

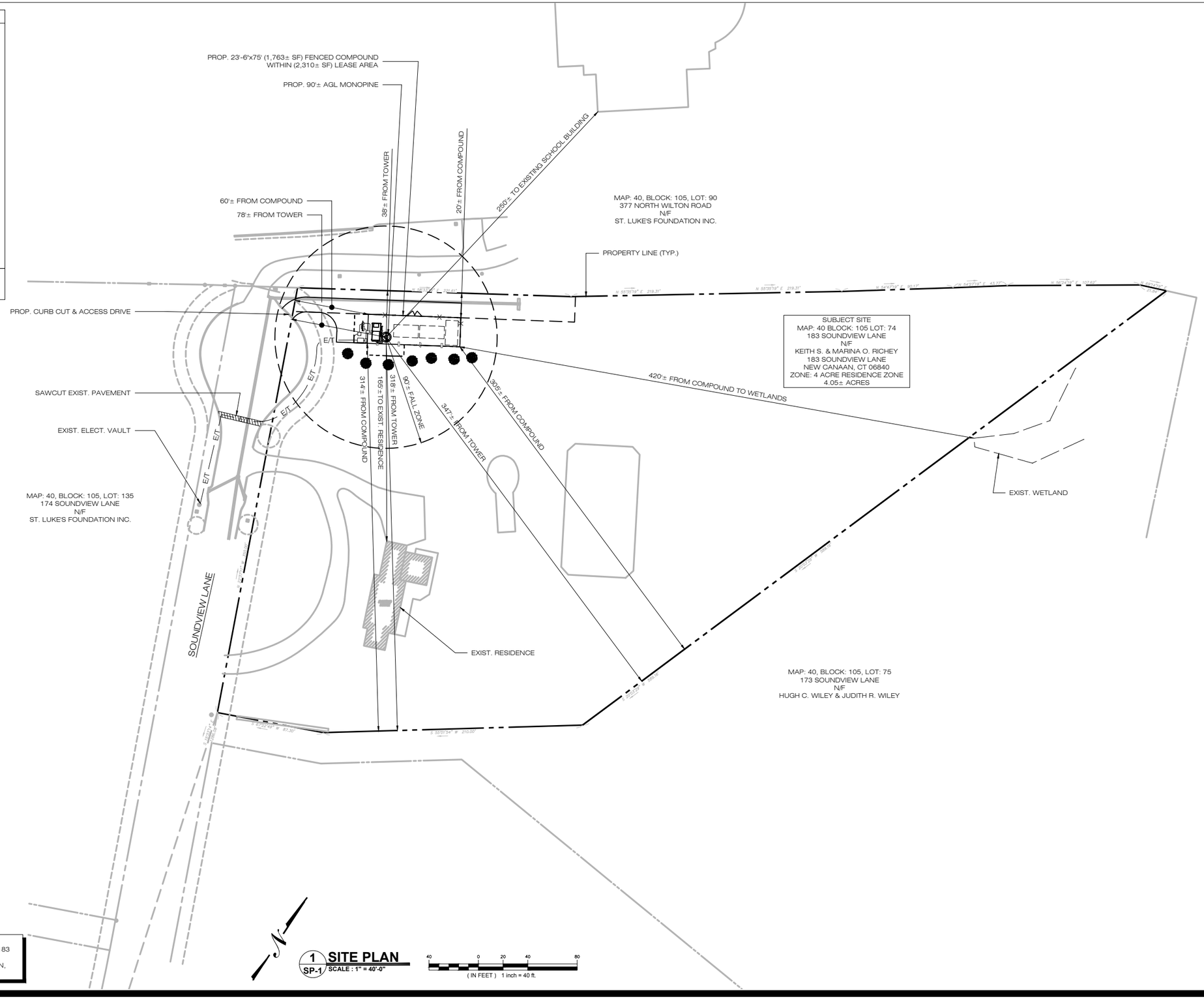
TOTAL AREA OF DISTURBANCE = 8,700± SF

STORMWATER VELOCITY:
PRIOR TO GROUND COVER < 3.0 FT/SEC
FOLLOWING GROUND COVER < 3.0 FT/SEC

STORMWATER VOLUME:
PROPOSED IMPERVIOUS AREA = 4,067 SF
WATER QUALITY STD VOLUME (1") = 339 CF
STORAGE VOLUME (6" DEPTH, 40% VOIDS) = 353 CF

GROUND COVER TO BE ESTABLISHED AS FOLLOWS (U.O.N):
- WHITE CLOVER @ 0.20#/- SF
- TALL FESCUE @ 0.45#/- SF
- RYEGRASS @ 0.10#/- SF

NOTE:
24 TREES WILL NEED TO BE REMOVED IN CONSTRUCTION OF THE FACILITY. (SEE 1/CP-1)



LEGEND

- PROPERTY LINE
- PROPERTY LINE (ABUTTERS)
- E/T — PROP. UNDERGROUND ELECTRICAL/TELCO.

MAP REFERENCES:
1. "VB-101 & 102, BOUNDARY & TOPOGRAPHIC SURVEY"; 183 SOUNDVIEW LANE, NEW CANAAN, CT; PREPARED BY LANGAN CT, INC. 555 LONG WHARF DRIVE, NEW HAVEN, CT 06511; DATED MAY, 24, 2019

1 SP-1 **SITE PLAN**
SCALE : 1" = 40'-0"

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

at&t
340 MOUNT KEMBLE AVENUE
MORRISTOWN, NEW JERSEY 07960

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	08/29/19	FOR REVIEW: RCB
1	09/04/19	CLIENT COMMENTS: RCB
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
NEW CANAAN NORTHEAST

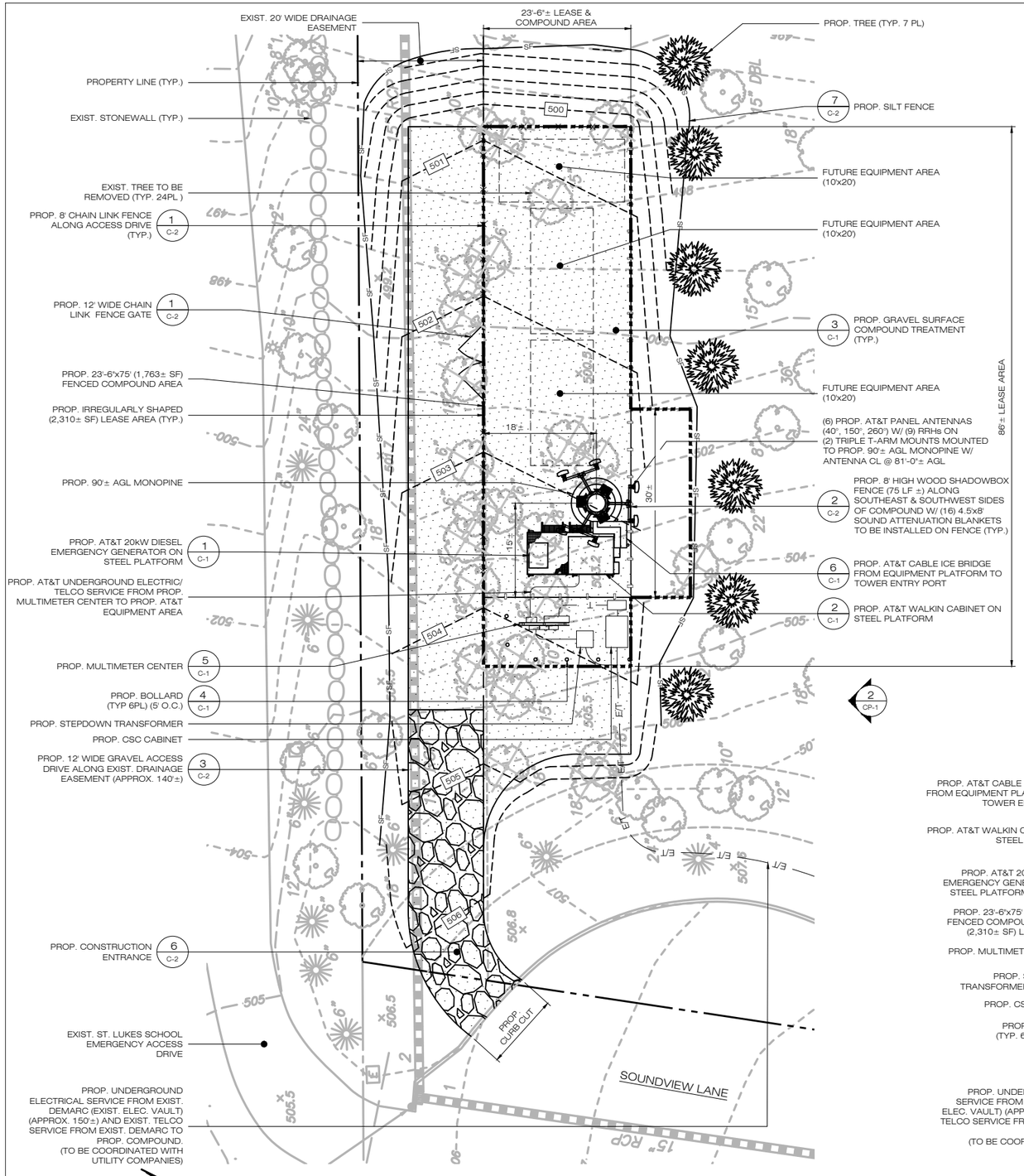
SITE ADDRESS: 183 SOUNDVIEW LANE NEW CANAAN, CT 06840

APT FILING NUMBER: CT283450

DATE: 08/29/19 | DRAWN BY: ELZ | CHECKED BY: RCB

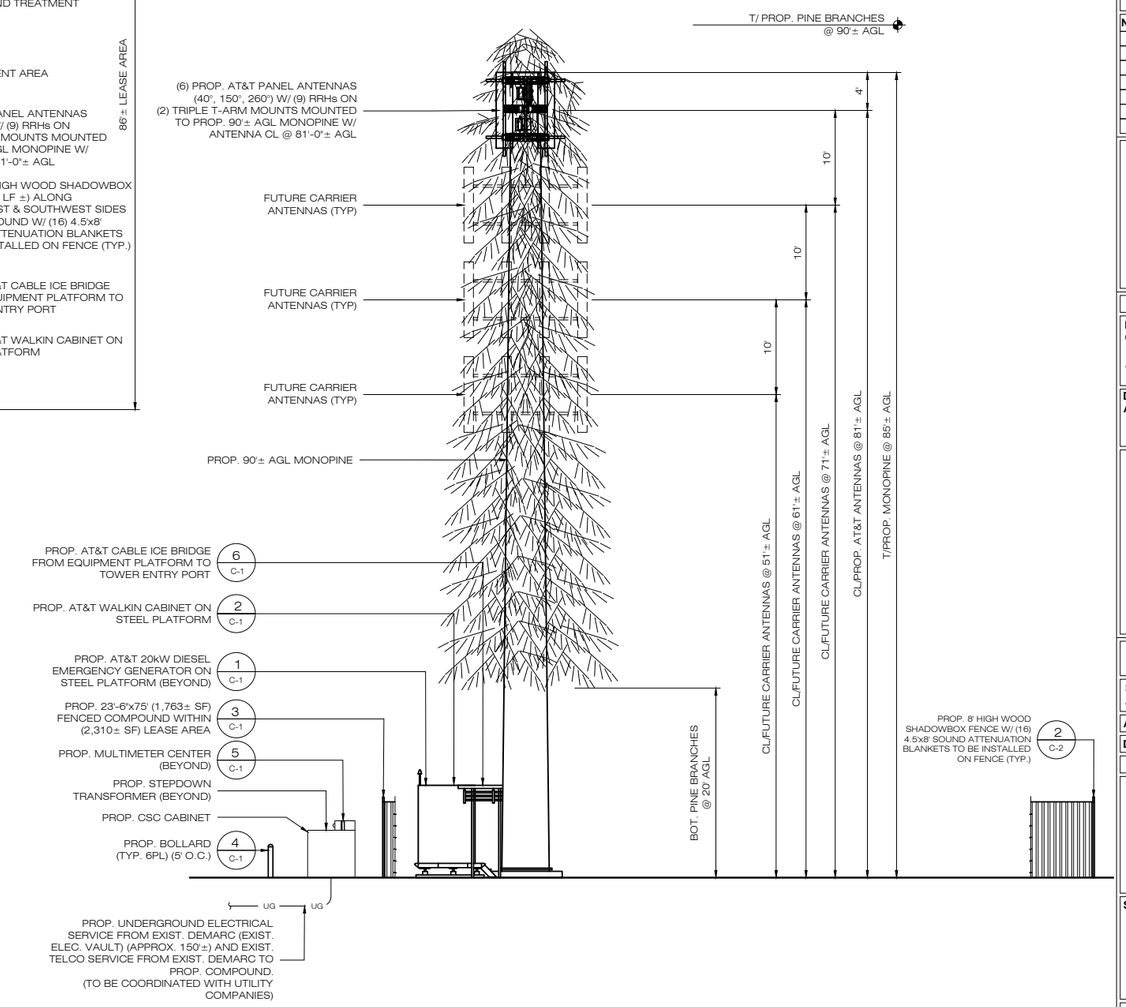
SHEET TITLE:
SITE PLAN & ABUTTERS MAP

SHEET NUMBER:
SP-1



1 CP-1 COMPOUND PLAN
SCALE : 1" = 10'-0"

10 0 5 10 20
(IN FEET) 1 inch = 10 ft.



2 CP-1 SOUTHEASTERN ELEVATION
SCALE : 1/8" = 1'-0"

8' 0 4' 8' 16'
⅛" SCALE: 1 INCH= 8'-0"

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

at&t

340 MOUNT KEMBLE AVENUE
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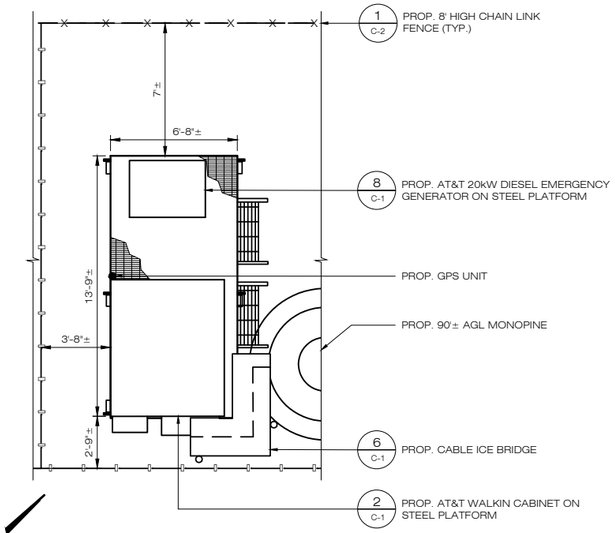
DATE: 08/29/19 | DRAWN BY: ELZ | CHECKED BY: RCB

SHEET TITLE:

COMPOUND PLAN & TOWER ELEVATION

SHEET NUMBER:

CP-1

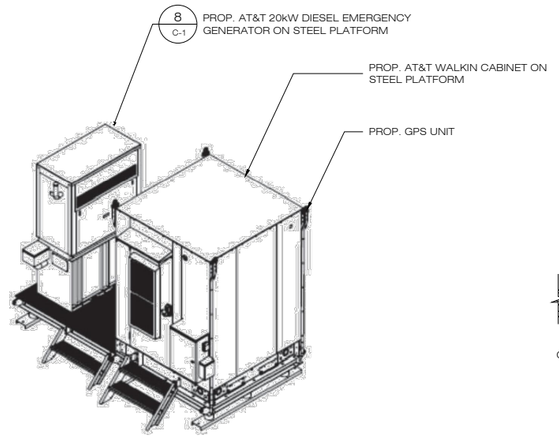


1 C-1 AT&T EQUIPMENT AREA

SCALE : ¼" = 1'-0"

4' 0 2' 4' 8'

¼" SCALE: 1 INCH= 4'-0"



2 C-1 AT&T WALKIN CABINET

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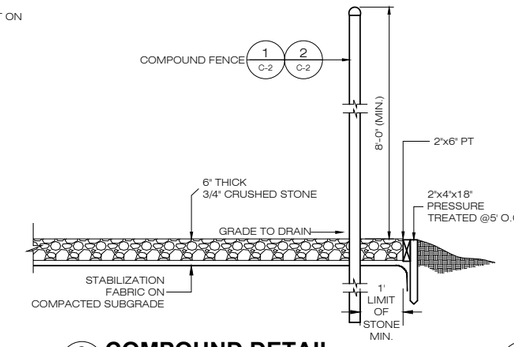
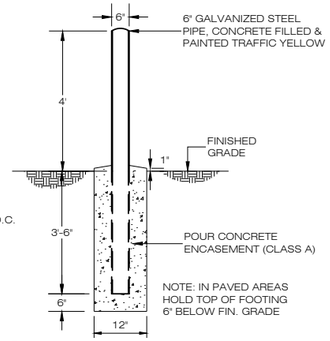


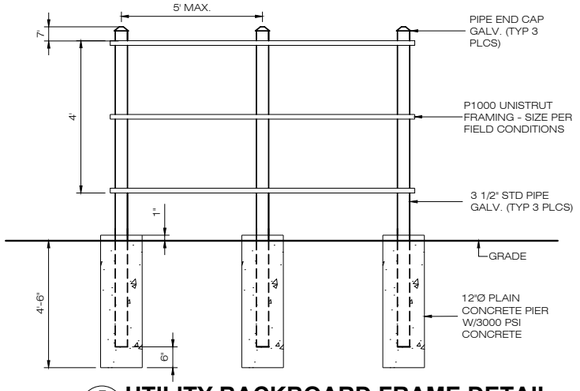
3 C-1 COMPOUND DETAIL

SCALE : N.T.S.



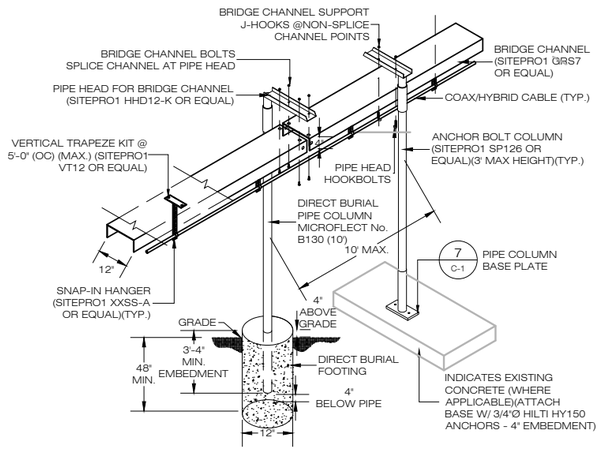
4 C-1 BOLLARD DETAIL

SCALE : N.T.S.



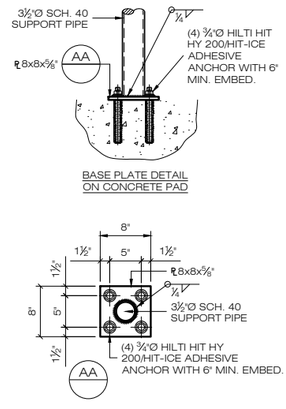
5 C-1 UTILITY BACKBOARD FRAME DETAIL

SCALE : N.T.S.



6 C-1 CABLE BRIDGE & COAX HANGER DETAIL

SCALE : N.T.S.



7 C-1 PIPE BASE PLATE

SCALE : N.T.S.

SDC20 | 2.5L | 20 kW - AC

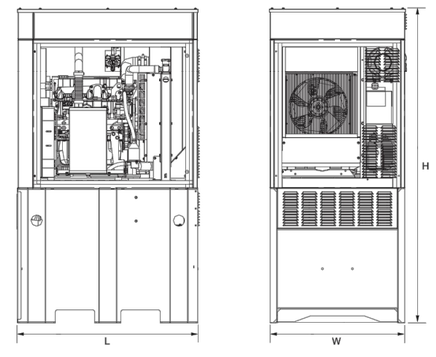
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

Model G007098-0 (Steel)

DIMENSIONS AND WEIGHTS*



Level 2 Sound Attenuation Enclosure

Run Time Hours	48
Usable Capacity Gal (L)	92 (348.2)
L x W x H in (mm)	48 x 36 x 90 (1219.2 x 914.4 x 2286)
Weight lbs (kg)	2400 (1089)
Sound Level	71 dBA

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Document No. 10000009019
Rev. WP 11/04/16

8 C-1 GENERATOR

SCALE : N.T.S.

SPEC SHEET

5 of 5

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

at&t

340 MOUNT KEMBLE AVENUE
MORRISTOWN, NEW JERSEY 07960

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	08/29/19	FOR REVIEW: RCB
1	09/04/19	CLIENT COMMENTS: RCB
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
NEW CANAAN NORTHEAST

SITE ADDRESS: 183 SOUNDVIEW LANE NEW CANAAN, CT 06840

APT FILING NUMBER: CT283450

DATE: 08/29/19 | DRAWN BY: ELZ | CHECKED BY: RCB

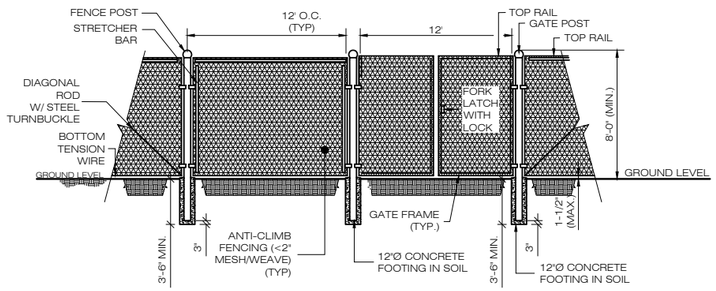
SHEET TITLE:

SITE DETAILS

SHEET NUMBER:

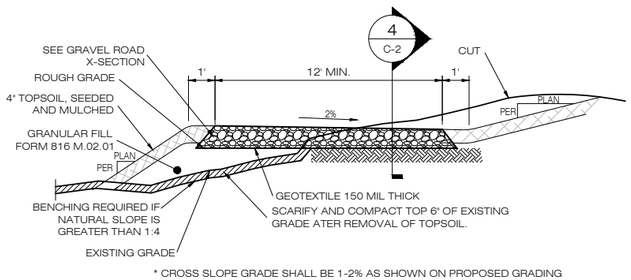
C-1

NOTE: CHAINLINK FENCE INSTALLED ALONG EASTERN, NORTHEAST AND NORTHWEST SIDES OF COMPOUND (100LF ±, INCLUDING GATE)



1 C-2 CHAIN-LINK FENCING & FENCE GATE DETAIL

SCALE : N.T.S.



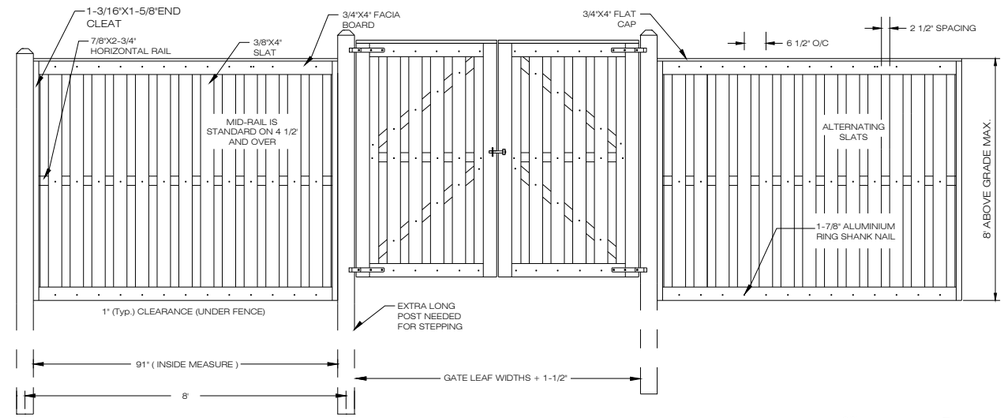
* CROSS SLOPE GRADE SHALL BE 1-2% AS SHOWN ON PROPOSED GRADING

* WHERE CUT OR FILL EMBANKMENTS ARE STEEPER THAN 3:1 USE A STAPLED IN PLACE, BIODEGRADABLE EROSION CONTROL BLANKET OR A BONDED FIBER MATRIX HYDROSEED APPLICATION.

3 C-2 TYPICAL ROAD CROSS SECTION

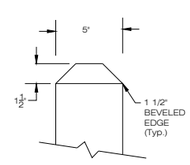
SCALE : NTS

NOTE: SHADOWBOX FENCE INSTALLED ALONG SOUTHEAST AND SOUTHWEST SIDE OF COMPOUND (100LF ±)



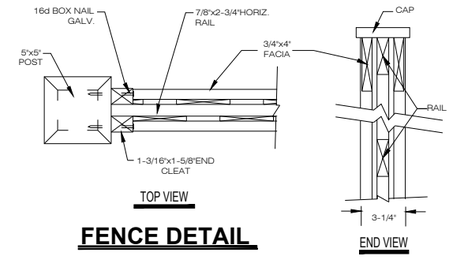
SECTION-FRAME SIDE

DOUBLE GATE FRAME SIDE

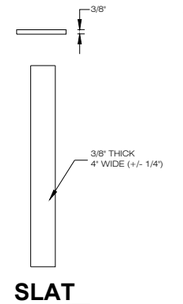


POST

(ROUGH SAWN)



FENCE DETAIL



SLAT

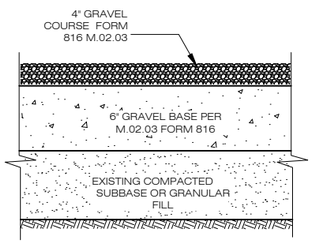
FENCE POST

(ROUGH SAWN)

2 C-2 SHADOWBOX FENCE

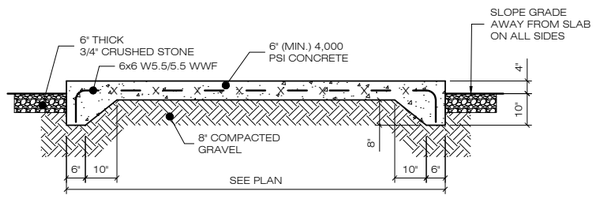
Typ. 8' Section Length - Northern White Cedar

SCALE : N.T.S.



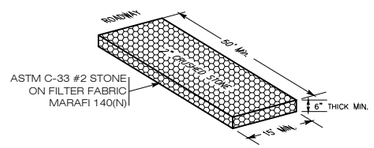
4 C-2 GRAVEL ROAD SECTION

SCALE : NTS



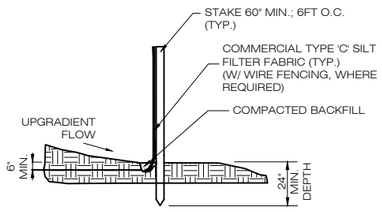
5 C-2 EQUIPMENT PAD

SCALE : N.T.S.



6 C-2 (CE) CONSTRUCTION ENTRANCE DETAIL

SCALE : NTS



7 C-2 GEOTEXTILE SILT FENCE DETAIL

SCALE : NTS

HOMELAND TOWERS, LLC
9 HARMONY STREET
2nd FLOOR
DANBURY, CT 06810
(203) 297-6345

at&t

340 MOUNT KEMBLE AVENUE
MORRISTOWN, NEW JERSEY 07960

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

PERMITTING DOCUMENTS

NO	DATE	REVISION
0	08/29/19	FOR REVIEW: RCB
1	09/04/19	CLIENT COMMENTS: RCB
2		
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4		
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6		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 3 SADDLEBROOK DRIVE KILLINGWORTH, CT 06419

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS
NEW CANAAN NORTHEAST

SITE ADDRESS: 183 SOUNDVIEW LANE NEW CANAAN, CT 06840

APT FILING NUMBER: CT283450

DATE: 08/29/19 DRAWN BY: ELZ

CHECKED BY: RCB

SHEET TITLE:

SITE DETAILS

SHEET NUMBER:

C-2

Facilities and Equipment Specification

I. TOWER SPECIFICATIONS:

A. MANUFACTURER: To be determined

B. TYPE: Self-Supporting monopine tower

C. HEIGHT: 85' AGL (with 5' faux branches extending to 90')

DIMENSIONS: Tower structure tapered

D. TOWER LIGHTING: None required.

II. TOWER LOADING:

A. AT&T - up to 6 panel antennas

a. Model - TBD

b. Antenna Dimensions - approximately 96"H x 12"W x 9"D

c. Position on Tower - 81' centerline AGL

d. Transmission Lines - DC and Fiber lines internal to tower.

e. (9) Remote Radio Units on proposed antenna mounts

B. Future Carriers - To be determined

III. ENGINEERING ANALYSIS AND CERTIFICATION:

The tower will be designed in accordance with American National Standards Institute TIA/EIA-222-G "Structural Standards for Steel Antenna Towers and Antenna Support Structures" and the 2012 International Building Code with 2016 Building Code Amendment. The foundation design would be based on soil conditions at the site. The details of the tower and foundation design will be provided as part of the final D&M plan.

ALL-POINTS TECHNOLOGY CORPORATION

Site Impact Statement

Site: **New Canaan NE CT027**
Site Address: **183 Soundview Lane**
New Canaan, CT 06840

Access distances:
Distance of proposed gravel access driveway: (140'+/-).

Distance to Nearest Wetlands
420'+/- east of the proposed compound.

Distance to Property Lines:
38'+/- to the northern property boundary from the tower
318'+/- to the southern property boundary from the tower
78'+/- to the western property boundary from the tower
347'+/- to the eastern property boundary from the tower

20'+/- to the northern property boundary from the compound
314'+/- to the southern property boundary from the compound
60'+/- to the western property boundary from the compound
305'+/- to the eastern property boundary from the compound

Residence Information:
There are 8 single family residences within 1,000' feet of the compound. The closest off site residence is approximately 360 feet to the east and is located at Parcel 40-105-75 (173 Soundview Lane).

Special Building Information:
None.

Tree Removal Count:
24 trees need to be removed to improve the access driveway and construct the compound area.

6" - 10"dbh	12 trees
10" – 14"dbh	3 trees
14" or greater dbh	9 trees

Cut/Fill: The site improvements shall entail approximately 60 CY of cut for utility trenching and net 130 CY of fill for the construction of the compound and access driveway. Approximately 60 CY of broken stone is needed for the compound and driveway construction.

Clearing/Grading Necessary: Total area of disturbance = 8,700+/- SF

ALL-POINTS TECHNOLOGY CORPORATION

Tree Inventory

August 29, 2019

Cuddy & Feder, LLP
Attn: Lucia Chiocchio
445 Hamilton Avenue
14th Floor
White Plains, NY 10601

RE: Tree Inventory
Site: New Canaan NE CT027
183 Soundview Lane
New Canaan, CT 06840

Dear Ms. Chiocchio:

A Tree Inventory was completed at the subject site on May 24, 2019 to determine the size and quantity of existing trees that will need to be removed for the installation of the proposed facility. The proposed site will require clearing and earthwork to construct the access driveway and to construct the compound area. Installation of the proposed compound area and access driveway will require the removal of 24 trees.

6" – 10" dbh	- 12 tree
10" – 14"dbh	- 3 trees
14" or greater dbh	- 9 trees

The area to be disturbed for construction of the compound area will be approximately 2,310 square feet of interior area currently vacant. A new access driveway will be installed to connect to the proposed compound. The total combined area of disturbance for compound, access drive, and utility improvements is 8,700 sf.

Sincerely,

ALL-POINTS TECHNOLOGY CORPORATION, P.C.

Robert C. Burns, P.E.
Program Manager

Homeland Towers
New Canaan NE - 183 Soundview Lane
1,000' RESIDENTIAL BUILDING LIST
(Information gathered from Town of New Canaan Online Assessor Database)

PARCEL ID	STREET ADDRESS	BUILDING TYPE	BUILDING DISTANCE FROM COMPOUND (ft)
40-105-19	158 DEEP VALLEY ROAD	SINGLE FAMILY	823
40-105-20	182 DEEP VALLEY ROAD	SINGLE FAMILY	700
40-105-21	196 DEEP VALLEY ROAD	SINGLE FAMILY	878
40-105-71	144 SOUNDVIEW LANE	SINGLE FAMILY	670
40-105-75	173 SOUNDVIEW LANE	SINGLE FAMILY	360
40-105-76	155 SOUNDVIEW LANE	SINGLE FAMILY	478
40-105-79	131 SOUNDVIEW ROAD	SINGLE FAMILY	850
40-105-136	627 LAUREL ROAD	SINGLE FAMILY	587

SECTION 4

Environmental Assessment Statement

I. PHYSICAL IMPACT

A. WATER FLOW AND QUALITY

A wetland delineation was conducted at the site and there were no wetlands identified in or immediately adjacent to the proposed access drive or facility compound. There are off-site wetlands located approximately 420' east of the proposed compound. Proposed sedimentation and erosion controls will be designed, installed and maintained during construction activities in accordance with the 2002 Connecticut Guidelines For Soil Erosion and Sediment Control which will minimize temporary impacts. No wetlands or inland waterways will be impacted by the proposed facility.

B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used at the proposed facility would emit no air pollutants of any kind. An emergency backup power diesel generator would be exercised once a week and comply with the CT DEEP "permit by rule" criteria pursuant to R.C.S.A. §22a-174-3b.

C. LAND

Approximately 24 trees will need to be removed in order to construct the compound and the new access drive. The total area of clearing and grading disturbance will be approximately 8,700 s.f. The remaining land of the lessor would remain unchanged by the construction and operation of the facility.

D. NOISE

The equipment to be in operation at the facility would not emit noise other than that provided by the operation of the installed heating, air-conditioning and ventilation system. Some construction related noise would be anticipated during facility construction, which is expected to take approximately four to six weeks.

Temporary power outages could involve sound from the emergency generator which is tested weekly.

E. POWER DENSITY

The cumulative worst-case calculation of power density from AT&T's operations at the facility would be 23.87% of the federal MPE standard. Attached is a copy of a Radio Frequency Emissions Analysis Report for the facility.

F. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

Homeland Towers consulted with the CT State Historic Preservation Office ("SHPO") and the SHPO confirmed that the project will have no adverse effect on any on listed or eligible historic resources or identified archaeological sites. A copy of the SHPO determination is enclosed. Homeland Towers will complete the recommended cultural resources assessment and reconnaissance survey noted in the determination.

The facility site is not located within 0.25 mile of any locations identified on the DEEP Natural Diversity Data Base ("NDDB") maps as areas that represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. Thus, consultation with the DEEP is not required.

G. SCHOOLS/DAY CARE CENTERS

The nearest school building is located +/- 250' from the Host Property: St. Luke's School at 377 North Wilton Road in New Canaan, which abuts the site parcel to the north. There are no day care centers located within 250' of the tower site.

WETLAND INSPECTION

July 11, 2019 **APT Project No.: CT283450**

Prepared For: Homeland Towers
9 Harmony Street
Danbury, CT 06810

HLT Site Name: New Canaan Northeast: CT027

Site Address: 183 Soundview Lane
New Canaan, Connecticut

Date(s) of Investigation: 5/30/2019

Field Conditions: **Weather:** partly cloudy**,** low 60's
Soil Moisture: dry to moist

Wetland/Watercourse Delineation Methodology*:

☒Connecticut Inland Wetlands and Watercourses
☐Connecticut Tidal Wetlands
☐U.S. Army Corps of Engineers

The wetlands inspection was performed by†:

Matthew Gustafson, Registered Soil Scientist

Enclosures: Wetland Delineation Field Form & Wetland Inspection Map

This report is provided as a brief summary of findings from APT's wetland investigation of the referenced study area that consists of proposed development activities and areas generally within 200 feet.‡ If applicable, APT is available to provide a more comprehensive wetland impact analysis upon receipt of site plans depicting the proposed development activities and surveyed location of identified wetland and watercourse resources.

* *Wetlands and watercourses were delineated in accordance with applicable local, state and federal statutes, regulations and guidance.*

† *All established wetlands boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.*

‡ *APT has relied upon the accuracy of information provided by Homeland Towers regarding proposed lease area and access road/utility easement locations for identifying wetlands and watercourses within the study area.*

Attachments

- Wetland Delineation Field Form
- Wetland Inspection Map

Wetland Delineation Field Form

Wetland I.D.:	Wetland 1	
Flag #'s:	WF 1-01 to 1-07	
Flag Location Method:	Site Sketch ☒	GPS (sub-meter) located ☒

WETLAND HYDROLOGY:

NONTIDAL ☒

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☒	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☒	Seasonally Saturated - perched ☐
Comments: None		

TIDAL ☐

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: None		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: None		

CLASS:

Emergent ☐	Scrub-shrub ☐	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☐
Comments: None		

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☒	Tidal ☐
Watercourse Name: Unnamed		
Comments: Interior intermittent watercourse channel consists of a 2- to 3-foot wide channel with a sandy bottom draining east off site. This watercourse is fed by a naturally occurring spring/seep outbreak focused within a narrow channel by a historically constructed stone confinement.		

Wetland Delineation Field Form (Cont.)

SPECIAL AQUATIC HABITAT:

Vernal Pool Yes ☐ No ☒ Potential ☐	Other ☐
Vernal Pool Habitat Type: None	
Comments: None	

SOILS:

Are field identified soils consistent with NRCS mapped soils?	Yes ☒	No ☐
If no, describe field identified soils		

DOMINANT PLANTS:

Green Ash (Fraxinus pennsylvanica)	American Elm (Ulmus americana)
Red Maple (Acer rubrum)	Skunk Cabbage (Symplocarpus foetidus)
Spicebush (Lindera benzoin)	Japanese Barberry* (Berberis thunbergii)

* denotes Connecticut Invasive Species Council invasive plant species

GENERAL COMMENTS:

All-Points Technology Corp., P.C. ("APT") understands that Homeland Towers is proposing to construct a wireless telecommunications facility that would consist of an 90-foot-tall monopole structure within an 23-foot by 6-inch by 75-foot gravel compound in the northwest corner of the developed residential subject parcel. This compound would host additional ground equipment including a shelter surrounded by a fence. The facility would be directly accessed off Soundview Drive via a proposed short gravel access road. The proposed facility would be located approximately 420 feet west of the nearest wetland resource located along the northeastern subject parcel boundary.

Wetland 1 consists of a closed canopy forest naturally occurring spring seep outbreak that drains east off the subject parcel. An interior intermittent watercourse was identified within the wetland resource. Wetland hydrology consists of seasonal saturation from the hillside seepage.

The proposed facility is not anticipated to result in an adverse impact to wetlands due to the distance separating the proposed work activities from Wetland 1. This preliminary assessment is based on the assumption that erosion and sedimentation controls would be designed, installed and maintained during construction in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control and stormwater would be properly treated in accordance with the 2004 Connecticut Stormwater Quality Manual. This statement is based on APT's current understanding of the proposed development, which did not include a review of final project site plans. Upon receipt of final site plans, APT will review specifics of the facility layout and determine if this preliminary wetland impact analysis statement should be modified and/or if additional wetland protection measures should be implemented.

Wetland Inspection Map
183 Soundview Lane
New Canaan, Connecticut

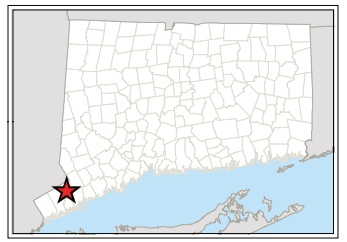
Legend

- Subject Property
- Approximate Parcel Boundary (CTDEEP)
- Proposed Lease Area
- Proposed Monopine
- Proposed Compound Fence
- Wetland Flags
- Delineated Wetland Boundary
- Wetland Area

N
W E
S

100 50 0 100 Feet

1 in = 100 ft



ALL-POINTS TECHNOLOGY CORPORATION

Map Sources:

Ortho Base Map: CT ECO 2016 Aerial Imagery

Delineated Wetland Data: All-Points Tech. Corp. Field data; 05/30/2019

Proposed Design Data: All-Points Tech. Corp.; 06/25/2019

Map Date: June 2019

C:\Users\Erin\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Homeland Towers\New Canaan NE\mxd\New Canaan NE Wetland Inspection Map.mxd

C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
603-644-2800
support@csquaredsystems.com

Calculated Radio Frequency Exposure

CT2652

183 Soundview Lane, New Canaan, CT

September 19, 2019

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of AT&T antenna arrays on a new "monopine" tower located at 183 Soundview Lane, New Canaan, CT. The coordinates of the tower are 41° 11' 26.43" N, 73° 29' 42.16" W.

AT&T is proposing the following:

1) Install six (6) multi-band antennas (two per sector) to support its commercial LTE network and the FirstNet National Public Safety Broadband Network ("NPSBN").

This report considers the planned antenna configuration for AT&T[1] to derive the resulting % Maximum Permissible Exposure of its proposed installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

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 Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

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 milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

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 Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

[1] As referenced to AT&T's Radio Frequency Design Sheet updated 1/17/2019.

3. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65, and Connecticut Siting Council recommendations:

$$\text{Power Density} = \left(\frac{1.6^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2}\right) \text{X Off Beam Loss}$$

Where:

ERP = Effective Radiated Power

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

H = Horizontal Distance from antenna

V = Vertical Distance from radiation center of antenna

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not consider actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Calculation Results

Table 1 below outlines the power density information for the site. The proposed AT&T antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	% MPE
AT&T	81	739	1	2813	0.0180	0.4927	3.65%
AT&T	81	763	1	3014	0.0193	0.5087	3.79%
AT&T	81	885	1	3305	0.0211	0.5900	3.58%
AT&T	81	1900	1	5118	0.0327	1.0000	3.27%
AT&T	81	2100	1	8815	0.0564	1.0000	5.64%
AT&T	81	2300	1	6153	0.0394	1.0000	3.94%
						Total	**23.87%**

Table 1: Carrier Information

5. Conclusion

The above analysis concludes that RF exposure at ground level from the proposed site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using conservative calculation methods, the highest expected percent of Maximum Permissible Exposure at ground level is **23.87% of the FCC General Population/Uncontrolled limit**.

As noted previously, the calculated % MPE levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1 and ANSI/IEEE Std. C95.3.

Reviewed/Approved By: Martin Lavin
Sr. RF Engineer
C Squared Systems, LLC

September 19, 2019
Date

Attachment A: References

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

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

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

(A) Limits for Occupational/Controlled Exposure[2]

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[3]

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

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[2] 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

[3] 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

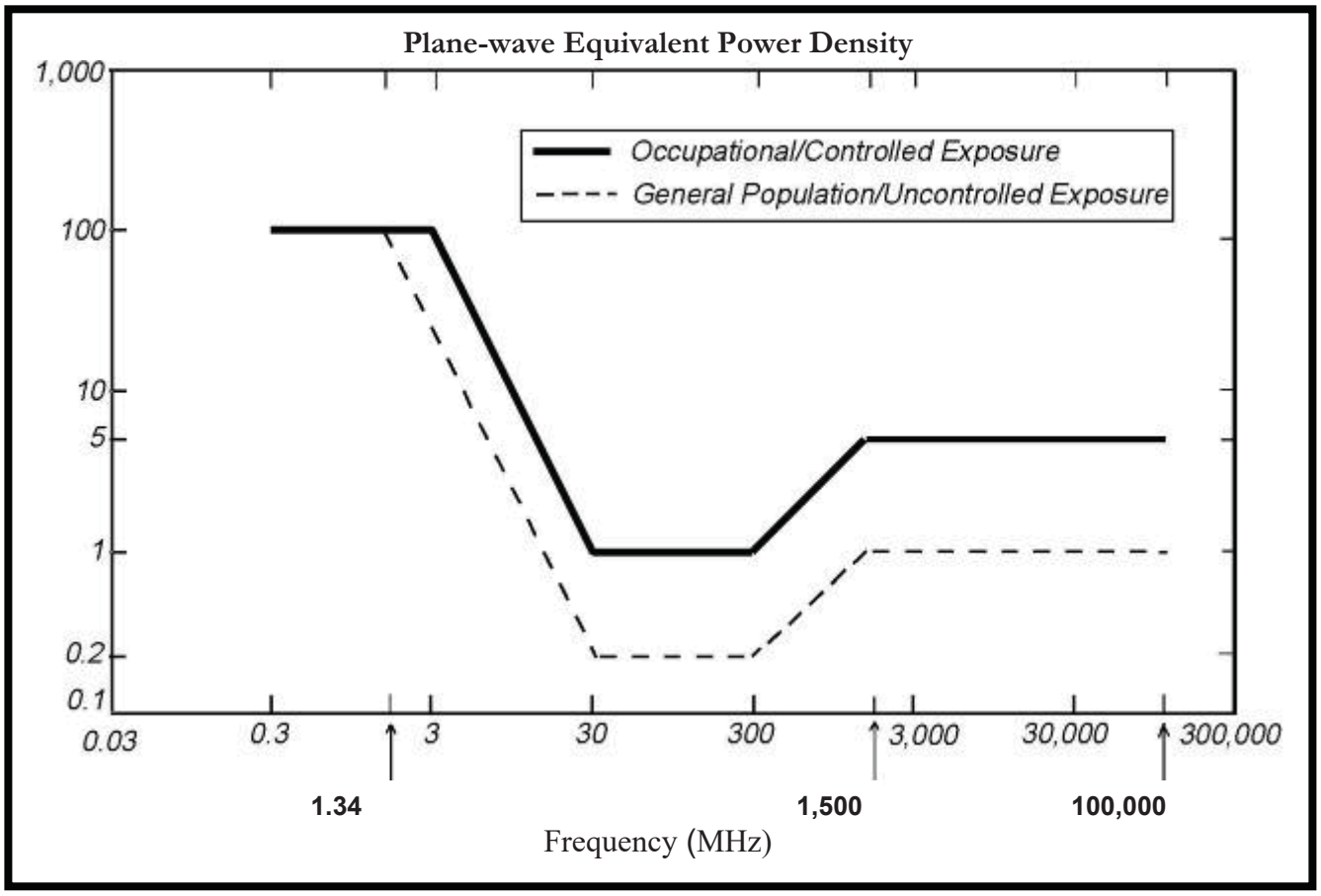
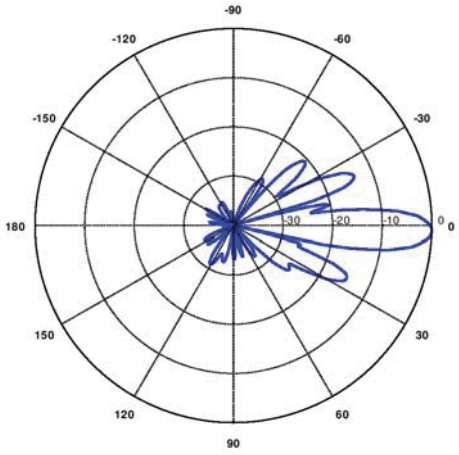


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

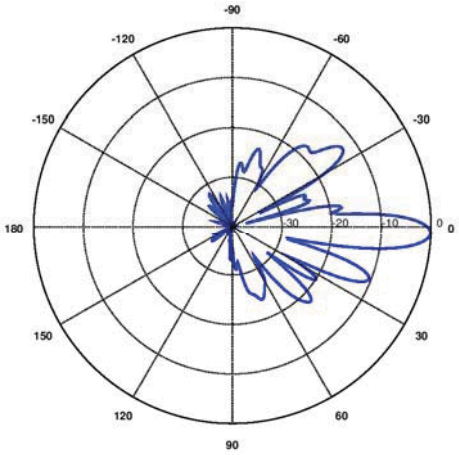
739/763 MHz

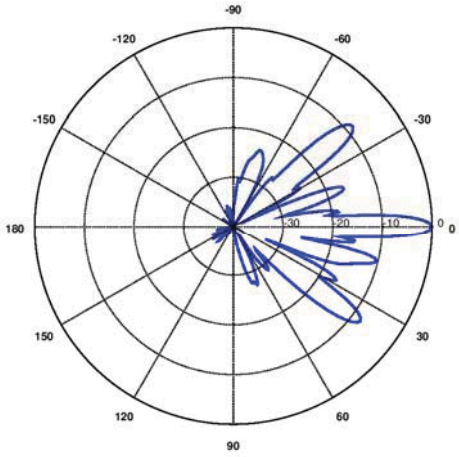
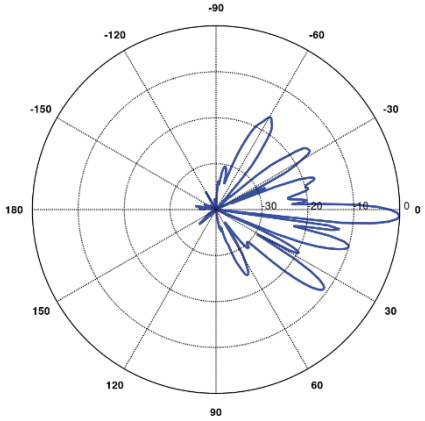
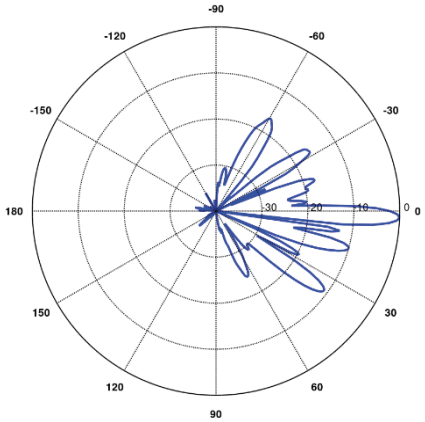
Manufacturer:	CCI
Model #:	TPA-65R-BU8D
Frequency Band:	698-806 MHz
Gain:	15.6 dBi
Vertical Beamwidth:	9.5°
Horizontal Beamwidth:	74°
Polarization:	±45°
Dimensions (L x W x D):	96.0” x 21.0” x 7.8”



885 MHz

Manufacturer:	CCI
Model #:	TPA-65R-BU8D
Frequency Band:	698-806 MHz
Gain:	16.6 dBi
Vertical Beamwidth:	8.0°
Horizontal Beamwidth:	63°
Polarization:	±45°
Dimensions (L x W x D):	96.0” x 21.0” x 7.8”



1900 MHz Manufacturer: CCI Model #: TPA-65R-BU8D Frequency Band: 1910-2180 MHz Gain: 18.1 dBi Vertical Beamwidth: 5.1° Horizontal Beamwidth: 67° Polarization: ±45° Dimensions (L x W x D): 96.0” x 21.0” x 7.8”	
2100 MHz Manufacturer: CCI Model #: TPA-65R-BU8D Frequency Band: 1920-2180 MHz Gain: 18.3 dBi Vertical Beamwidth: 4.7° Horizontal Beamwidth: 67° Polarization: ±45° Dimensions (L x W x D): 96.0” x 21.0” x 7.8”	
2300 MHz Manufacturer: CCI Model #: TPA-65R-BU8D Frequency Band: 2300-2400 MHz Gain: 18.0 dBi Vertical Beamwidth: 4.1° Horizontal Beamwidth: 62° Polarization: ±45° Dimensions (L x W x D): 96.0” x 21.0” x 7.8”	

Connecticut

Department of Economic and Community Development

State Historic Preservation Office

September 13, 2019

Mr. Lucas Karmazinas
c/o All Points Technology Corp.
3 Saddlebrook Drive
Killingworth, CT 06419

Subject: Proposed Wireless Telecommunications Facility
183 Soundview Lane
New Canaan, CT
Homeland Towers, LLC
ENV-20-0192

Dear Mr. Karmazinas:

The State Historic Preservation Office (SHPO) has reviewed the information submitted by All Points Technology Corp. (All Points) dated September 9, 2019. The proposed activities are subject to review by this office pursuant to the National Historic Preservation Act and in accordance with Federal Communications Commission regulations. SHPO understands that the proposed undertaking includes the installation of a 90 foot tall "monopine" within a 23.5 foot by 86 foot chain-link equipment compound, located in the northern portion of the Subject Property. A 12 foot wide gravel access drive is proposed to lead from the compound west to Soundview Lane. Utilities would be routed from a existing electrical vault on the property.

No previously identified archaeological sites are located within 0.5 miles of the project area. Three properties listed or determined eligible for listing on the National Register of Historic Places are located within 0.5 miles of the project area: the John Black Lee House (NR# 10000568), the Charles and Peggy Murphy House (NR# 10000563) and the Landis Gores House (NR# 02000189); however, they will not be impacted by the proposed undertaking. One property, the Town Farm/Poor Farm, located at 485 and 500 Laurel Road, does appear potentially eligible for listing on the National Register under Criterion A for its association as an intact, municipally-owned farm for the community's indigent in the 19th and early 20th century. However, it will not be adversely impacted by the undertaking due to distance and intervening foliage

A review of historical maps and aerial images revealed that the Subject Property remained a wooded and undeveloped parcel. Soil profiles of the area contain Paxton and Montauk series soils, characterized as low sloped, and well drained. A pedestrian survey completed in August 2019 confirmed that the parcel has remained wooded and largely undisturbed, with few rock outcroppings. This type of setting retains a moderate to high degree to contain intact archaeological deposits.

We therefore concur that a Phase IB professional cultural resources assessment and reconnaissance survey that includes subsurface testing techniques be completed in areas identified as having moderate to high archaeological sensitivity and will be impacted by the proposed project prior to construction. All work should be in compliance with our *Environmental Review Primer for Connecticut's Archaeological Resources* and no construction or other project-related ground disturbance should be initiated until SHPO has had an opportunity to review and comment upon the requested survey.

The State Historic Preservation Office appreciates the opportunity to review and comment upon this project. These comments are provided in accordance with the Connecticut Environmental Policy Act and Section 106 of the National Historic Preservation Act. For further information please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or marena.wisniewski@ct.gov.

Sincerely,

Mary B. Dunne
State Historic Preservation Officer

C:\Users\Erin\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Homeland Towers\New Canaan NE\mxd\New Canaan NE_NDDB_AttachmentA.mxd

Legend

- Site
- Municipal Boundary
- Natural Diversity Database (NDDB June2019)

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps:
Norwalk North (1975), CT
Map Scale: 1 inch =2,000 feet
Map Date: July 2019

2,000 1,000 0 2,000 Feet

NDDB
Attachment A: Overview Map

Proposed WirelessTelecommunications Facility
183 Soundview Lane
New Canaan, Connecticut

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

SECTION 5

Visibility Analysis

As set forth in detail in the enclosed Visual Assessment & Photo-Simulations report, areas where the tower site would be visible comprise approximately 35 acres of year-round visibility and approximately 10 acres of seasonal visibility. The combination of topography and mature trees in the immediate area surrounding the tower site minimize the extent of visibility beyond these areas. The year-round visibility beyond the immediacy of the tower site would be limited to locations at the northern portion of the Soundview Lane cul-de-sac, portions of the adjacent St. Luke's School campus and the John D. Milne Lake. Year-round views from the John D. Milne Lake comprise approximately 25 acres (over half of the year-round predicted visibility), primarily over open water.

Seasonal views ("leaf-off") increase the visibility of the tower site and will primarily occur along North Wilton Road near St. Luke's School. Views from nearby residential properties during leaf-off conditions should not increase substantially beyond the views depicted in the attached visual assessment.

Visual Assessment & Photo-Simulations

NEW CANAAN NORTHEAST:
CT027
183 SOUNDVIEW LANE
NEW CANAAN, CT 06840

Prepared For:

Homeland Towers
9 Harmony Street
2nd Floor
Danbury, CT 06810

Prepared By:

All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06419

May 2019

VISUAL ASSESSMENT REPORT

Homeland Towers is seeking approval for the development of a new wireless communications facility ("Facility") at 183 Soundview Lane in New Canaan, Connecticut ("Host Property"). At the request of Homeland Towers, All-Points Technology Corporation, P.C. ("APT") completed this assessment to evaluate the potential visual effects of the proposed Facility from within a two-mile radius (the "Study Area")

Project Undertaking

Homeland Towers plans to install the proposed Facility in the northwestern corner of the Host Property ("Site"). The Facility would include a ±85-foot tall monopole designed to resemble a pine tree ("monopine") at an approximate ground elevation of 500 feet Above Mean Sea Level ("AMSL"). Faux branches would extend approximately five feet above the top of the pole to provide a conical top, bringing the total Facility height to ±90 feet above ground level ("AGL"). Antenna arrays would be concealed within faux branching affixed to the monopole. The faux branches would extend to within ±20 feet of the ground surface. The monopine would be built within an approximate 23.5-foot by 75-foot gravel base, fenced equipment compound. The Facility has been designed to accommodate multiple service providers. Access to the Site would be gained from Soundview Lane over a new, 12-foot wide gravel base road.

Project Setting

The Host Property is located east of Soundview Lane at the end of the cul-de-sac. Generally, land use within the immediate vicinity of the Site is residential, with the St. Luke's School immediately to the north. Single-family residentially-developed properties are located east, west and south of the Host Property.

The topography throughout the Study Area is characterized as rolling hills. Ground elevations range from approximately 275 feet AMSL to 550 feet AMSL. The tree cover within the Study Area (consisting primarily of mixed deciduous hardwoods with interspersed stands of conifers) occupies approximately ±4,600 acres of the 8,042-acre Study Area (±57%).

Methodology

APT used the combination of a predictive computer model, in-field analysis, and a review of various data sources to evaluate the visibility associated with the proposed Facility on both a quantitative and qualitative basis. The predictive model provides a measurable assessment of visibility throughout the entire Study Area, including private properties and other areas inaccessible for direct observations. The in-field analyses included a crane test and field reconnaissance of the Study Area to record existing conditions, verify results of the model, inventory seasonal and year-round view locations, and provide photographic documentation from publicly accessible areas. A description of the procedures used in the analysis is provided below.

Preliminary Computer Modeling

To conduct this assessment, a predictive computer model was developed specifically for this project using ESRI's ArcMap GIS[1] software and available GIS data. The predictive model incorporates Project and Study Area-specific data, including the site location, its ground elevation and the proposed Facility height, as well as the surrounding topography, existing vegetation, and structures (the primary features that can block direct lines of sight).

A digital surface model ("DSM"), capturing both the natural and built features on the Earth's surface, was generated for the extent of the Study Area utilizing State of Connecticut 2016 LiDAR[2] LAS[3] data points. LiDAR is a remote-sensing technology that develops elevation data by measuring the time it takes for laser light to return from the surface to the instrument's sensors. The varying reflectivity of objects also means that the "returns" can be classified based on the characteristics of the reflected light, normally into categories such as "bare earth," "vegetation," "road," or "building." Derived from the 2016 LiDAR data, the LAS datasets contain the corresponding elevation point data and return classification values. The Study Area DSM incorporates the first return LAS dataset values that are associated with the highest feature in the landscape, typically a treetop, top of a building, and/or the highest point of other tall structures.

Once the DSM was generated, ESRI's Viewshed Tool was utilized to identify locations within the Study Area where the proposed Facility may be visible. ESRI's Viewshed Tool predicts visibility by identifying those cells[4] within the DSM that can be seen from an observer location (the proposed Facility). Cells where visibility was indicated were extracted and converted from a raster dataset to a polygon feature which was then overlaid onto an aerial photograph and topographic base map. Since the DSM includes the highest relative feature in the landscape, isolated "visible" cells are often indicated within heavily forested areas (e.g., from the top of the highest tree) or on building rooftops during the initial processing. It is recognized that these areas do not represent typical viewer locations and overstate visibility. As such, the resulting polygon feature is further refined by extracting those areas. The viewshed results are also cross-checked against the most current aerial photographs to assess whether significant changes (a new housing development, for example) have occurred since the time the LiDAR-based LAS datasets were captured.

The results of the preliminary analysis are intended to provide a representation of those areas where portions of the Facility *may* potentially be visible to the human eye without the aid of magnification, based on a viewer eye-height of five (5) feet above the ground and the combination of intervening topography, trees and other vegetation, and structures. However, the Facility may not necessarily be visible from all locations within those areas identified by the predictive model, which has limitations. For instance, it is important to note that the computer model cannot account for mass density, tree diameters and branching variability of trees, or the degradation of views that occur with distance. As a result, some areas depicted on the viewshed maps as theoretically offering potential visibility of the Facility may be over-predicted because the quality of those views is not sufficient for the human eye to recognize the Facility or discriminate it from other surrounding or intervening objects.

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[1] ArcMap is a Geographic Information System desktop application developed by the Environmental Systems Research Institute for creating maps, performing spatial analysis, and managing geographic data.

[2] Light Detection and Ranging

[3] An LAS file is an industry-standard binary format for storing airborne LiDAR data.

[4] Each DSM cell size is 1 square meter

Seasonal Visibility

Visibility also varies seasonally with increased, albeit obstructed, views occurring during "leaf-off" conditions. Beyond the variabilities associated with density of woodland stands found within any given Study Area, each individual tree also has its own unique trunk, pole timber and branching patterns that provide varying degrees of screening in leafless conditions which, as introduced above, cannot be precisely modeled. Seasonal visibility is therefore estimated based on a combination of factors including the type, size, and density of trees within a given area; topographic constraints; and other visual obstructions that may be present. Taking into account these considerations, areas depicting seasonal visibility on the viewshed maps are intended to represent locations from where there is a potential for views through intervening trees, as opposed to indicating that leaf-off views will exist from within an entire seasonally-shaded area.

To refine the estimate of seasonal visibility through the trees, forested areas were manually adjusted to eliminate 500-foot wide areas of vegetation surrounding the Facility and perimeters of forested areas with otherwise unimpeded aspects toward the site. This distance, although considered conservative, is based on 20+ years of field experience and observations, and assumes that a person standing within a forested area will not be able to discern an object like the Facility beyond 500 feet. Depending on the density of the intervening tree canopy and understory of the surrounding woodlands, it is assumed that some locations (but not all) within 500 feet could provide visibility of at least a portion of the Facility during "leaf-off" conditions.

Crane Test and Field Reconnaissance

To supplement and fine tune the results of the computer modeling efforts, APT completed in-field verification activities consisting of a crane test, vehicular and pedestrian reconnaissance, and photo-documentation. The crane test and field review were completed on April 17, 2019. The crane test consisted of positioning a crane at the proposed Facility location and extending the crane boom with a brightly-colored flag to the top height of the Facility (±90 feet AGL). This provided a fixed object unaffected by wind. Due to the density of trees at the proposed Facility location, the crane boom was positioned ±5-feet to the north/northwest of the proposed tower centerline. The photographic simulations were generated taking this factor into account and depict the proposed Facility at its correct location.

Once the crane boom was secured, APT conducted a Study Area reconnaissance by driving along the local and State roads and other publicly accessible locations to document and inventory where the boom/flag could be seen above and through the tree canopy. Visual observations from the reconnaissance were also used to evaluate the results of the preliminary visibility mapping and identify any discrepancies in the initial modeling.

Photographic Documentation

During the Study Area reconnaissance, APT obtained photo-documentation of representative locations where the boom/flag was visible. At each photo location, the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens.[5] APT typically uses a standard

[5] The Canon EOS 6D is a full-framed camera which includes a lens receptor of the same size as the film used in 35mm cameras. As such, the images produced are comparable to those taken with a conventional 35mm camera.

focal length of 50mm to present a consistent field of view. On occasion, photos are taken at lower focal lengths to provide a greater depth of field and context to the scene by including surrounding features within the photograph. During this evaluation, photos 3, 11 and 23 were taken at a 24mm focal length.

Photograph Locations

The table on the following page summarizes the photographs and simulations presented in the attachment to this report, and includes a description of each location, view orientation, the distance from where the photo was taken relative to the proposed Facility site, and the general characteristics of the view. The photo locations are depicted on the photolog and viewshed maps provided as attachments to this report.

Photographic Simulations

Photographic simulations were generated to portray scaled renderings of the proposed Facility from five (5) locations presented herein where the Facility may be recognizable above or through the trees. There were an additional four (4) specific locations from where the boom/flag was visible to APT staff during the reconnaissance. However, if constructed, the Facility would not be easily discernable as a tower due to the thickness of the trees in those locations and/or the distance from the Site. As a result, no simulations were prepared for these photographs. These photo locations have been assigned “Crane Visible Through Trees” designations on the photolog and viewshed maps.

Using field data, site plan information and 3-dimension (3D) modeling software, spatially referenced models of the site and Facility were generated and merged. The geographic coordinates obtained in the field for the photograph locations were incorporated into the model to produce virtual camera positions within the spatial 3D model. Photo simulations were then created using a combination of renderings generated in the 3D model and photo-rendering software programs, which were ultimately composited and merged with the existing conditions photographs (using Photoshop image editing software). The scale of the subjects in the photograph (the boom/flag) and its corresponding simulation (the Facility) are proportional to their surroundings.

For presentation purposes in this report, the photographs were produced in an approximate 7-inch by 10.5-inch format. When reproducing the images in this format size, we believe it is important to present the largest view while providing key contextual landscape elements (existing development, street signs, utility poles, etc.) so that the viewer can determine the proportionate scale of each object within the scene.

Photo-documentation of the field reconnaissance and photo-simulations of the proposed Facility are presented in the attachment at the end of this report. The field reconnaissance photos that include the boom/flag in the view provide visual reference points for the approximate height and location of the proposed Facility relative to the scene.

All simulations were created to represent the proposed Facility height of ±85 feet AGL, with the faux top extending up an additional ±5 feet. The photo-simulations are intended to provide the reader with a general understanding of the different view characteristics associated with the Facility from various locations. Photographs were taken from publicly-accessible areas and were chosen to present unobstructed view lines (wherever possible).

View	Location	Orientation	Distance to Site	Visibility
1	Osborn Lane	Northwest	±0.68 Mile	Not Visible
2	Valley Road at Deep Valley Road	West	±0.48 Mile	Not Visible
3	Deep Valley Road**	Northwest	±0.18 Mile	Not Visible
4	Colonial Road*	Southwest	±0.53 Mile	Crane Visible Through Trees
5	Colonial Road	Southwest	±0.58 Mile	Not Visible
6	Colonial Road*	Southwest	±0.60 Mile	Crane Visible Through Trees
7	Colonial Road*	Southwest	±0.58 Mile	Crane Visible Through Trees
8	Valley Road at Colonial Road	Southwest	±0.52 Mile	Not Visible
9	North Wilton Road at Lantern Ridge Road	Southwest	±0.86 Mile	Year Round
10	North Wilton Road	Southwest	±0.57 Mile	Not Visible
11	Cross Ridge Road at North Wilton Road^	South	±0.36 Mile	Not Visible
12	Cross Ridge Road*	Southeast	±0.52 Mile	Crane Visible Through Trees
13	Cross Ridge Road	South	±0.60 Mile	Not Visible
14	Sheridan Drive	Southeast	±0.92 Mile	Not Visible
15	Briscoe Road at Cross Ridge Road	Southeast	±0.73 Mile	Not Visible
16	Briscoe Road	Southeast	±0.36 Mile	Not Visible
17	Briscoe Road	Southeast	±0.32 Mile	Seasonal
18	North Wilton Road	Southeast	± 0.29 Mile	Year Round
19	North Wilton Road	Southeast	± 0.27 Mile	Seasonal
20	Soundview Lane	Northwest	± 0.36 Mile	Not Visible
21	Soundview Lane	Northwest	±0.25 Mile	Not Visible
22	Soundview Lane	North	±0.10 Mile	Not Visible
23	Soundview Lane^	North	±158 Feet	Year Round

**Photo-simulations were not prepared due to heavily obstructed views*

***Photograph was taken at 24 mm focal length but adjusted to 35 mm focal length*

^Photograph was taken at 24 mm focal length

Final Visibility Mapping

Information obtained during the field reconnaissance was incorporated into the mapping data layers, including observations of the field reconnaissance, the photo locations, areas that experienced recent land use changes and those places where the initial model was found to over or under-predict visibility. Once the additional data was integrated into the model, APT re-calculated the visibility of the proposed Facility from within the Study Area to assist in producing the final viewshed map.

Conclusions

Areas from where the Facility would be visible comprise ±35 acres of year-round visibility and ±10 acres of seasonal visibility. Cumulatively, this equals approximately 0.55% of the Study Area. As seen on the visibility maps, the year-round views beyond the immediacy of the Host Property would be limited to locations at the northern terminus of the Soundview Lane cul-de-sac, portions of the adjacent St. Luke's School campus and John D. Milne Lake. Year-round views from John D. Milne Lake comprise ±25 acres (±55% of the total year-round predicted visibility), primarily over open water. The combination of topography and presence of mature trees both in the immediate area of the Host Property and throughout much of the Study Area serves to minimize the extent of visibility beyond these areas.

Based on observations made during the field reconnaissance, it is evident that seasonal ("leaf-off") views from North Wilton Road near St. Luke's School will allow increased lines of sight to the Facility. Views from nearby residential properties should not increase substantially beyond the views depicted in the attachment.

Proximity to Schools And Commercial Child Day Care Centers

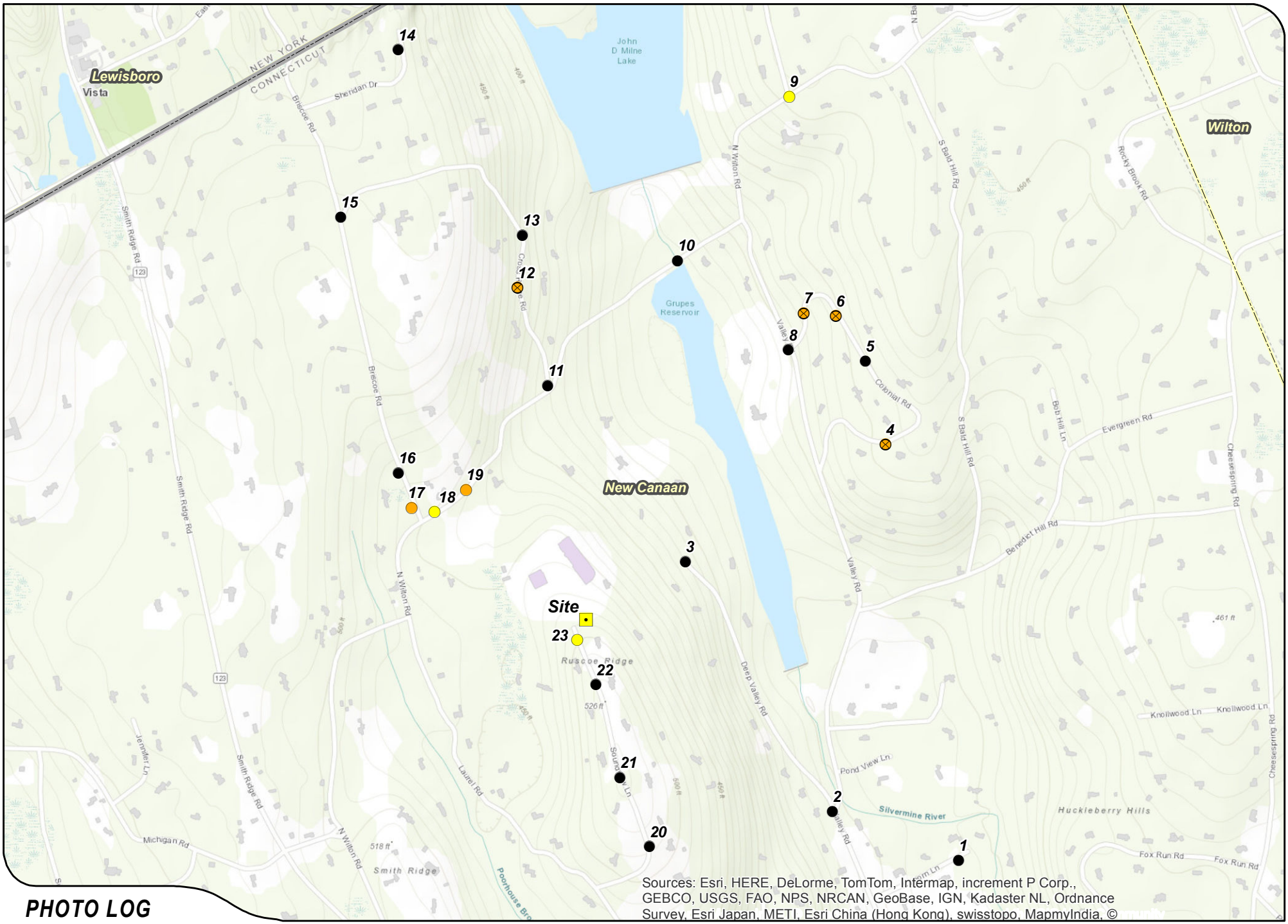
The nearest school building is located ±250 feet from the Host Property; St. Luke's School at 377 North Wilton Road in New Canaan, abuts the Host Property to the north. Year-round views are anticipated from the St. Luke's School campus, however, APT was not provided access to the campus during the field reconnaissance. There are no commercial child day care centers within 250 feet of the Host Property. The nearest commercial child day care center is Children's Day School of Wilton, located approximately 2.8 miles to the east at 111 Ridgefield Road in Wilton. No views of the Facility are anticipated from the Children's Day School in Wilton.

Limitations

The viewshed maps presented in the attachment to this report depict areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating 2016 aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

The photo-simulations provide a representation of the Facility under similar settings as those encountered during the field review and reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location. Weather conditions on the day of the field review included partly cloudy skies.

ATTACHMENTS



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © [illegible]

PHOTO LOG

Legend

- Site
- Visible
- Seasonal
- Balloon Visible Through Trees
- Not Visible
- Municipal Boundary
- State Boundary

1 inch = 1,000 feet

1,000 500 0 1,000 Feet

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**OSBORN LANE**	**NORTHWEST**	**+/- 0.68 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	**VALLEY ROAD AT DEEP VALLEY ROAD**	**NORTHWEST**	**+/- 0.48 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

35mm Focal Length

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**DEEP VALLEY ROAD**	**SOUTHWEST**	**+/- 0.18 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**COLONIAL ROAD**	**SOUTHWEST**	**+/- 0.53 MILE**	**CRANE VISIBLE THROUGH TREES**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**COLONIAL ROAD**	**SOUTHWEST**	**+/- 0.58 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**COLONIAL ROAD**	**SOUTHWEST**	**+/- 0.60 MILE**	**CRANE VISIBLE THROUGH TREES**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**COLONIAL ROAD**	**SOUTHWEST**	**+/- 0.58 MILE**	**CRANE VISIBLE THROUGH TREES**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**VALLEY ROAD AT COLONIAL ROAD**	**SOUTHWEST**	**+/- 0.52 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**NORTH WILTON ROAD AT LANTERN RIDGE ROAD**	**SOUTHWEST**	**+/- 0.86 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**NORTH WILTON ROAD AT LANTERN RIDGE ROAD**	**SOUTHWEST**	**+/- 0.86 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**NORTH WILTON ROAD**	**SOUTHWEST**	**+/- 0.57 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

24mm Focal Length

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**CROSS RIDGE ROAD AT NORTH WILTON ROAD**	**SOUTH**	**+/- 0.36 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**CROSS RIDGE ROAD**	**SOUTHEAST**	**+/- 0.52 MILE**	**CRANE VISIBLE THROUGH TREES**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**CROSS RIDGE ROAD**	**SOUTH**	**+/- 0.60 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**SHERIDAN DRIVE**	**SOUTHEAST**	**+/- 0.92 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**BRISCOE ROAD AT CROSS RIDGE ROAD**	**SOUTHEAST**	**+/- 0.73 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**BRISCOE ROAD**	**SOUTHEAST**	**+/- 0.36 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**BRISCOE ROAD**	**SOUTHEAST**	**+/- 0.32 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**BRISCOE ROAD**	**SOUTHEAST**	**+/- 0.32 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**NORTH WILTON ROAD**	**SOUTHEAST**	**+/- 0.29 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**NORTH WILTON ROAD**	**SOUTHEAST**	**+/- 0.29 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**NORTH WILTON ROAD**	**SOUTHEAST**	**+/- 0.27 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**NORTH WILTON ROAD**	**SOUTHEAST**	**+/- 0.27 MILE**	**SEASONAL**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
20	**SOUNDVIEW LANE**	**NORTHWEST**	**+/- 0.36 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
21	**SOUNDVIEW LANE**	**NORTHWEST**	**+/- 0.25 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**SOUNDVIEW LANE**	**NORTH**	**+/- 0.10 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

24mm Focal Length

PHOTOGRAPHED ON 4/17/2019

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**SOUNDVIEW LANE**	**NORTH**	**+/- 158 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**SOUNDVIEW LANE**	**NORTH**	**+/- 158 FEET**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

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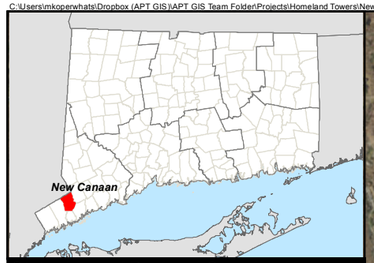
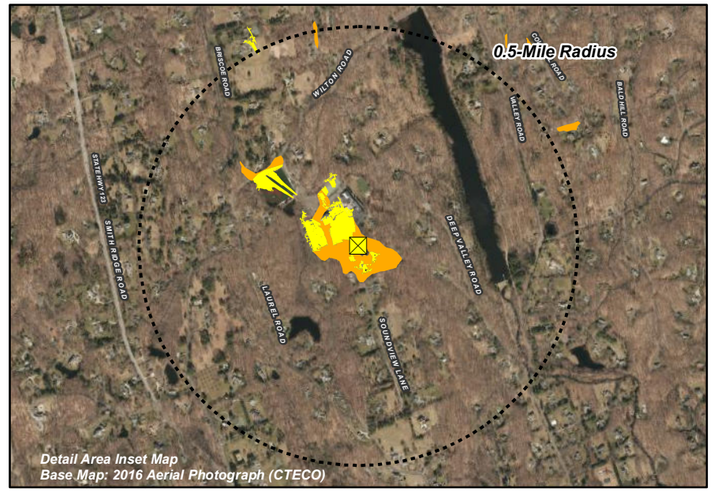


Statewide and Regional Overview Map



Viewshed Analysis Map

Proposed Wireless Telecommunications Facility
CT027 - New Canaan Northeast
183 Soundview Lane
New Canaan, Connecticut

Proposed facility height is 90 feet AGL.
Forest canopy height is derrived from LiDAR data.
Study area encompasses a two-mile radius and includes 8,042 acres of land.
Map information field verified by APT on April 11, 2019
Base Map Source: ESRI Aerial Imagery
Map Date: May 2019

Legend

- Proposed Site
- Study Area (2-Mile Radius)

Photo Locations (April 17, 2019)

- Not Visible
- Balloon Visible Through Trees
- Seasonal Visibility
- Year-Round Visibility
- Predicted Year-Round Visibility (35 Acres)
- Areas of Potential Seasonal Visibility (10 Acres)
- State Boundary
- Municipal Boundary
- Trail (CT)
- Scenic Highway (CT)
- DEEP Boat Launches (CT)
- Municipal and Private Open Space Property (CT)
- State Forest/Park (CT)

Protected Open Space Property (CT)

- Federal
- Land Trust
- Municipal
- Private
- State

Data Sources:

Physical Geography / Background Data

A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points, using first return values associated with the highest feature in the landscape (such as a treetop or top of building). The DSM captures the natural and built features on the Earth's surface.

Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP. Scenic Roads: CTDOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)

Dedicated Open Space & Recreation Areas

Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007; Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)

Connecticut Forest & Parks Association, Connecticut Walk Books East & West:
The Guide to the Blue-Blazed Hiking Trails of Western Connecticut Western Connecticut, 19th Edition, 2006.

Other

CTDOT Scenic Strips (based on Department of Transportation data)

Notes

***Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.*

Limitations

The visibility analysis map(s) presented in this report depict areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not necessarily account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM, 2016 digital aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties beyond the Host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur, it is intended to provide a representation of those areas where the Facility is likely to be seen.

Source: Esri, DigitalGlobe, GeoEye, Earthstar G
Aerogrid, IGN, IGP, swisstopo, and the GIS Use

0 0.25 0.5 1 Miles

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

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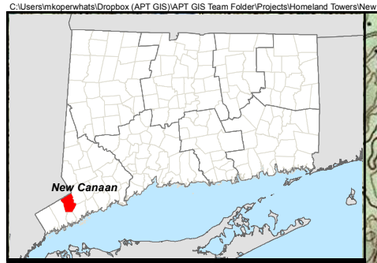
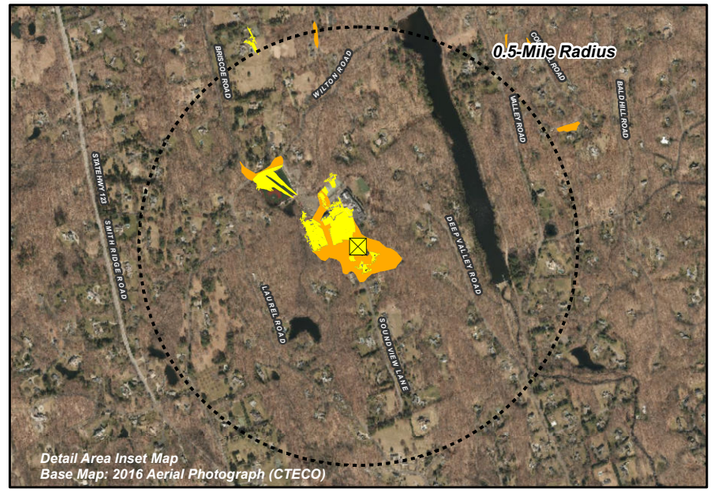


Statewide and Regional Overview Map



Detail Area Inset Map
Base Map: 2016 Aerial Photograph (CTECO)

Viewshed Analysis Map

Proposed Wireless Telecommunications Facility
CT027 - New Canaan Northeast
183 Soundview Lane
New Canaan, Connecticut

Proposed facility height is 90 feet AGL.
Forest canopy height is derrived from LiDAR data.
Study area encompasses a two-mile radius and includes 8,042 acres of land.
Map information field verified by APT on April 11, 2019
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map,
Pound Ridge, NY-CT (1971) and Norwalk North, CT (1975)
Map Date: May 2019

Legend

- Proposed Site
- Study Area (2-Mile Radius)

Photo Locations (April 17, 2019)

- Not Visible
- Balloon Visible Through Trees
- Seasonal Visibility
- Year-Round Visibility
- Predicted Year-Round Visibility (35 Acres)
- Areas of Potential Seasonal Visibility (10 Acres)
- State Boundary
- Municipal Boundary
- Trail (CT)
- Scenic Highway (CT)
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- Land Trust
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- Private
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Data Sources:

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0 0.25 0.5 1 Miles

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION