Connecticut Siting Council

APPLICATION OF HOMELAND TOWERS, LLC
AND
CELLCO PARTNERSHIP
D/B/A VERIZON WIRELESS

BROOKFIELD SOUTH
100 POCONO ROAD
BROOKFIELD, CONNECTICUT

DOCKET NO. _____

JUNE 6, 2016

HOMELAND TOWERS

verizon

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EXECUTIVE SUMMARY

Homeland Towers, LLC ("Homeland") in cooperation with Cellco Partnership d/b/a Verizon Wireless ("Cellco") (collectively the "Applicant"), propose to construct a telecommunications tower and related facility (the "Brookfield South Facility") on an approximately 43.28-acre parcel at 100 Pocono Road in Brookfield, Connecticut (the "Property"). The Property is owned by the Town of Brookfield ("Town") and maintains the Town's Police and Fire Department facilities, Town Hall, the Public Library, athletic fields and material storage areas for the Town's Public Works Department.

The Brookfield South Facility would provide improved wireless service to gaps along portions of Routes 7, 202, 25 and 133 in Brookfield and capacity relief to Cellco's existing Brookfield and Bethel North cell sites which are all currently operating at or near their respective capacity limits.

Homeland plans to construct a 150-foot monopole tower within a 55' x 70' facility compound in the southwest portion of the Property. Cellco would install twelve (12) panel-type antennas and nine (9) remote radio heads on a low-profile antenna platform at a height of 146 feet above ground level ("AGL"). The top of Cellco's antennas will extend to an overall height of approximately 150 feet AGL. The Town of Brookfield ("Town") will install emergency and municipal service antennas extending off the top of the tower and at two locations below Cellco's antenna platform.

Equipment associated with Cellco's antennas and a propane-fueled back-up generator would be located on a 12' x 30' steel platform on concrete piers located near the base of the tower. The equipment platform will be located beneath a steel canopy structure. A 500 gallon

propane tank will be located in the southwest corner of the facility compound. Vehicular access to the tower site would extend from Pocono Road over an existing paved and gravel driveway a distance of approximately 730 feet to the facility compound. Utilities would extend from existing service along Pocono Road through a proposed utility easement, south of the existing fire station.

Legend

- Site
- Municipal Boundary

N
W E
S

1,000 500 0 1,000
Feet

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Danbury (1984), CT
Map Scale: 1:24,000
Map Date: October 2015

USGS Topographic Site Location Map

Proposed Wireless
Telecommunications Facility
Brookfield
100 Pocono Road
Brookfield, Connecticut

verizon

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

Legend

- Proposed 150' Tall Monpole Tower
- Proposed Facility Layout
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)

Site Schematic

Proposed Wireless Telecommunications Facility
Brookfield
100 Pocono Road
Brookfield, Connecticut

verizon

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 300 feet
Map Date: May 2016

N W E S

300 150 0 300 Feet

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
APPLICATION OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF A WIRELESS TELECOMMUNICATIONS FACILITY AT 100 POCONO ROAD, BROOKFIELD, CONNECTICUT	:	**DOCKET NO. ____**
	:	**JUNE 6, 2016**

APPLICATION FOR CERTIFICATE OF
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

I. INTRODUCTION

A. Authority and Purpose

This Application and the accompanying attachments (collectively, the "Application") is submitted by Homeland Towers, LLC ("Homeland") in cooperation with Cellco Partnership d/b/a Verizon Wireless ("Cellco") (collectively the "Applicant"), pursuant to Chapter 277a, Sections 16-50g et seq. of the Connecticut General Statutes ("C.G.S."), as amended, and Sections 16-50j-1 et seq. of the Regulations of Connecticut State Agencies ("R.C.S.A."), as amended. The Application requests that the Connecticut Siting Council ("Council") issue a Certificate of Environmental Compatibility and Public Need ("Certificate") for the construction, maintenance, and operation of a wireless telecommunications facility on an approximately 43.28-acre parcel at 100 Pocono Road in Brookfield, Connecticut (the "Property"). This site is identified as Cellco's

"Brookfield South Facility". If approved, the Council Certificate would be issued to and held by Homeland.

The proposed Brookfield South Facility would be located in the southwesterly portion of the Property. The Property maintains the Town's Police and Fire Department facilities, Town Hall, the Public Library, athletic fields and material storage areas for the Town's Public Works Department. At this location, Homeland would construct a 150-foot self-supporting monopole telecommunications tower within a 55' x 70' facility compound. Cellco would install twelve (12) panel-type antennas and nine (9) remote radio heads ("RRHs") on a low profile platform at the 146-foot level on the tower. The top of Cellco's antennas would extend to an overall height of approximately 150 feet AGL. The Town will install emergency and municipal service antennas extending off the top and at two locations on the tower below Cellco's antennas. Equipment associated with Cellco's antennas and a propane-fueled back-up generator would be placed on a 12' x 30' steel platform located on the ground near the base of the tower, within the fenced compound. The equipment platform will be located beneath a steel canopy structure. A 500 gallon propane fuel tank will also be located within the fenced compound. Vehicular access to the site would extend from Pocono Road over an existing paved and gravel driveway on the Property a distance of approximately 730 feet to the cell site. Utilities will extend from existing service along Pocono Road through a proposed utility easement to the south of the existing fire station.

Included in this Application, as Attachment 1, is a factual summary and project plans for the Brookfield South Facility. This information, along with the other attachments submitted as part of this Application, contain all of the site-specific information required by statute and the regulations

of the Council.

B. The Applicant

Homeland is a New York limited liability company with an office located at 22 Shelter Rock Lane in Danbury, Connecticut 06810. Homeland has developed numerous telecommunications facilities in Connecticut and New York. Homeland will construct, own and maintain the proposed Brookfield South Facility and would be the Certificate holder.

Cellco is a Delaware Partnership with an administrative office located at 99 East River Drive, East Hartford, CT, 06108. Cellco is licensed by the Federal Communications Commission ("FCC") to operate a wireless telecommunications system in the State of Connecticut within the meaning of C.G.S. Section 16-50i(a)(6). Cellco has extensive national experience in the development, construction and operation of wireless telecommunications systems and the provision of wireless telecommunications service to the public. Operation of the wireless telecommunications systems and related activities are Cellco's sole business in the State of Connecticut.

Correspondence and/or communications regarding this Application may be addressed to:

Homeland Towers, LLC
22 Shelter Rock Lane, Building C
Danbury, CT 06810
Attention: Raymond Vergati

Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, CT 06108
Attention: Anthony Befera

A copy of all such correspondence or communications should also be sent to:

Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Attention: Kenneth C. Baldwin, Esq.

C. Application Fee

The estimated total construction cost for the Brookfield South Facility would be less than $5,000,000. Therefore, pursuant to Section 16-50v-1a(b) of the Regulations of Connecticut State Agencies, an application fee of $1,250 accompanies this Application in the form of a check payable to the Council.

II. SERVICE AND NOTICE REQUIRED BY C.G.S. SECTION 16-50*l*(b)

Copies of this Application have been sent to municipal, regional, state and federal officials, pursuant to C.G.S. Section 16-50*l*(b). A certificate of service, along with a list of the officials served with a copy of the Application, is included as Attachment 2.

Notice of Cellco's intent to submit this Application was published on June 2 and June 3, 2016, by Cellco in *The News-Times* pursuant to C.G.S. Section 16-50*l*(b). A copy of the published legal notice is included as Attachment 3. An Affidavit of Publication will be forwarded to the Council as soon as it is available.

Attachment 4 contains a certification that notice of Cellco's intent to file this application was sent to each person appearing of record as an owner of land that may be considered to abut the Property in accordance with C.G.S. Section 16-50*l*(b), as well as a list of the landowners to whom such notice was sent and a sample notice letter.

III. STATEMENT OF NEED AND BENEFITS FOR THE PROVISION OF ADVANCED AND RELIABLE WIRELESS SERVICES INFORMATION

The purpose of this section is to provide an overview and general description of the proposed Brookfield South Facility.

A. Federal Policy

In 1996, the United States Congress adopted the federal Telecommunications Act (the "Act"). (Pub. L. No. 104-104, 110 Stat. 56). The Act recognized, among other things, an important nationwide need for high-quality wireless telecommunication services of all varieties. The Act also expressly promotes competition and seeks to reduce federal, state and local government regulation in all aspects of the telecommunications industry, including facility siting, in order to foster lower prices for consumers and to encourage the rapid deployment of new and advanced wireless service and technologies.

Because the FCC and the United States Congress have determined that there is a pressing public need for high-quality wireless telecommunications service nationwide, the federal government has preempted the determination of public need by state and municipal authorities, including the Council, with respect to public need for the service to be provided by the facility described in this application. In addition, the FCC has promulgated regulations containing technical standards for wireless systems, including design standards, in order to ensure the technical integrity of each system and nationwide compatibility among all systems. State and local regulation of these matters is likewise preempted. The FCC has also exercised its jurisdiction over and preempted state and local regulation with respect to radio frequency emission and interference issues by establishing regulations and requirement in these areas as well.

Pursuant to FCC authorizations, Cellco has constructed and currently operates a wireless system throughout Connecticut. This system, together with Cellco's system throughout its New England and nationwide markets, has been designed and constructed to operate as one integrated, contiguous system, consistent with Cellco's business policy of developing compatibility and continuity of service on a regional and national basis.

Recognizing the public safety benefits that enhanced wireless telecommunications networks can provide, the United States, Congress also enacted the Wireless Communications and Public Safety Act of 1999 to promote and enhance public safety by making 911 the universal emergency assistance number, furthering the deployment of wireless 911 capabilities and further encouraging the construction and operation of seamless, ubiquitous and reliable wireless networks. In 2004, Congress enacted the Enhanced 911 Act for the specific purpose of enhancing and promoting Homeland Security, public safety and citizen activated emergency response capabilities. These goals and other related responsibilities imposed on wireless service providers can only be satisfied if Cellco maintains a ubiquitous and reliable wireless network.

In December of 2009, President Obama issued President Proclamation No. 8460 (74 C.F.R. 234 (2009)), which recognizes the need to protect the nation's "critical infrastructure", including, among others, "cellular phone towers". In 2010, the FCC developed a national broadband policy[1] to ensure that all Americans would have access to broadband capability, whether wired or wireless; to establish the United States as a leader in wireless service innovation; and to establish, in America, the fastest and most extensive wireless network.

[1] Connecting America: The National Broadband Plan, Federal Communications Commission (2010).

In an effort to encourage a more timely review and approval of wireless facility siting applications, the FCC, in 2011, established specific time limits for local and State land use decisions on wireless facilities.[2] In 2012, Congress passed the Middle Class Tax Relief and Job Creation Act which included a provision, Section 6409, which mandates the approval of certain eligible wireless facility modifications. The provisions of Section 6409 were further clarified in the FCC's October 17, 2014 Report and Order (FCC No. 14-153) and were specifically designed to accelerate broadband deployment by improving the efficiencies of the wireless facility siting process.

Included as Attachment 5 is a copy of the FCC's licenses issued to Cellco for its wireless service in Fairfield County, Connecticut. The FCC's rules permit a licensee to modify its system, including the addition of new cell sites, without prior approval by the FCC, as long as, by doing so, the licensee's authorized service area is not enlarged. The addition of the Brookfield South Facility would not enlarge Cellco's authorized service area in Fairfield County.

B. Public Need and System Design

1. Need for the Brookfield South Facility

As noted above, the Act has pre-empted any state or local determination of public need for wireless services. In Fairfield County, Cellco holds an FCC License to provide wireless services in the 700 MHz, 850 MHz, 1900 MHz and 2100 MHz frequency ranges. Pursuant to its FCC Licenses, Cellco has developed and continues to develop a network of cell sites to serve the demand for enhanced wireless services throughout the nation and more specifically, the State of Connecticut.

[2] FCC Declaratory Ruling WT Docket No. 08-165.

Cellco currently provides wireless service in Brookfield and the adjacent Towns of Bridgewater, Newtown, Bethel and Danbury. Plots showing the extent of reliable wireless service in the area reveal a series of "coverage gaps" in all of Cellco's operating frequencies. Significant portions of these coverage gaps will be filled by service from the proposed Brookfield South Facility. (*See* Attachment 6). More importantly, the proposed Brookfield South Facility will provide significant capacity relief to Cellco's Brookfield and Bethel North facilities which are all currently operating beyond their respective capacity limits (a.k.a. exhausting).

2. Cell Site Information

The proposed Brookfield South Facility will provide reliable wireless service to a 5.5 mile portion of Route 7, a 5.2 mile portion of Route 202, a 2.9 mile portion of Route 25, a 1.7 mile portion of Route 133 and an overall area of 14.5 square miles at 700 MHz frequencies; a 5.0 mile portion of Route 7, a 4.6 mile portion of Route 202, a 2.2 mile portion of Route 25, a 1.3 mile portion of Route 133 and an overall area of 8.3 square miles at 850 MHz frequencies; a 3.2 mile portion of Route 7, a 2.2 mile portion of Route 202, a 1.6 mile portion of Route 25, a 1.1 mile portion of Route 133 and an overall area of 5.5 square miles at 1900 MHz frequencies; and a 3.6 mile portion of Route 7, a 2.6 mile portion of Route 202, a 1.7 mile portion of Route 25, a 1.2 mile portion of Route 133 and an overall area of 5.3 square miles at 2100 MHz frequencies.

The tower and facility compound have been designed to accommodate additional wireless carriers as well as municipal and emergency services antennas and equipment.[3] Cellco's equipment platform would support radio and related equipment, including (a) receiving, transmitting, switching, processing and performance monitoring equipment; and (b) automatic

[3] As mentioned above, the Town of Brookfield intends to install multiple emergency and municipal service antennas on the tower. (*See* Attachment 1, Plan Sheet SP-2).

heating and cooling equipment. Cellco's back-up generator would also be installed on the steel equipment platform for use during power outages and periodically for maintenance purposes.

The tower and equipment compound would be enclosed by an 8-foot high security fence and gate. Once the cell site is operational, maintenance personnel generally visit the cell site on a monthly basis. More frequent visits may be required if there are problems with the cell site equipment.

Cellco maintains five (5) existing telecommunications facilities within approximately 4.0 miles of the proposed Brookfield South Facility.

- Cellco's existing Brookfield cell site consists of antennas on a tower at 37 Carmen Hill Road in Brookfield and is located approximately 2.5 miles northwest of the proposed Brookfield South Facility.
- Cellco's existing Brookfield West cell site consists of flush-mounted antennas on a tower at 52 Stadley Rough Road in Danbury and is located approximately 2.6 miles southwest of the proposed Brookfield South Facility.
- Cellco's existing Bethel North cell site consists of antennas on an Eversource transmission line tower at 8 Sky Edge Lane in Bethel and is located approximately 3.3 miles south of the proposed Brookfield South Facility.
- Cellco's existing Hawleyville cell site consists of antennas on a tower at 6 Fairfield Drive in Newtown and is located approximately 2.8 miles south of the proposed Brookfield South Facility.

- Cellco's existing Newtown North cell site consists of antennas on a tower at 24 Dinglebrook Lane in Newtown and is located approximately 3.2 miles east of the proposed Brookfield South Facility.

Plots showing coverage from these existing Cellco facilities in the area, alone and together with coverage from the proposed Brookfield South Facility, are included as Attachment 6.

3. System Design and Cell Site Equipment

a. System Design

Cellco's wireless system in general and the proposed Brookfield South Facility, in particular, have been designed and developed to allow Cellco to achieve and to maintain high quality, reliable wireless service. The system design is capable of orderly expansion and is compatible with other wireless systems. The resulting quality of service compares favorably with the quality of service provided by conventional wireline telephone service. The wireless system is designed to assure a true cellular configuration of base transmitters and receivers in order to cover the proposed service area effectively while providing the highest quality of service possible.

Mobile telephone switching offices ("MTSOs") in Windsor and Wallingford are interconnected and operate Cellco's wireless systems in Connecticut as a single network, offering the subscriber uninterrupted use of the system while traveling throughout the State. This network is further interconnected with fiber optic networks, local exchange company and long distance carrier networks. Cellco has designed its wireless system to conform with applicable standards and constraints for wireless systems and to minimize the need for additional cell sites in the absence of additional demand or unforeseen circumstances.

b. Cellular System Equipment

The key elements of the cellular system are Cellco's two MTSOs located in Windsor and Wallingford and the various connector cell sites around the state. The major electronic components of each cell site are radio frequency transmission and receiving equipment and cell site controller equipment. This equipment is capable of expanding in modules to meet system growth needs. The cell site equipment primarily provides for message control on the calling channels; call set-up and supervision; radio frequency equipment control; internal diagnostics; response to remote and local test demand; data from the wireless units in both directions and on all channels; scan receiver control; transmission of power control commands rescanning of all timing and commands and voice channel assignment.

In addition to the platform-mounted radio equipment, Cellco intends to install twelve (12) panel-type transmit/receive antennas (three (3) model Kathrein 80010735V01, 700 MHz antennas; three (3) model Kathrein 80010735V01, 850 MHz antennas; three (3) model HBXX-6516DS-A2M, 1900 MHz antennas; and three (3) model HBXX-6516DS-A2M, 2100 MHz antennas. Cellco will also install a total of nine (9) remote radio heads behind its 700 MHz, 1900 MHz and 2100 MHz antennas, two (2) HYBRIFLEX™ fiber optic antenna cables and one (1) GPS antenna. Back-up power to the Brookfield South Facility will be provided by a 10 kW propane-fueled generator. Specifications for Cellco's antennas, remote radio heads, antenna cables and back-up generator are included in Attachment 7.

4. Technological Alternatives

Pursuant to its FCC licenses, Cellco is authorized to provide wireless telecommunications services throughout the State of Connecticut. Cellco submits that there are no equally effective

technological alternatives that would allow Cellco to provide its wireless service to the area than those described in this Application. In fact, Cellco's wireless system represents state-of-the-art technology offering high-quality wireless service. Cellco is aware of no viable and currently available alternatives to its system design for carriers licensed by the FCC.

C. Site Selection and Tower Sharing

1. Cell Site Selection

The Applicant's goal in selecting cell sites, like the one described above, is to locate a facility in such a manner as to allow it to build and to operate a high-quality wireless system with the least environmental impact. The Applicant has determined that the proposed Brookfield South Facility satisfies this goal and will help resolve Cellco's coverage and capacity problems and provide high-quality reliable wireless service along portions of Routes 7, 202, 25 and 133 in the area, and to the surrounding industrial, commercial and residential land uses in this portion of Brookfield.

The methodology of cell site selection for a wireless system generally limits the search for possible locations to a specific site search area or ring established by Cellco's Radio Frequency Engineers and network designers. In any search area, a wireless carrier first examines the availability and use of existing towers or other sufficiently tall structures that might help satisfy its wireless service objectives. Cellco currently maintains five (5) macro-cell wireless telecommunications facilities within approximately four (4) miles of the Brookfield South Facility location. Each of these existing facilities will, to some extent, interact with the proposed Brookfield South Facility and are identified on the coverage maps included in Attachment 6. The Brookfield and Bethel North facilities, in particular, are in need of significant capacity relief.

Cellco also regularly investigates the use of existing, non-tower structures in an area, when available, as an alternative to building a new tower. No existing non-tower structures of suitable height exist in the designated Brookfield South search area. Homeland and Cellco initiated a site search process for the Brookfield South cell site and identified the Town property at 100 Pocono Road as a viable candidate for a cell site. Cellco determined that an antenna centerline height of 146 feet at the Property would satisfy its wireless service objectives in the area. Homeland negotiated and ultimately entered into an Option and Ground Lease with the Town for the use of the Property. The Site Search Summary (Attachment 8) together with the site information contained in Attachments 1 and 6 support Cellco's position that the site selected represents the most feasible alternative of the sites investigated.

2. Tower Sharing

Homeland will design the facility tower and compound to be shared by a minimum of four (4) wireless carriers, and municipal and emergency service providers if a need exists. In accordance with previous Council directives, the tower will be designed to be extended up to 20 feet to accommodate future needs. This type of tower sharing arrangement would reduce, if not eliminate, the need for these other carriers or municipal entities to develop a separate tower in this same area in the future.

3. Overall Costs and Benefits

Aside from the limited visual impacts discussed further below, the Applicant believes that there are no significant costs attendant to the construction, maintenance, and operation of the proposed cell site. In fact, the public will benefit substantially from its increased ability to receive high-quality, reliable wireless services in significant portions of Brookfield. The Brookfield South

Facility would be a part of a communications system that addresses the public need identified by the FCC and the United States Congress for high-quality, competitive wireless service. Moreover, the proposed cell site would be part of a system designed to limit the need for additional cell sites in the future. The overall costs to the Applicant for development of the proposed cell site are set forth in Section III.D. of the Application.

4. Environmental Compatibility

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

a. Primary Facility Impact is Visual

The wireless system of which the proposed Brookfield South Facility would be a part has been designed to meet the public need for high-quality, reliable wireless service while minimizing, to the extent possible, any potential adverse environmental impacts. In part because there are few, if any other adverse impacts, the primary impact of facilities such as this is visual. This visual impact will vary from location to location around a proposed tower, depending upon factors such as vegetation, topography, the distance of nearby properties from the tower and the location of buildings and roadways in a "sight line" toward the tower. Similarly, visual impact of a tower facility can be further reduced through the proper use of alternative tower structures; so-called "stealth or disguised installations." Where appropriate, telecommunications towers camouflaged as

trees, for example, could help to further reduce visual impacts associated with these structures. Attachment 9 contains Visibility Analysis prepared by All-Points Technology Corporation ("APT") for the Brookfield South Facility. The Visibility Analysis assesses the visual impact of the proposed 150-foot tower on the surrounding areas and includes photographic simulations for the Council's review and consideration.

According to the Visibility Analysis, areas where the top portion of the tower would be visible above the tree canopy comprise approximately 348 acres or 4.3% of the 8,042 acre study area. Year-round visibility of the Brookfield South Facility tower is generally limited to locations to the east and north along Pocono Road and Silvermine Road. When the leaves are off the trees, seasonal views, through intervening trees and branches are anticipated to occur in some locations within an area of approximately 752 additional acres around the tower site.

There are four (4) residences within 1,000 feet of the Brookfield South Facility. The closest off-site residence is located approximately 315 feet to the southeast at 88 Pocono Road.

Weather permitting, the Applicant will raise balloons with a diameter of at least three (3) feet at the Brookfield South Facility location on the day of the Council's hearing on this Application, or at a time otherwise specified by the Council.

b. Environmental Reviews and Agency Comments

Section 16-50j of the General Statutes requires the Council to consult with and to solicit comments on the Application from the Commissioners of the Departments of Energy and Environmental Protection, Public Health, Public Utilities Regulatory Authority, Economic Development, and Transportation, the Council on Environmental Quality, and the Office of Policy and Management, Energy Division. In addition to the Council's solicitation of comments, Cellco,

as a part of the National Environmental Policy Act ("NEPA") Checklist, solicits comments on the proposed cell site from the U.S. Department of the Interior, Fish and Wildlife Service ("USFWS"), Environmental and Geographic Information Center of the Connecticut Department of Energy Environmental Protection ("DEEP") and the Connecticut Historical Commission, State Historic Preservation Officer ("SHPO"). Information on the USFWS and DEEP reviews regarding impacts on known populations of Federal or State Endangered, Threatened or Special Concern Species occurring at the proposed site are included in Attachments 10 and 11.

(1) USFWS Compliance Determination

According to the USFWS Compliance Determination dated February 5, 2016, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the United States Fish and Wildlife Service are known to occur in the project area. The USFWS Determination goes onto state that while the proposed project would occur within the range of the federally threatened *Northern Long Eared Bat* and *Bog Turtle*, the area is highly disturbed and habitat suitable for these species is not present. *See* USFWS Compliance Determination included in Attachment 10.

(2) Connecticut DEEP Review

According to the DEEP, two state-listed Special Concern species, including the *Eastern Box Turtle* and the *Wood Turtle*, may be located in the vicinity of the Brookfield South Facility. Consistent with its practice, the Applicant, through Dean Gustafson at APT has established an *Eastern Box Turtle* and *Wood Turtle* protection program to avoid unintentional mortality of these turtle species during construction. With adherence to this protection program, the proposed development at the Property would not have an adverse effect on these turtle species. The DEEP

review also identifies the Federally Threatened and State Endangered *Bog Turtle* as a species that may occur in the area near the Brookfield South Facility. As discussed in the USFWS Determination referenced above, the heavily impacted and developed subject parcel makes it significantly less likely that impacts on this species will occur. (*See* DEEP Compliance Determination dated August 17, 2015 – Attachment 11).

(3) Wetlands Inspection

As discussed in Section III.D.5.d. below, the development of the Brookfield South Facility will have no direct impact on wetlands, the closest of which is located approximately 80 feet to the south of the existing portion of the access driveway. The closest wetland to the tower compound is located approximately 390 feet to the northwest. The Applicant does not anticipate that the development of the proposed facility will adversely impact this wetland resource. A Wetland Inspection report is included in Attachment 12.

(4) State Historic Preservation Officer

On November 19, 2015, the Connecticut State Historic Preservation Office ("SHPO") determined that no historic properties will be affected by the proposed Brookfield South Facility. A copy of the SHPO's November 19, 2015 determination is included in Attachment 13.

c. Maximum Permissible Exposure Calculation

The FCC has adopted a standard for exposure to Radio Frequency ("RF") emissions from telecommunications facilities like those proposed in this Application. To ensure compliance with the applicable standards, Cellco has performed a worst-case maximum power density calculation for the proposed cell site according to the methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65, Edition 97-01 (August 1997) ("OET Bulletin 65").

The calculation is a conservative, worst-case approximation for RF emissions at the closest accessible point to the antennas, in this case the base of the tower, and assumes that all antennas are transmitting simultaneously, on all channels, at full power. Even under these absolute worst-case conditions, the calculations indicate that the maximum permissible exposure level for Cellco's 700, 850, 1900 and 2100 MHz antennas would remain well below (21.05%) the FCC's Standard. (*See* Attachment 14). Actual RF emissions levels from the proposed facility would be far below these "worst-case" calculations.

d. Other Environmental Issues

No sanitary facilities are required for the Brookfield South Facility. The operations at the proposed Brookfield South Facility will not cause any significant air, water, noise or other environmental impacts, or hazard to human health.

Based on agency comments received and field investigations by the Cellco project team, the Applicant submits that the Brookfield South Facility will have no significant adverse effect on scenic, natural, historic or recreational features, and that none of the potential effects alone or cumulatively with other effects is sufficient reason to deny this Application.

5. Consistency with Local Land Use Controls

The Council Application Guide for Community Antenna Television and Telecommunication Facilities, as amended in July 2012, requires the inclusion of a narrative summary of the project's consistency with the Town's Plan of Conservation and Development (the "Plan") and Zoning Regulations, as well as a description of planned and existing uses of the site location and surrounding properties.

a. Planned and Existing Land Uses

The proposed Brookfield South Facility is located on an approximately 43.28-acre parcel owned by the Town of Brookfield. The Property is located in the Town's Restricted Industrial/Commercial (IRC 80/40) zone district and is used for municipal purposes, including the Brookfield Police and Fire Departments, Public Works material storage yard, municipal offices and Senior Center and various recreation fields.

b. Plan of Conservation and Development

The Town of Brookfield's 2015 Plan of Conservation & Development (the "Plan"), does not identify telecommunications facilities as a land use consistent or inconsistent with the general planning and conservation principles or policies of the Town. The Plan, in its Wireless Communications section does, however, recognize that certain improvements in wireless service have been made in the previous ten years. The Plan also recognizes that the Town's Planning and Zoning Commission has approved the placement of a cell tower behind the Pocono Road firehouse. Four (4) copies of the Plan were filed, in bulk, with the Council.

c. Zoning Regulations

According to the Town's Zoning Map, the Property is located in the IRC 80/40 zone. Pursuant to Section 242-312 of the Brookfield Zoning Regulations, wireless telecommunications facilities are permitted in the IRC 80/40 zone subject to Special Permit/Design Review approval from the Brookfield Planning and Zoning Commission. Brookfield Zoning Regulations require towers to be no closer than one mile from any other tower. As indicated on the coverage maps included in Attachment 6, none of Cellco's adjacent tower sites are within one mile of the Brookfield South Facility. Furthermore, towers must be setback from adjacent property lines a

distance equal to the height of the tower and appendages plus twenty-five (25) feet. The height of the proposed tower (150') including the Town's emergency service whip antennas extends to a height of 175 feet, requiring a 200-foot property line setback. The proposed tower complies with setback requirements to the north (1370' setback) and to the east (447' setback) but not to the west (194' setback) or the south (142' setback).

Brookfield Zoning Regulations also mandate the use of monopole towers; limit the size of equipment areas or buildings to 750 square feet and twelve (12) feet in height, per carrier; require the site conform to State and local noise standards and comply with FCC maximum permissible exposure standards; and that the tower remain unlit unless required by the Federal Aviation Administration (FAA) and the Siting Council. The proposed Brookfield South Facility complies with each of these additional requirements.

d. Inland Wetland and Watercourse Regulations

The Brookfield Inland Wetlands and Watercourses Commission Regulations (the "IWWC Regulations") define Regulated Activity as any operation within, or use of, a wetland or watercourse involving removal or deposition of materials, or any obstruction, construction, alteration or pollution of such wetlands or watercourses or any operation within, or use of, any land which may disturb the natural and indigenous character of a wetland or watercourse. Four (4) copies of the Brookfield IWWC Regulations were filed, in bulk, with the Council.

Dean Gustafson, Professional Soil Scientist with APT, conducted a field investigation and completed a Wetland Inspection report for the proposed Brookfield South Facility. The closest wetland area to the proposed tower site is located approximately 390 feet to the northwest of the facility compound. A second wetland area has been identified along Pocono Road

approximately 80 feet south of the existing site access drive. Neither wetland area will be impacted by the proposed Brookfield South Facility. The Wetland Inspection report is included in Attachment 12.

In accordance with the Connecticut Soil Erosion Control Guidelines, as established by the Council for Soil and Water Conservation, adequate and appropriate soil erosion and sedimentation control measures will be established and maintained throughout the cell site construction period. In addition, the Applicant will employ appropriate construction management practices to ensure that no pollutants would be discharged to any nearby watercourse or wetland areas or to area groundwater during the construction process.

According to the Federal Emergency Management Agency Flood Insurance Rate Map ("FIRM"), Map Number 09001C0134F (Effective June 18, 2010) the proposed facility would be located in Flood Zone X, an area outside the 500 year flood zone. A copy of the FIRM is also included in Attachment 15.

6. Local Input

Section 16-50*l*(e) of the Connecticut General Statutes, as amended, requires local input on matters before the Council. On December 16, 2015, the Applicant met with Brookfield First Selectman Stephen C. Dunn to commence the ninety (90) day municipal consultation process. Mr. Dunn received copies of technical information summarizing the Applicant's plans to establish a telecommunications facility as described above. At this meeting, the Applicant discussed, in detail, the aspects of the proposed Brookfield South Facility, the site location being considered, the need for wireless service improvements in Brookfield and the Connecticut Siting Council application process. Copies of the technical information were also delivered to the Brookfield Land Use Office

for the Chairman of the Town's Planning and Zoning Commission and Inland Wetland Authority. The Applicant hosted a Public Information Meeting ("PIM") at Brookfield Town Hall on January 27, 2016. Notice of the PIM was sent to owners of property whose land abuts the Property and was published on January 6, 2016 in *The News-Times* and on January 14, 2016 in Brookfield's *The Yankee Pennysaver*.

7. Consultations With State and Federal Officials

Attachments 10, 11 and 13 and Section III.C. of the Application describes consultations with state and federal officials regarding the proposed Brookfield South Facility.

a. Federal Communications Commission

FCC approval of a particular tower site is not required where the authorized service area of the licensed carrier is not enlarged. The FCC did not, therefore, review this particular proposal.

b. Federal Aviation Administration

An FAA Aeronautical Evaluation for the proposed Brookfield South Facility is included in Attachment 16. This evaluation confirms that the proposed tower would not constitute an obstruction or hazard to air navigation and no obstruction marking or lighting of the structure is required.

c. United States Fish and Wildlife Service

See Section III.C.4.b.(1) above.

d. Connecticut Department of Energy and Environmental Protection

(1) Environmental and Geographic Information Center

See Section III.C.4.b.(2) above.

(2) Bureau of Air Management

Under normal operating conditions, Cellco's equipment at the Brookfield South Facility would generate no air emissions. During power outage events and periodically for maintenance purposes, Cellco would utilize a propane-fueled generator to provide emergency back-up power. Cellco's back-up generator will be managed to comply with the "permit by rule" criteria established by the Connecticut Department of Energy and Environmental Protection ("DEEP") Bureau of Air Management pursuant to R.C.S.A. § 22a-174-3b, and therefore is exempt from general air permit requirements.

e. Connecticut State Historic Preservation Officer

See Section III.C.4.b.(3) above.

D. Estimated Cost and Schedule

1. Overall Estimated Costs

The total estimated cost of construction for the Brookfield South Facility is $835,000. This estimate includes:

Homeland Towers, LLC

(1)	Tower and foundation costs of approximately	$160,000
(2)	Site development costs of approximately	105,000
(3)	Utility installation costs of approximately	45,000
(4)	Facility installation costs of approximately	45,000
	Subtotal – Homeland Towers, LLC	355,000

Cellco Partnership d/b/a Verizon Wireless

(1)	Cell site radio equipment costs of approximately	$300,000
(2)	Antenna and coax costs of approximately	95,000
(3)	Power systems costs of approximately	40,000
(4)	Equipment costs of approximately	45,000
	Subtotal – Cellco Partnership d/b/a Verizon Wireless	480,000

2. Overall Scheduling

Site preparation and engineering would commence following Council approval of the Development and Maintenance ("D&M") Plan and are expected to be completed within two to four weeks. Due to the delivery schedules of the manufacturers, installation of the platform and installation of the tower are expected to take an additional two to four weeks. Equipment installation is expected to take an additional two weeks after installation of the platform and installation of the tower. Cell site integration and system testing is expected to require two weeks after equipment installation.

IV. CONCLUSION

Based on the facts contained in this Application, the Applicant submits that the establishment of the Brookfield South Facility will not have any substantial adverse environmental effects. A public need exists for high quality reliable wireless service in the Town of Brookfield and throughout northern Fairfield County, as determined by the FCC and the United States Congress, and a competitive framework for providing such service has been established by the FCC and the Telecommunications Act of 1996. Cellco submits that the need for these services, in general, and the Brookfield South Facility, in particular, far outweighs any possible environmental

effects resulting from the construction of the proposed cell site.

WHEREFORE, Cellco respectfully requests that the Council approve this Application for a Certificate of Environmental Compatibility and Public Need for the proposed Brookfield South Facility.

Respectfully submitted,

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

By: _____

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, Connecticut 06103-3597
(860) 275-8200
Attorneys for the Applicant

BROOKFIELD SOUTH

100 Pocono Road
Brookfield, Connecticut

Description of Proposed Cell Site

Homeland Towers, LLC
22 Shelter Rock Lane, Building C
Danbury, CT 06810

Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, CT 06108

TABLE OF CONTENTS

Page

SITE NAME: BROOKFIELD SOUTH – 100 POCONO ROAD, BROOKFIELD, CT

GENERAL CELL SITE DESCRIPTION

The proposed Brookfield South cell site would be located in the southerly portion of an approximately 43.28-acre parcel owned by the Town of Brookfield. The facility would consist of a 150-foot telecommunications tower and a 12' x 26' equipment platform located near the base of the tower. The equipment platform would support Cellco's radio equipment and a natural gas-fueled back-up generator. The tower and equipment shelter will be located within a 55' x 70' fenced compound and 75' x 75' leased area.

Cellco would attach twelve (12) antennas and nine (9) remote radio heads to a low-profile platform at a centerline height of 146 feet above ground level. The top of Cellco's antennas would not extend above the top of the tower to an overall height of approximately 150 feet. Vehicular access to the site would extend from Pocono Road over an existing paved and gravel driveway a total distance of approximately 730 feet. Utility service would extend from existing service along Pocono Road.

Legend

- Site
- Municipal Boundary

USGS Topographic Site Location Map

Proposed Wireless
Telecommunications Facility
Brookfield
100 Pocono Road
Brookfield, Connecticut

verizon

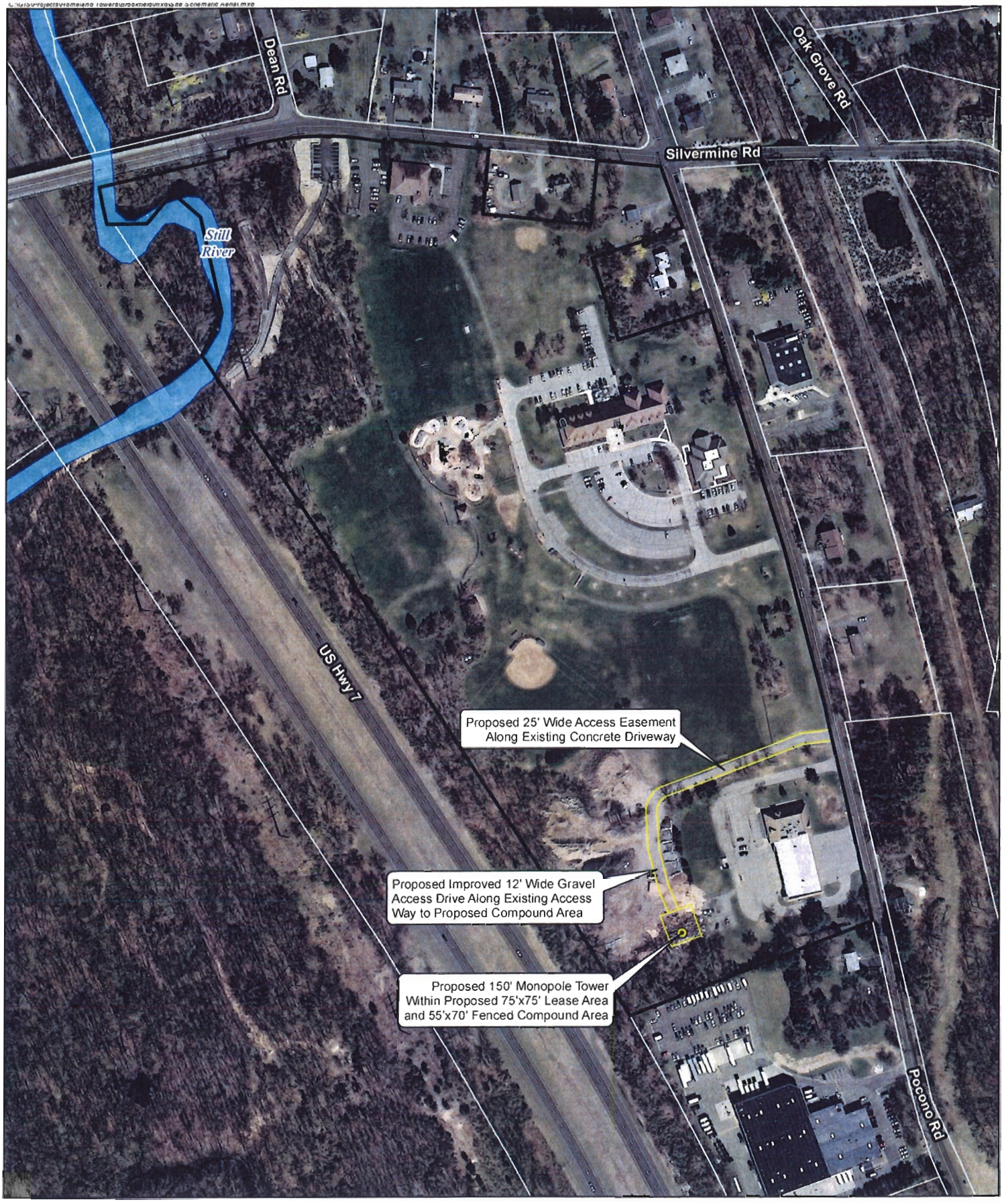
HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

N
W E
S

1,000 500 0 1,000
Feet

Map Notes;
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Danbury (1984), CT
Map Scale: 1:24,000
Map Date: October 2015



Legend

- Proposed 150' Tall Monpole Tower
- Proposed Facility Layout
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)

N
W E
S

300 150 0 300
Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 300 feet
Map Date: May 2016

Site Schematic

Proposed Wireless
Telecommunications Facility
Brookfield
100 Pocono Road
Brookfield, Connecticut

verizon

ALL-POINTS TECHNOLOGY CORPORATION

SITE EVALUATION REPORT

SITE NAME: BROOKFIELD SOUTH – 100 POCONO ROAD, BROOKFIELD, CT

I. TOWER LOCATION

A. COORDINATES: 41°-27'-46.62" N 73°-23'-53.78" W

B. GROUND ELEVATION: Approximately 337± feet AMSL

C. U.S.G.S. QUADRANGLE MAP: U.S.G.S. 7.5 quadrangle for Danbury, CT

D. SITE ADDRESS: 100 Pocono Road, Brookfield, CT

E. ZONING WITHIN 1/4 MILE OF SITE: Land within ¼ mile of the cell site is in Brookfield's R-40 Residential zone district.

II. DESCRIPTION

A. SITE SIZE: 75' x 75' Leased Area
55' x 70' Fenced Compound Area

B. LESSOR'S PARCEL: Approximately 43.28 acres

C. TOWER TYPE/HEIGHT: 150' Monopole Tower

D. SITE TOPOGRAPHY AND SURFACE: Subject site slopes southeast to northwest and is located on land consisting of an existing Fire Station, Town Hall, Police Station, Community Senior Center and Public Works storage area.

E. SURROUNDING TERRAIN, VEGETATION, WETLANDS, OR WATER: The proposed compound is located in the southwestern corner of the property, behind the existing fire station (public works storage area) of a 43.28 acre parcel which is currently occupied by the Town of Brookfield Fire Station, Town Hall, Police Station, and Senior Center. To the north are residential parcels. To the south are residential and commercial area. To the west is Route 7, commercial areas and unoccupied municipal parcels. To the east are residential properties and an existing railroad line. Wetlands are located on-site to the northwest (± 390') of the proposed compound.

F. LAND USE WITHIN 1/4 MILE OF SITE: Public Works storage area, the Route 7 right-of-way and unoccupied wooded land to the west. Municipal athletic fields, Town Hall, Municipal Office Building and Police Station to the north. Residential properties and railroad tracks to the east. Industrial/Commercial establishments to the south.

III. FACILITIES

A. POWER COMPANY: Eversource

B. POWER PROXIMITY TO SITE: Approximately 500 feet from Pocono Road to the east of the facility compound.

C. TELEPHONE COMPANY: Frontier Communications

D. PHONE SERVICE PROXIMITY: Same as power

E. VEHICLE ACCESS TO SITE: Access to the proposed telecommunications facility will be along an existing bituminous driveway (420' ±) and then along an improved gravel access driveway (310' ±).

F. CLEARING AND FILL REQUIRED: Total area of disturbance is 15,000 sf.; no trees will need to be removed to accommodate this facility. The site improvements will produce a balanced site and entail an approximately 200 CY cut for utility installation and approximately 170 CY of broken stone for the compound and driveway improvements.

IV. LEGAL

A. PURCHASE [ ] LEASE [X]

B. OWNER: Town of Brookfield

C. ADDRESS: 100 Pocono Road, Brookfield, CT

D. DEED ON FILE AT:

Town of Brookfield, CT Land Records

Vol. 137 Page 1144

FACILITIES AND EQUIPMENT SPECIFICATION
(NEW TOWER & EQUIPMENT BUILDING)

SITE NAME: BROOKFIELD SOUTH – 100 POCONO ROAD, BROOKFIELD, CT

I. TOWER SPECIFICATIONS:

A. MANUFACTURER: To be determined

B. TYPE: Self-supporting monopole

C. TOWER HEIGHT: 150' DIMENSIONS: Approx. 50" base

Approx. 24" top

II. TOWER LOADING:

A. CELLCO EQUIPMENT:

1. Antennas (12)
Six (6) Model Kathrein 80010735V01 – 700 and 850 MHz
Six (6) Model HBXX-6516DS – 1900 and 2100 MHz

2. Remote Radio Heads (RRH) (9)
Nine (9) RRH 2x60 – 700 MHz, 1900 MHz and 2100 MHz

3. GPS Antenna: Mounted on the top of the equipment shelter or tower

4. Transmission Lines:
a. Two (2) Model: HB158-1-08U8-S8J18 HYBRIFLEX™ fiber optic cables

III. ENGINEERING ANALYSIS AND CERTIFICATION:

The towers will be designed in accordance with Electronic Industries Association Standard EIA/TIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures." The foundation designs would be based on soil conditions at the site. Details for the towers and foundation designs will be provided as a part of the final D&M Plan.

ENVIRONMENTAL ASSESSMENT STATEMENT

SITE NAME: BROOKFIELD SOUTH – 100 POCONO ROAD, BROOKFIELD, CT

I. PHYSICAL IMPACT

A. WATER FLOW AND QUALITY

No water flow and/or water quality changes are anticipated as a result of the construction or operation of the facility. There are no lakes, ponds, rivers, streams, wetlands or other regulated bodies of water located in the area to be used for the access drive, tower or equipment. The equipment used will not discharge any pollutants to area surface or groundwater systems. The closest wetland area is located approximately 390 feet to the south of the fenced compound and lease area.

B. AIR QUALITY

Under ordinary operating conditions, the Cellco equipment at the Brookfield South Facility would generate no air emissions. During power outages and periodically for maintenance purposes, Cellco would utilize a natural gas-fueled generator to provide emergency back-up power. Cellco's back-up generator will be managed to comply with the "permit by rule" criteria established by the Connecticut Department of Energy and Environmental Protection ("DEEP") Bureau of Air Management, pursuant to R.C.S.A. § 22a-174-36, and therefore is exempt from general air permit requirements.

C. LAND

No tree clearing and minimal grading of the tower compound will be required. The remaining land of the Lessor would remain unchanged by the construction and operation of the cell site.

D. NOISE

Cellco's equipment to be in operation at the site after construction would emit no noise of any kind. Minimal noise from the occasional operation of the back-up generator, which would only run when power to the facility is interrupted and periodically for maintenance purposes may occur. Some noise is anticipated during cell site construction.

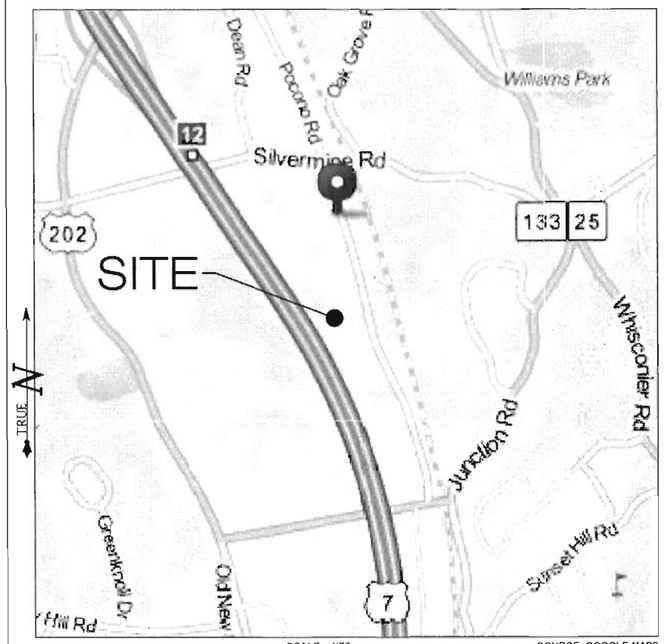
E. POWER DENSITY

The worst-case calculation of power density for Cellco's 700 MHz, 850 MHz, 1900 MHz and 2100 MHz antennas at the Brookfield South Facility would be 21.05% of the FCC Safety Standard.

F. VISIBILITY

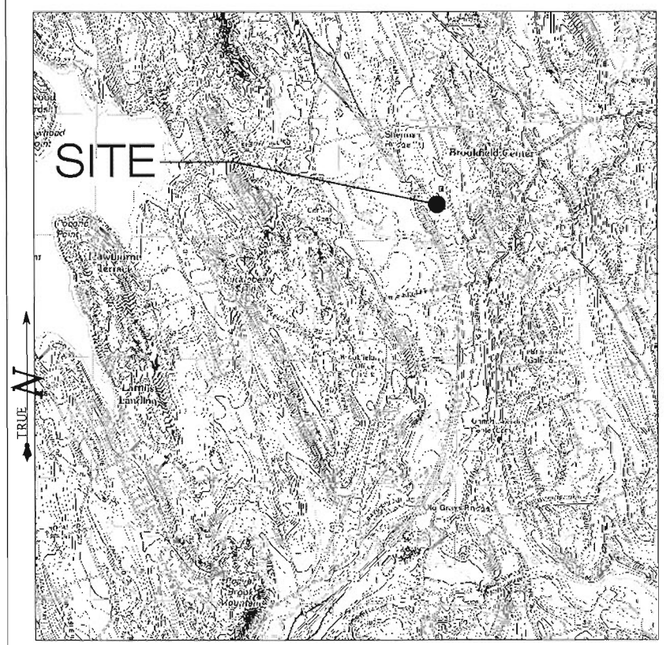
See Visibility Analysis included as Attachment 9.

LOCATION MAP



SCALE : NTS SOURCE: GOOGLE MAPS

USGS TOPOGRAPHIC MAP



SCALE : 1" = 2000'± SOURCE: USGS 7.5 QUADRANGLE FOR DANBURY

Cellco Partnership d/b/a
verizon wireless
99 EAST RIVER DRIVE
9TH FLOOR
EAST HARTFORD, CT 06108

HOMELAND TOWERS

22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810
(203) 297-6345

DRAWING INDEX

*SITE INFORMATION

-SITE NAME:..... BROOKFIELD
-SITE ID NUMBER:... ..... CT-777

-SITE ADDRESS:... ..... 100 POCONO ROAD
BROOKFIELD, CT 06804

-MAP:..... E10
-LOTS:..... 014

-ZONE:... ..... IRC 80/40 & R-40
-LATITUDE - ..... 41° 27' 46.62" N
-LONGITUDE - ..... 73° 23' 53.78" W
-ELEVATION - ..... 337'± AMSL

-FEMA/FIRM
DESIGNATION: ..... PANEL#09001C0134F - ZONE X
-ACREAGE ..... 43 28± Ac (VOL. 137, PAGE 1144)

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

CONTACT PERSONNEL

APPLICANTS:
HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CONNECTICUT 06810

CO-APPLICANTS
CELLCO PARTNERSHIP D/B/A
VERIZON WIRELESS
99 EAST RIVER DRIVE - 9TH FLOOR
EAST HARTFORD, CT 06108

LANDLORD
TOWN OF BROOKFIELD
TOWN HALL COMPLEX
PO BOX 5106
BROOKFIELD, CT 06804

HOMELAND PROJECT MANAGER:
RAYMOND VERGATI
(203) 297-6345

HOMELAND PROJECT ATTORNEY:
ROBINSON & COLE, LLP
280 TRUMBULL STREET
HARTFORD, CT 06103

POWER PROVIDER:
EVERSOURCE (203) 270-5808
ROBERT RONCARTI - CASE #2511619

TELCO PROVIDER:
FRONTIER: (800) 921-8102

CALL BEFORE YOU DIG:
(800) 922-4455

GOVERNING CODES:
2009 CONNECTICUT BUILDING CODE (2003 IBC BASIS)
2011 NATIONAL ELECTRIC CODE
EIA/TIA 222F

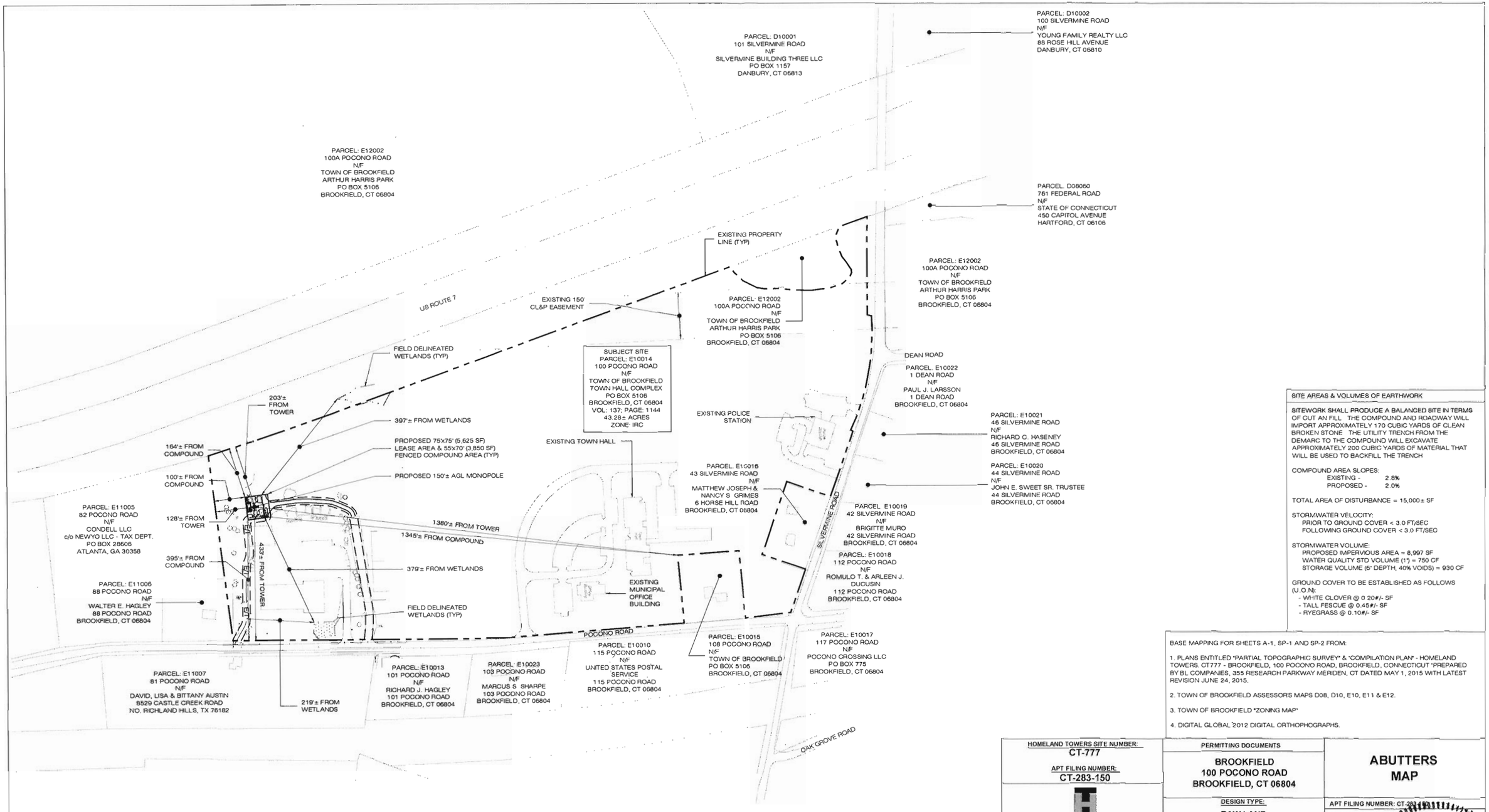
SITE INFORMATION

BROOKFIELD
100 POCONO ROAD
BROOKFIELD, CT 06804

PERMITTING DOCUMENTS	TITLE SHEET & INDEX
BROOKFIELD 100 POCONO ROAD BROOKFIELD, CT 06804	APT FILING NUMBER: CT-283-[illegible] APT DRAWING NUMBER: CT-777 DRAWN BY: RCB CHECKED BY: SMC
DESIGN TYPE: RAW LAND	SCALE: AS NOTED DATE: 02/10/16
REVISIONS:	SHEET NUMBER:
REV.0: 07/17/15: FOR REVIEW: SMC	
REV.1: 11/19/15: COMPOUND REVISIONS: RCB	
REV.2: 12/04/15: CLIENT REVISIONS: RCB	
REV.3: 12/15/15: EQUIP. REVISIONS: RCB	
REV.4: 01/05/16: ATTORNEY REVISIONS: RCB	
REV.5: 02/10/16: COMPOUND RELOCATION: RCB	
REV.6: 05/20/16: ATTORNEY REVISIONS: RCB	
REV.7: 05/26/16: ATTORNEY REVISIONS: RCB	

T-1

STATE OF CONNECTICUT
SCOTT M. CHASSE
No. 19728
LICENSED PROFESSIONAL ENGINEER



ABUTTERS MAP

SCALE : 1" = 150'-0"

TRUE NORTH

FULL SCALE (24"x36")
GRAPHIC SCALE
150 0 75 150 300
(IN FEET) 1 inch = 150 ft

HALF SCALE (11"x17")
GRAPHIC SCALE
300 0 150 300 600
(IN FEET) 1 inch = 300 ft.

SITE AREAS & VOLUMES OF EARTHWORK

SITEWORK SHALL PRODUCE A BALANCED SITE IN TERMS OF CUT AN FILL THE COMPOUND AND ROADWAY WILL IMPORT APPROXIMATELY 170 CUBIC YARDS OF CLEAN BROKEN STONE THE UTILITY TRENCH FROM THE DEMARC TO THE COMPOUND WILL EXCAVATE APPROXIMATELY 200 CUBIC YARDS OF MATERIAL THAT WILL BE USED TO BACKFILL THE TRENCH

COMPOUND AREA SLOPES:
EXISTING - 2.8%
PROPOSED - 2.0%

TOTAL AREA OF DISTURBANCE = 15,000± SF

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

STORMWATER VOLUME:
PROPOSED IMPERVIOUS AREA = 8,997 SF
WATER QUALITY STD VOLUME (1") = 750 CF
STORAGE VOLUME (6' DEPTH, 40% VOIDS) = 930 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

BASE MAPPING FOR SHEETS A-1, SP-1 AND SP-2 FROM:

1. PLANS ENTITLED "PARTIAL TOPOGRAPHIC SURVEY" & "COMPILATION PLAN" - HOMELAND TOWERS, CT777 - BROOKFIELD, 100 POCONO ROAD, BROOKFIELD, CONNECTICUT "PREPARED BY BL COMPANIES, 355 RESEARCH PARKWAY MERIDEN, CT DATED MAY 1, 2015 WITH LATEST REVISION JUNE 24, 2015.

2. TOWN OF BROOKFIELD ASSESSORS MAPS D08, D10, E10, E11 & E12.

3. TOWN OF BROOKFIELD "ZONING MAP"

4. DIGITAL GLOBAL 2012 DIGITAL ORTHOPHOGRAPHS.

HOMELAND TOWERS SITE NUMBER:
CT-777

APT FILING NUMBER:
CT-283-150

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

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

PERMITTING DOCUMENTS

BROOKFIELD
100 POCONO ROAD
BROOKFIELD, CT 06804

DESIGN TYPE:
RAW LAND

REVISIONS:
REV.0: 07/17/15: FOR REVIEW: SMC
REV.1: 11/19/15: COMPOUND REVISIONS: RCB
REV.2: 12/04/15: CLIENT REVISIONS: RCB
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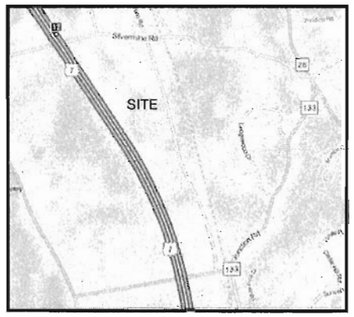
REV.6: 05/20/16: ATTORNEY REVISIONS: RCB
REV.7: 06/26/16: ATTORNEY REVISIONS: RCB

ABUTTERS MAP

APT FILING NUMBER: CT-283-150
APT DRAWING NUMBER: CT-777-ZON
DRAWN BY: RCB
CHECKED BY: SMC
SCALE: AS NOTED
DATE: 07/17/16
SHEET NUMBER: A-1

STATE OF CONNECTICUT
ANTHONY M. PASSE
LICENSED PROFESSIONAL ENGINEER



LOCATION MAP

NOT TO SCALE

GENERAL NOTES

1. A) THIS MAP HAS BEEN PREPARED IN ACCORDANCE WITH 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, 1998.

   B) THIS PLAN CONFORMS TO HORIZONTAL ACCURACY CLASS A-2 AND A TOPOGRAPHIC ACCURACY OF T-2.

   C) THE TYPE OF SURVEY PERFORMED IS A TOPOGRAPHIC SURVEY AND IS INTENDED TO DEPICT THE EXISTING CONDITIONS WITH RESPECT TO MONUMENTATION FOUND, STRUCTURES, VISIBLE UTILITIES, ROADWAYS AND CONTOURS.

2. NORTH ARROW REFERS TO NAD 83 USING GPS METHODS.
3. ELEVATIONS REFER TO NAVD 88 USING GPS METHODS.
4. PARCEL IS LOCATED IN A "FLOOD ZONE X, (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS DEPICTED ON F.I.R.M. MAP NO. 09001C0134F PANEL 134 OF 626 EFFECTIVE DATE: JUNE 18, 2010.
5. THE UNDERGROUND UTILITIES DEPICTED HAVE BEEN PLOTTED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES DEPICTED ARE IN THE EXACT LOCATION INDICATED THOUGH THEY ARE PLOTTED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY EXPOSED THE UNDERGROUND UTILITIES. PER CONNECTICUT STATE LAW THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION. CALL BEFORE YOU DIG 1-800-922-4455.
6. WETLAND LOCATIONS PROVIDED BY ALL-POINTS TECHNOLOGY CORPORATION ON MAY 11, 2015.

LEGEND

- Property Line
- Treeline
- Major Contour
- Minor Contour
- Stone Wall
- Chain Link
- Fence
- Overhead Wires
- Underground Electric Line
- Sanitary Sewer
- Storm Sewer
- Handhole
- Electric Meter
- Utility Pole
- Utility Pole w/ Light
- Light Pole
- Gate Valve
- Cleanout
- Catch Basin
- Manhole
- Fire Hydrant
- Water Valve
- Sign
- Bollard
- Deciduous Tree
- Coniferous Tree

GRAPHIC SCALE

30 15 0 30

SCALE IN FEET

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

ROBERT H. ROPER L.S. #15469

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR.

BL Companies
ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING

One Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2618 Fax

HOMELAND TOWERS: CT777 - BROOKFIELD

100 POCONO ROAD

TOWN OF BROOKFIELD, FAIRFIELD COUNTY, CONNECTICUT

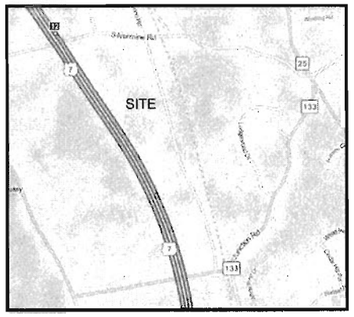
No.	Date	Description
1.	09/27/15	Added Tie Line & Property Line
2.	09/16/15	Added Boundary Lines

Surveyed TDH
Drawn EFB
Checked RHR
Approved RHR
Scale 1" = 30'
Project No. 150439
Date 09/01/15
Field Book TDH
File No.

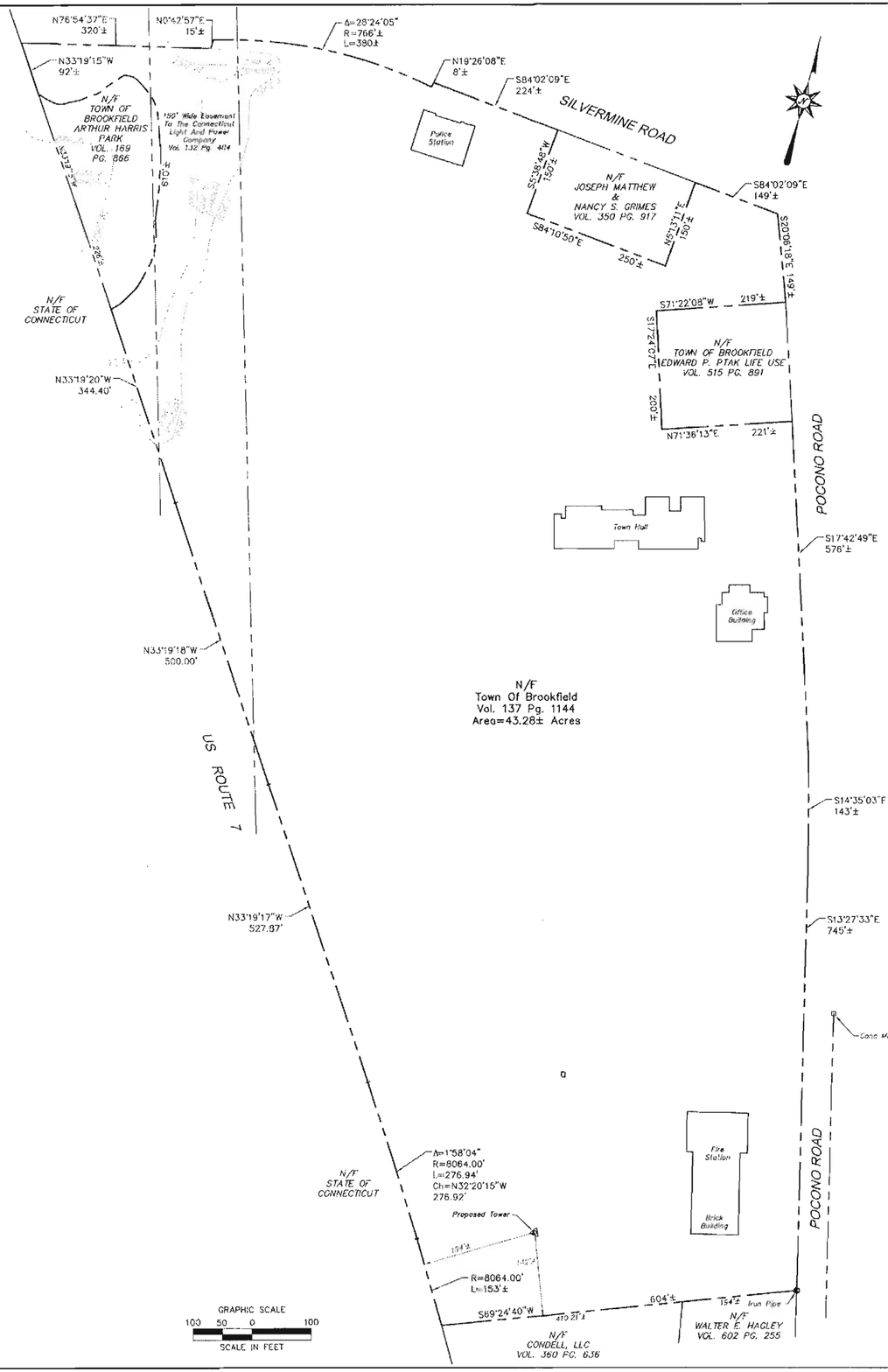
Partial Topographic Survey

Plot No.

EX-1



LOCATION MAP
NOT TO SCALE



GENERAL NOTES

1. A) THIS MAP HAS BEEN PREPARED IN ACCORDANCE WITH 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.

   B) THIS PLAN CONFORMS TO HORIZONTAL ACCURACY CLASS D.

   C) THIS MAP WAS COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

2. NORTH ARROW REFERS TO NAD 83 USING GPS METHODS.

3. REFERENCE IS MADE THE THE FOLLOWING MAPS:
   A. "TOWN OF BROOKFIELD MAP SHOWING LAND TO BE CONVEYED TO UPS FREIGHT PLAN CORPORATION POCONO ROAD, BROOKFIELD, CONNECTICUT" SCALE: 1"=40' DATE: 8/14/81 PREPARED BY CARROCCIO-COVILL & ASSOCIATES, INC., BROOKFIELD, CONN. AND FILED IN THE TOWN CLERK'S OFFICE AS MAP BOOK 19 AT PAGE 10.

   B. "STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP TOWN OF BROOKFIELD FROM THE DANBURY TOWN LINE NORTHERLY TO THE DANBURY – NEW MILFORD ROAD", STAMPED PRELIMINARY, SCALE 1"=80', NUMBER 18-08, SHEET NO. 6 OF 8 & 7 OF 8.

4. PARCEL IS ALSO SUBJECT TO THE FOLLOWING:
   VOL. 137 AT PAGE 1144, RESTRICTIVE COVENANTS.
   VOL. 101 AT PAGE 941, SLOPE EASEMENT TO THE STATE OF CONNECTICUT AND A 125' WIDE EASEMENT TO THE CONNECTICUT LIGHT AND POWER COMPANY.
   VOL. 132 AT PAGE 404, RIGHTS AND A 150' WIDE EASEMENT TO THE CONNECTICUT LIGHT AND POWER COMPANY.
   VOL. 314 AT PAGE 982, OPEN SPACE GRANT AND IMPROVEMENTS TO THE TOWN HALL RECREATION AREA.
   VOL. 581 AT PAGE 614, USE RESTRICTIONS INCLUDING THOSE SET FORTH IN VOL. 137 AT PAGE 1144.

5. PORTIONS OF THE PARCEL ARE LOCATED IN THE FOLLOWING FLOOD HAZARD AREAS: ZONE X, ZONE X SHADED & ZONE AE AS DEPICTED ON F.I.R.M. COMMUNITY PANEL NO. 09001C0134F PANEL 134 OF 626 EFFECTIVE DATE: JUNE 18, 2010.

LEGEND

- Property Line
- Easement Line
- Stone Wall
- Fence
- Utility Pole
- Light Pole
- Catch Basin
- Manhole
- Fire Hydrant
- Water Valve
- Deciduous Tree
- Coniferous Tree

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

ROBERT H. ROPER L.S. #18469

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR.

BL Companies
ARCHITECTURE
ENGINEERING
ENVIRONMENTAL
LAND SURVEYING

355 Research Parkway
Meriden, CT 06450
(203) 630-1406
(203) 630-2615 Fax

HOMELAND TOWERS: CT777 - BROOKFIELD

100 POCONO ROAD
TOWN OF BROOKFIELD, FAIRFIELD COUNTY, CONNECTICUT

REVISIONS No.	Date	Desc.

Surveyed	TDH
Drawn	RHR
Checked	TDH
Approved	RHR
Scale	1" = 100'
Project No.	1552629
Date	06/24/2015
Field Book	
CAD File:	EX1552629.02

Title
COMPILATION PLAN

Sheet No.
EX-2

Xref (s) : EX1552629.02

PROPOSED ACCESS ALONG EXISTING BITUMINOUS DRIVEWAY (APPROX. 420'±)

PROPOSED CONSTRUCTION ENTRANCE (TYP) — 2 / SP-3

PROPOSED IMPROVED 12' WIDE GRAVEL ACCESS DRIVEWAY FROM THE END OF THE EXISTING BITUMINOUS DRIVEWAY ALONG EXISTING ACCESS DRIVE TO PROPOSED COMPOUND AREA (TYP) (APPROX. 310'±) — 4 / SP-3

PROPOSED SILT FENCE (TYP) — 1 / SP-3

EXISTING PILE TO BE RELOCATED DURING CONSTRUCTION

PROPOSED 25' WIDE ACCESS EASEMENT (TYP)

EXISTING BITUMINOUS CONCRETE DRIVEWAY

EXISTING BITUMINOUS DRIVEWAY

EXISTING BITUMINOUS PARKING AREA

EXISTING WETLAND LIMITS (FIELD DELINEATED)

PLAN — SP-2

EXISTING FIRE STATION

EXISTING PROPERTY LINE (TYP)

PARCEL: E11013
101 POCONO ROAD
N/F
RICHARD J. HAGLEY
101 POCONO ROAD
BROOKFIELD, CT 06804

POCONO ROAD

PARCEL: E11007
81 POCONO ROAD
N/F
DAVID, LISA & BITTANY AUSTIN
8529 CASTLE CREEK ROAD
NO RICHLAND HILLS, TX 76182

335.50

337.00

3 / SP-3 — PROPOSED 75'x75' (5,625 SF) LEASE AREA & 55'x70' (3,850 SF) FENCED COMPOUND AREA

R150' TOWER RADIUS

EXISTING BITUMINOUS PARKING AREA

PROPOSED 25' WIDE UTILITY EASEMENT (TYP)

337.53

336.00

PROPOSED UNDERGROUND ELECTRIC & TELCO SERVICES FROM EXISTING DEMARC (EXISTING SNET POLE #123) TO PROPOSED COMPOUND AREA (APPROX. 500'±)

PROPOSED 150'± AGL MONOPOLE

EXISTING ASPHALT PILE TO BE REMOVED

S 69°24'40" W 604'±

S 13°27'33" E 745'±

EXISTING SNET #123

PARCEL: E11005
82 POCONO ROAD
N/F
CONDELL LLC
PO BOX 28606
ATLANTA, GA 30358

PARCEL: E11006
88 POCONO ROAD
N/F
WALTER E HAGLEY
88 POCONO ROAD
BROOKFIELD, CT 06804

FULL SCALE (24"x36")
GRAPHIC SCALE
30 0 15 30 60
(IN FEET) 1 inch = 30 ft.

HALF SCALE (11"x17")
GRAPHIC SCALE
60 0 30 60 120
(IN FEET) 1 inch = 60 ft.

SITE PLAN
SCALE : 1" = 30'-0"

NOTE: NO TREES WILL BE REMOVED IN CONSTRUCTING THE FACILITY

HOMELAND TOWERS SITE NUMBER:
CT-777

APT FILING NUMBER:
CT-283-150

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING G
DANBURY, CT 06810

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

PERMITTING DOCUMENTS

BROOKFIELD
100 POCONO ROAD
BROOKFIELD, CT 06804

DESIGN TYPE:
RAW LAND

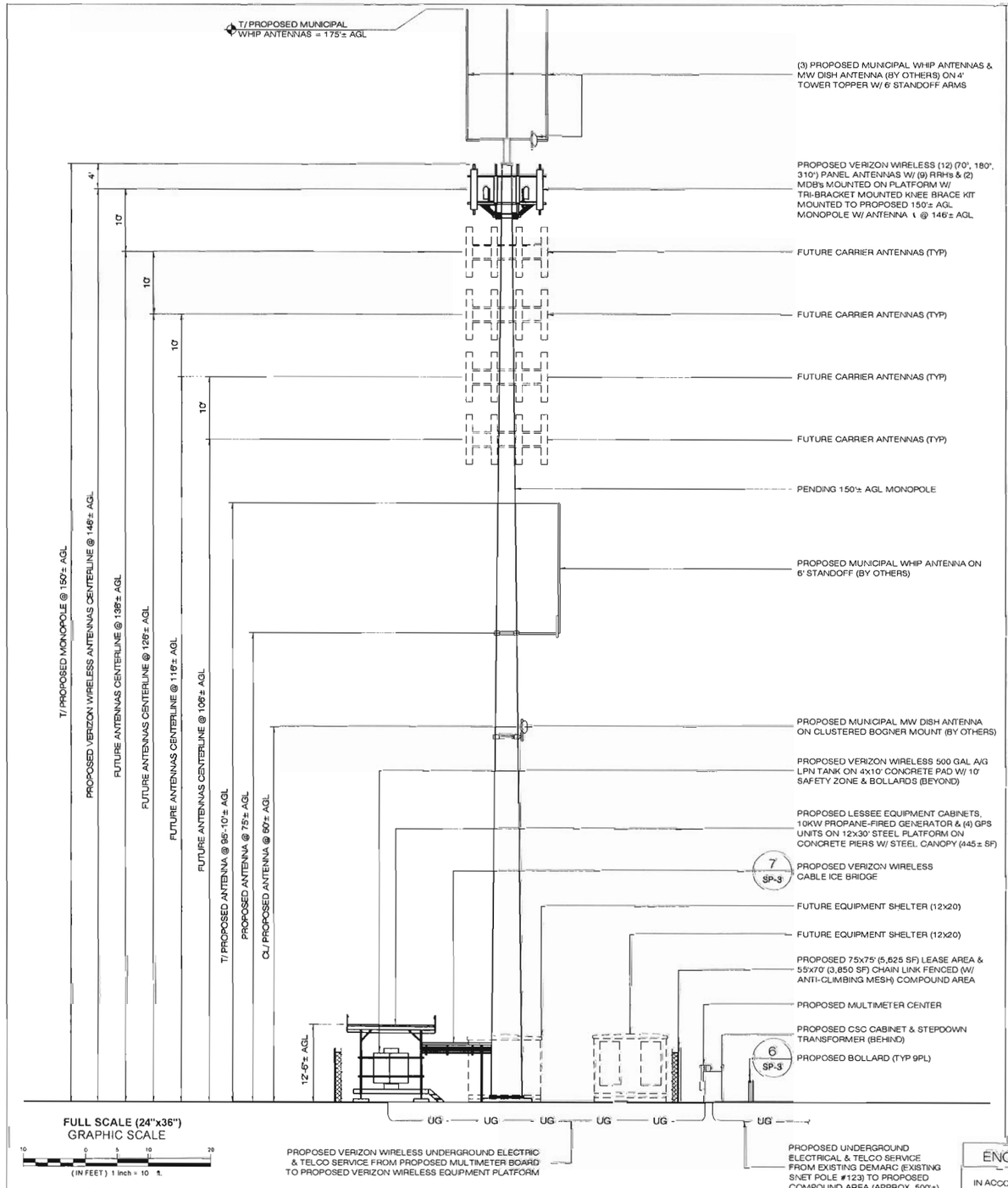
REVISIONS:
REV.0: 07/17/15: FOR REVIEW: SMC
REV.1: 11/19/15: COMPOUND REVISIONS: RCB
REV.2: 12/04/15: CLIENT REVISIONS: RCB
REV.3: 12/15/15: EQUIP. REVISIONS: RCB
REV.4: 01/05/16: ATTORNEY REVISIONS: RCB
REV.5: 02/10/16: COMPOUND RELOCATION: RCB
REV.6: 05/20/16: ATTORNEY REVISIONS: RCB
REV.7: 05/26/16: ATTORNEY REVISIONS: RCB

SITE PLAN

APT FILING NUMBER: CT-283-150
APT DRAWING NUMBER: CT-283-150
DRAWN BY: RCB
CHECKED BY: SMC

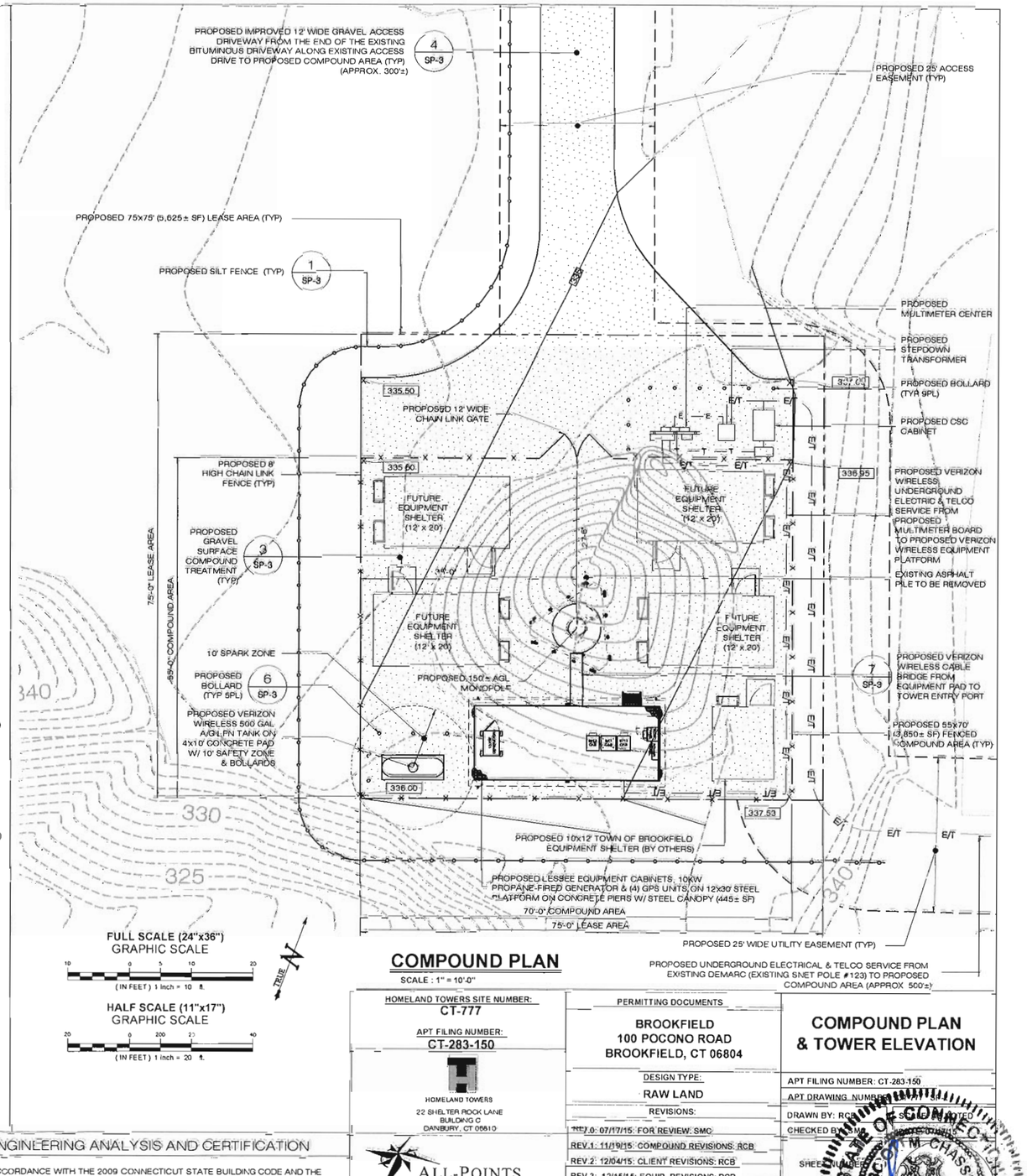
SHEET NUMBER:
SP-1

STATE OF CONNECTICUT
SCOTT M. CHASSE
No. 19728
LICENSED PROFESSIONAL ENGINEER



EASTERN ELEVATION

SCALE : 1" = 10'-0"



COMPOUND PLAN

SCALE : 1" = 10'-0"

ENGINEERING ANALYSIS AND CERTIFICATION

IN ACCORDANCE WITH THE 2009 CONNECTICUT STATE BUILDING CODE AND THE ELECTRONIC INDUSTRIES ASSOCIATION STANDARD EIA/TIA-222-F "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORT STRUCTURES" FOR FAIRFIELD COUNTY, THE TOWER WOULD BE DESIGNED TO WITHSTAND PRESSURES EQUIVALENT TO A MAXIMUM 85 MPH FASTEST MILE WIND SPEED. THE FOUNDATION DESIGN WOULD BE BASED ON SOIL CONDITIONS AT THE SITE.

HOMELAND TOWERS SITE NUMBER:
CT-777

APT FILING NUMBER:
CT-283-150

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

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

PERMITTING DOCUMENTS

BROOKFIELD
100 POCONO ROAD
BROOKFIELD, CT 06804

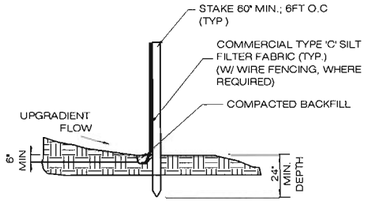
DESIGN TYPE:
RAW LAND

REVISIONS:
REV.0: 07/17/15: FOR REVIEW: SMC
REV.1: 11/19/15: COMPOUND REVISIONS: RCB
REV.2: 12/04/15: CLIENT REVISIONS: RCB
REV.3: 12/15/15: EQUIP. REVISIONS: RCB
REV.4: 01/05/16: ATTORNEY REVISIONS: RCB
REV.5: 02/10/16: COMPOUND RELOCATION: RCB
REV.6: 05/20/16: ATTORNEY REVISIONS: RCB
REV.7: 05/26/16: ATTORNEY REVISIONS: RCB

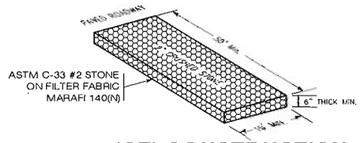
COMPOUND PLAN & TOWER ELEVATION

APT FILING NUMBER: CT-283-150
APT DRAWING NUMBER:
DRAWN BY: RCB
CHECKED BY:
SHEET NUMBER: SP-2

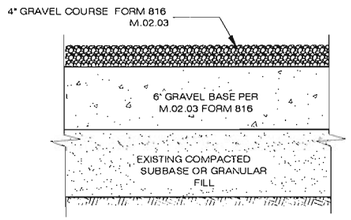
STATE OF CONNECTICUT
SCOTT M. CHASE
LICENSED PROFESSIONAL ENGINEER



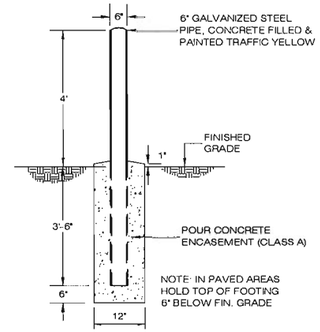
1 SP-3 GEOTEXTILE SILT FENCE DETAIL
SCALE : NTS



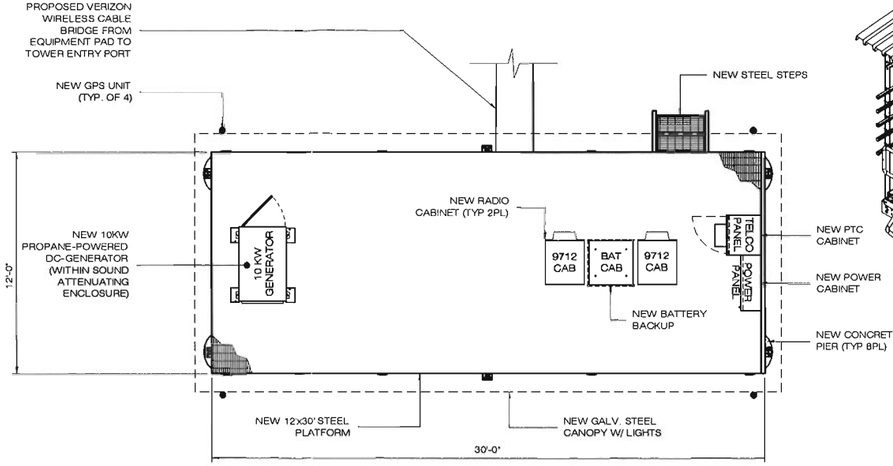
2 SP-3 (CE) CONSTRUCTION ENTRANCE DETAIL
SCALE : NTS

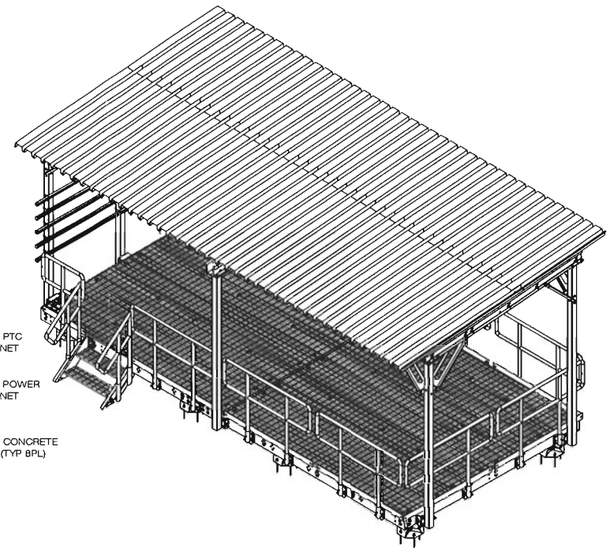


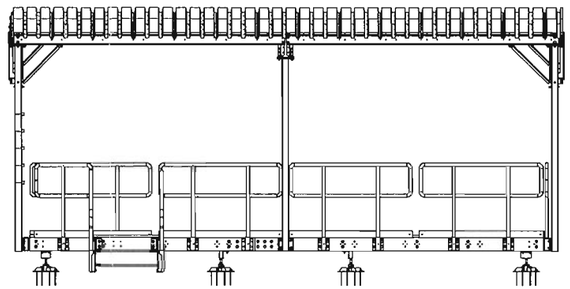
5 SP-3 GRAVEL ROAD SECTION
SCALE : NTS

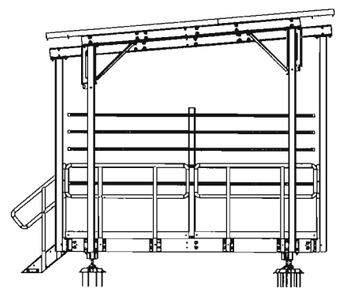


6 SP-3 BOLLARD DETAIL
SCALE : NTS

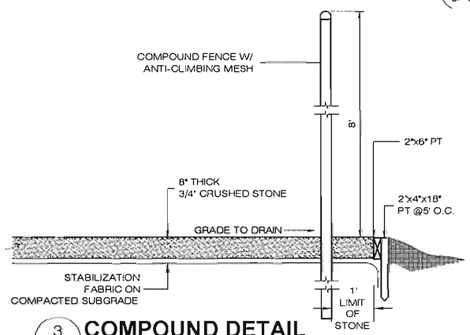




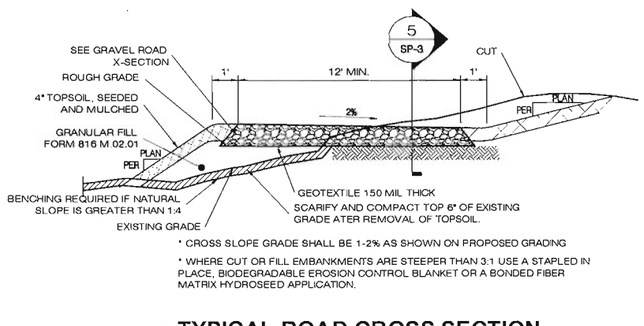




8 SP-3 EQUIPMENT PLATFORM
SCALE : NTS



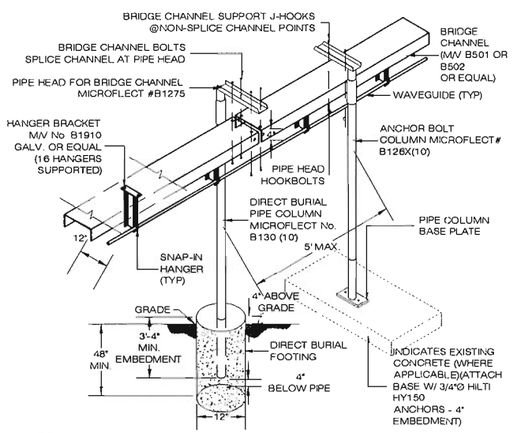
3 SP-3 COMPOUND DETAIL
SCALE : NTS



* 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.

4 SP-3 TYPICAL ROAD CROSS SECTION
SCALE : NTS



7 SP-3 CABLE BRIDGE & COAX HANGER DETAIL
SCALE : NTS

HOMELAND TOWERS SITE NUMBER:
CT-777

APT FILING NUMBER:
CT-283-150

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

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

PERMITTING DOCUMENTS

BROOKFIELD
100 POCONO ROAD
BROOKFIELD, CT 06804

DESIGN TYPE:
RAW LAND

REVISIONS:

REV.0: 07/17/15: FOR REVIEW: SMC
REV.1: 11/19/15: COMPOUND REVISIONS: RCB
REV.2: 12/04/15: CLIENT REVISIONS: RCB
REV.3: 12/15/15: EQUIP. REVISIONS: RCB
REV.4: 01/05/16: ATTORNEY REVISIONS: RCB
REV.5: 02/10/16: COMPOUND RELOCATION: RCB
REV.6: 05/20/16: ATTORNEY REVISIONS: RCB
REV.7: 05/26/16: ATTORNEY REVISIONS: RCB

SITE DETAILS

APT FILING NUMBER: CT-283-150
APT DRAWING NUMBER: CT777-150
DRAWN BY: RCB | SCALE: AS NOTED
CHECKED BY: SMC | DATE: 07/17/15

SHEET NUMBER:
SP-3

STATE OF CONNECTICUT
SCOTT M. CHASE
No. 19758
LICENSED PROFESSIONAL ENGINEER

CERTIFICATION OF SERVICE

I hereby certify that on this 6th day of June, 2016, copies of the Application and attachments were sent first class mail, postage prepaid, to the following:

STATE OFFICIALS:

The Honorable George Jepsen
Attorney General
Office of the Attorney General
55 Elm Street
Hartford, CT 06106

Dora B. Schriro, Commissioner
Department of Emergency Services and Public Protection
Emergency Management and Homeland Security Division
25 Sigourney Street, 6th Floor
Hartford, CT 06106-5042

Rob Klee, Commissioner
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

Raul Pino, M.D., M.P.H., Commissioner
Department of Public Health
410 Capitol Avenue
P.O. Box 340308, MS 13COM
Hartford, CT 06134-0308

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

Arthur House, Chairman
Public Utilities Regulatory Authority
Ten Franklin Square
New Britain, CT 06051

Benjamin Barnes, Secretary
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06106

Catherine Smith, Commissioner
Department of Economic and Community Development
505 Hudson Street
Hartford, CT 06106

James P. Redeker, Commissioner
Department of Transportation
P.O. Box 317546
2800 Berlin Turnpike
Newington, CT 06131-7546

Christina Newman-Scott
Acting Director of Arts and Historic Preservation
State Historic Preservation Officer
Connecticut Commission on Culture & Tourism
One Constitution Plaza, 2nd Floor
Hartford, CT 06103

Steven K. Reviczky, Commissioner
Department of Agriculture
165 Capital Avenue
Hartford, CT 06106

BROOKFIELD TOWN OFFICIALS:

Stephen C. Dunn, First Selectman
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

The Honorable Clark Chapin
Senator – 30th District
Legislative Office Building
Room 3400
Hartford, CT 06106

The Honorable Stephen Harding
Representative – 107th District
Legislative Office Building
Room 4200
Hartford, CT 06106

Joan M. Locke, Town Clerk
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

Jon Van Hise, Chairman
Planning Commission
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

Alice Dew, Land Use Manager
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

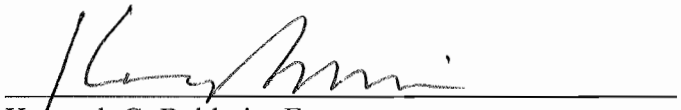
Ryan Blessey, Chairman
Zoning Commission
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

Sharon Fox, Chairman
Inland Wetlands Commission
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

Alice Dew, Chairperson
Conservation Commission
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

FEDERAL AGENCY:

Federal Communications Commission
445 12th Street SW
Washington, DC 20554



Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
Telephone: (860) 275-8200
Attorneys for Cellco Partnership d/b/a Verizon Wireless

LEGAL NOTICE

Notice is hereby given, pursuant to Section 16-50*l*(b) of the Connecticut General Statutes and Regulations pertaining thereto, of an Application to be submitted to the Connecticut Siting Council ("Council") on or about June 6, 2016 by Homeland Towers and Cellco Partnership d/b/a Verizon Wireless ("Homeland", Cellco" or the "Applicant"). The Application proposes the installation of a wireless telecommunications tower and related facility on an approximately 43.28-acre parcel at 100 Pocono Road in Brookfield, Connecticut. The Applicant proposes to construct a 150-foot monopole tower in the southerly portion of this parcel. Access to the facility compound will extend from Pocono Road. Cellco will also install twelve (12) antennas at the top of the tower and new equipment cabinets and a natural gas-fueled back-up generator on a 12' x 30' steel platform near the base of the tower. The location and other features of the proposed facility are subject to change under provisions of Connecticut General Statutes § 16-50g et. seq.

On the day of the Siting Council public hearing on this proposal, Cellco will fly a balloon at the height of the proposed tower described above. Interested parties and residents of the Town of Brookfield are invited to review the Application during normal business hours after June 6, 2016, at any of the following offices:

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Cellco Partnership d/b/a Verizon Wireless
99 East River Drive
East Hartford, CT 06108
Attn: Anthony Befera

Brookfield Town Clerk
Town of Brookfield
100 Pocono Road
Brookfield, CT 06804

Homeland Towers
22 Shelter Rock Lane
Building C
Danbury, CT 06810

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

CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

June 2, 2016

Via Certified Mail Return Receipt Requested

«Name_and_Address»

Re: **Cellco Partnership d/b/a Verizon Wireless – Proposed Telecommunications Facility at 100 Pocono Road, Brookfield, Connecticut**

Dear «Salutation»:

Homeland Towers, LLC and Cellco Partnership d/b/a Verizon Wireless ("Cellco") will be submitting an application to the Connecticut Siting Council ("Council") on or about June 6, 2016, for approval of the construction of a telecommunications facility in the Town of Brookfield, Connecticut.

The proposed facility would consist of a new 150-foot monopole tower in the southerly portion of an approximately 43.28 acre parcel at 100 Pocono Road in Brookfield. Cellco will install twelve (12) antennas and nine (9) remote radio heads on a platform at the top of the tower. Radio equipment associated with Cellco's antennas and associated equipment and a natural gas-fueled back-up generator would be installed on a 12' x 30' steel platform at the base of the tower. Access to the facility would extend from Pocono Road along an existing gravel and paved driveway a distance of approximately 730 feet to the cell site. Site plan drawings for the proposed facility are attached for your review. The location and other features of the proposed facilities are subject to change under the provisions of Connecticut General Statutes § 16-50g et seq.

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

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

Very truly yours,

Kenneth C. Baldwin

Attachment

ADJACENT PROPERTY OWNERS

SITE NAME: BROOKFIELD SOUTH

OWNER NAME: TOWN OF BROOKFIELD

OWNER ADDRESS: 100 POCONO ROAD, BROOKFIELD, CT 06804

ASSESSOR'S REFERENCE: PARCEL – E10014

THE FOLLOWING INFORMATION WAS COLLECTED FROM THE TAX ASSESSOR'S RECORDS AND LAND RECORDS OF BROOKFIELD TOWN HALL. THE INFORMATION IS CURRENT AS OF MAY 25, 2016.

THE PARCEL IS ZONED IRC 80/40 (RESTRICTED INDUSTRIAL/COMMERCIAL).

	Property Address	**Owner and Mailing Address**
1.	100A Pocono Road	Town of Brookfield Arthur Harris Park P.O. Box 5106 Brookfield, CT 06804
2.	101 Silvermine Road	Silvermine Building Three LLC P.O. Box 1157 Danbury, CT 06813
3.	100 Silvermine Road	Young Family Realty LLC 88 Rose Hill Avenue Danbury, CT 06810
4.	761 Federal Road	State of Connecticut 450 Capitol Avenue Hartford, CT 06106
5.	1 Dean Road	Paul J. Larsson 1 Dean Road Brookfield, CT 06804
6.	46 Silvermine Road	Richard C. Haseney 46 Silvermine Road Brookfield, CT 06804
7.	44 Silvermine Road	John E. Sweet, Sr., Trustee 44 Silvermine Road Brookfield, CT 06804

	Property Address	Owner and Mailing Address
8.	42 Silvermine Road	Brigitte Muro 42 Silvermine Road Brookfield, CT 06804
9.	43 Silvermine Road	Joseph Matthew and Nancy S. Grimes 6 Horse Hill Road Brookfield, CT 06804
10.	108 Pocono Road	Town of Brookfield P.O. Box 5106 Brookfield, CT 06804
11.	112 Pocono Road	Romulo T. and Arleen J. Ducusin 112 Pocono Road Brookfield, CT 06804
12.	117 Pocono Road	Pocono Crossing LLC P.O. Box 775 Brookfield, CT 06804
13.	115 Pocono Road	United States Post Office 115 Pocono Road Brookfield, CT 06804
14.	103 Pocono Road	Marcus S. Sharpe 103 Pocono Road Brookfield, CT 06804
15.	101 Pocono Road	Richard J. Hagley 101 Pocono Road Brookfield, CT 06804
16.	81 Pocono Road	David, Lisa and Brittany Austin 8529 Castle Creek Road North Richland, TX 76182
17.	88 Pocono Road	Walter E. Hagley 88 Pocono Road Brookfield, CT 06804
18.	82 Pocono Road	Condell LLC c/o Newyo LLC – Tax Department P.O. Box 28606 Atlanta, GA 30358

CERTIFICATION OF SERVICE

I hereby certify that a copy of the foregoing letter was sent by certified mail, return receipt requested, to each of the parties on the attached list of abutting landowners.

6/2/16
Date

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

Attorneys for CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ689	0003382444
Radio Service	
WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
REA001	C	0

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2007

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ696	0003382435
Radio Service	
WY - 700 MHz Lower Band (Blocks A, B, E)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
BEA010	A	0

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2007

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ689	0003382444
Radio Service	
WU - 700 MHz Upper Band (Block C)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
REA001	C	0

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2007

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY #150 - GASA5REG
ALPHARETTA, GA 30004

Call Sign	File Number
WQJQ696	0003382435
Radio Service: WY - 700 MHz Lower Band (Blocks A, B, E)	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-26-2008	11-26-2008	02-17-2019	12-03-2008

Market Number	Channel Block	Sub-Market Designator
BEA010	A	0

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
02-17-2013	02-17-2019		

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at http://wireless.fcc.gov/uls and select "License Search". Follow the instructions on how to search for license information.

FCC 601-MB
August 2007

ULS License

Cellular License - KNKA363 - Cellco Partnership

PA This license has pending applications: 0003317580

Call Sign	KNKA363	Radio Service	CL - Cellular
Status	Active	Auth Type	Regular

Market

Market	CMA042 - Bridgeport-Stamford-Norwalk-Danbury, CT	Channel Block	A
Submarket	0	Phase	2

Dates

Grant	02/05/2008	Expiration	01/22/2018
Effective	02/05/2008	Cancellation	

Five Year Buildout Date

11/20/1992

Control Points

1	180 WASHINGTON VALLEY ROAD, BEDMINSTER, NJ P: (800)852-2671

Licensee

FRN	0003290673	Type	Partnership

Licensee

Cellco Partnership
1120 Sanctuary Pkwy, #150 GASA5REG
Alpharetta, GA 30004
ATTN Regulatory

P:(770)797-1070
F:(770)797-1036
E:Network.Regulatory@VerizonWireless.com

Contact

Verizon Wireless
Sonya R Dutton
1120 Sanctuary Pkwy #150 GASA5REG
Alpharetta, GA 30004
ATTN Network Regulatory

P:(770)797-1070
F:(770)797-1036
E:Network.Regulatory@VerizonWireless.com

Ownership and Qualifications

Radio Service Type	Mobile		
Regulatory Status	Common Carrier	Interconnected	Yes

Alien Ownership

Is the applicant a foreign government or the representative of any foreign government?	No
Is the applicant an alien or the representative of an alien?	No
Is the applicant a corporation organized under the laws of any foreign government?	No
Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	No
Is the applicant directly or indirectly controlled by any other corporation	**Yes**

of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country?

If the answer to the above question is 'Yes', has the applicant received a ruling(s) under Section 310(b)(4) of the Communications Act with respect to the same radio service involved in this application?

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Demographics

Race

Ethnicity

Gender

ULS License

Cellular License - KNKA363 - Cellco Partnership - Frequencies

Call Sign KNKA363 Radio Service CL - Cellular

Return to Main

A Block

824.04 - 834.99 paired with 869.04 - 879.99

845.01 - 846.48 paired with 890.01 - 891.48

ULS License

PCS Broadband License - KNLH264 - Cellco Partnership

Call Sign	KNLH264	Radio Service	CW - PCS Broadband
Status	Active	Auth Type	Regular

Market

Market	BTA321 - New York, NY	Channel Block	F
Submarket	0	Associated Frequencies (MHz)	001890.00000000-001895.00000000 001970.00000000-001975.00000000

Dates

Grant	07/23/2007	Expiration	06/27/2017
Effective	07/23/2007	Cancellation	

Buildout Deadlines

1st	06/27/2002	2nd	

Notification Dates

1st	06/04/2002	2nd	

Licensee

FRN	0003290673	Type	Joint Venture

Licensee

Cellco Partnership
1120 Sanctuary Pkwy, #150 GASA5REG
Alpharetta, GA 30004
ATTN Regulatory

P:(770)797-1070
F:(770)797-1036
E:Network.Regulatory@VerizonWireless.com

Contact

Verizon Wireless
Sonya R Dutton
1120 Sanctuary Pkwy, #150 GASA5REG
Alpharetta, GA 30004
ATTN Regulatory

P:(770)797-1070
F:(770)797-1036
E:Network.Regulatory@VerizonWireless.com

Ownership and Qualifications

Radio Service Type Mobile

Regulatory Status Common Carrier Interconnected Yes

Alien Ownership

Is the applicant a foreign government or the representative of any foreign government?	No
Is the applicant an alien or the representative of an alien?	No
Is the applicant a corporation organized under the laws of any foreign government?	No
Is the applicant a corporation of which more than one-fifth of	No

the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	
Is the applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country?	**Yes**
If the answer to the above question is 'Yes', has the applicant received a ruling(s) under Section 310(b)(4) of the Communications Act with respect to the same radio service involved in this application?	

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity Gender

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: MICHAEL SAMSOCK
CELLCO PARTNERSHIP
1300 I STREET, NW - SUITE 400 WEST
WASHINGTON, DC 20005

Call Sign	File Number
WQGB280	0005272654
Radio Service AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	08-23-2012	11-29-2021	10-02-2012

Market Number	Channel Block	Sub-Market Designator
CMA049	A	0

Market Name
New Haven-West Haven-Waterbury

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

The license is subject to compliance with the provisions of the January 12, 2001 Agreement between Deutsche Telekom AG, VoiceStream Wireless Corporation, VoiceStream Wireless Holding Corporation and the Department of Justice (DOJ) and the Federal Bureau of Investigation (FBI), which addresses national security, law enforcement, and public safety issues of the FBI and the DOJ regarding the authority granted by this license. Nothing in the Agreement is intended to limit any obligation imposed by Federal law or regulation including, but not limited to, 47 U.S.C. Section 222(a) and (c)(1) and the FCC's implementing regulations. The Agreement is published at VoiceStream-DT Order, IB Docket No. 00-187, FCC 01-142, 16 FCC Rcd 9779, 9853 (2001).

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: LICENSING MANAGER
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, STE 150 GASA5REG
ALPHARETTA, GA 30009

Call Sign	File Number
WQGA906	50000AWAA12
Radio Service AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	08-23-2012	11-29-2021	10-02-2012

Market Number	Channel Block	Sub-Market Designator
BEA010	B	15

Market Name
New York-No. New Jer.-Long Isl

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

Conditions:

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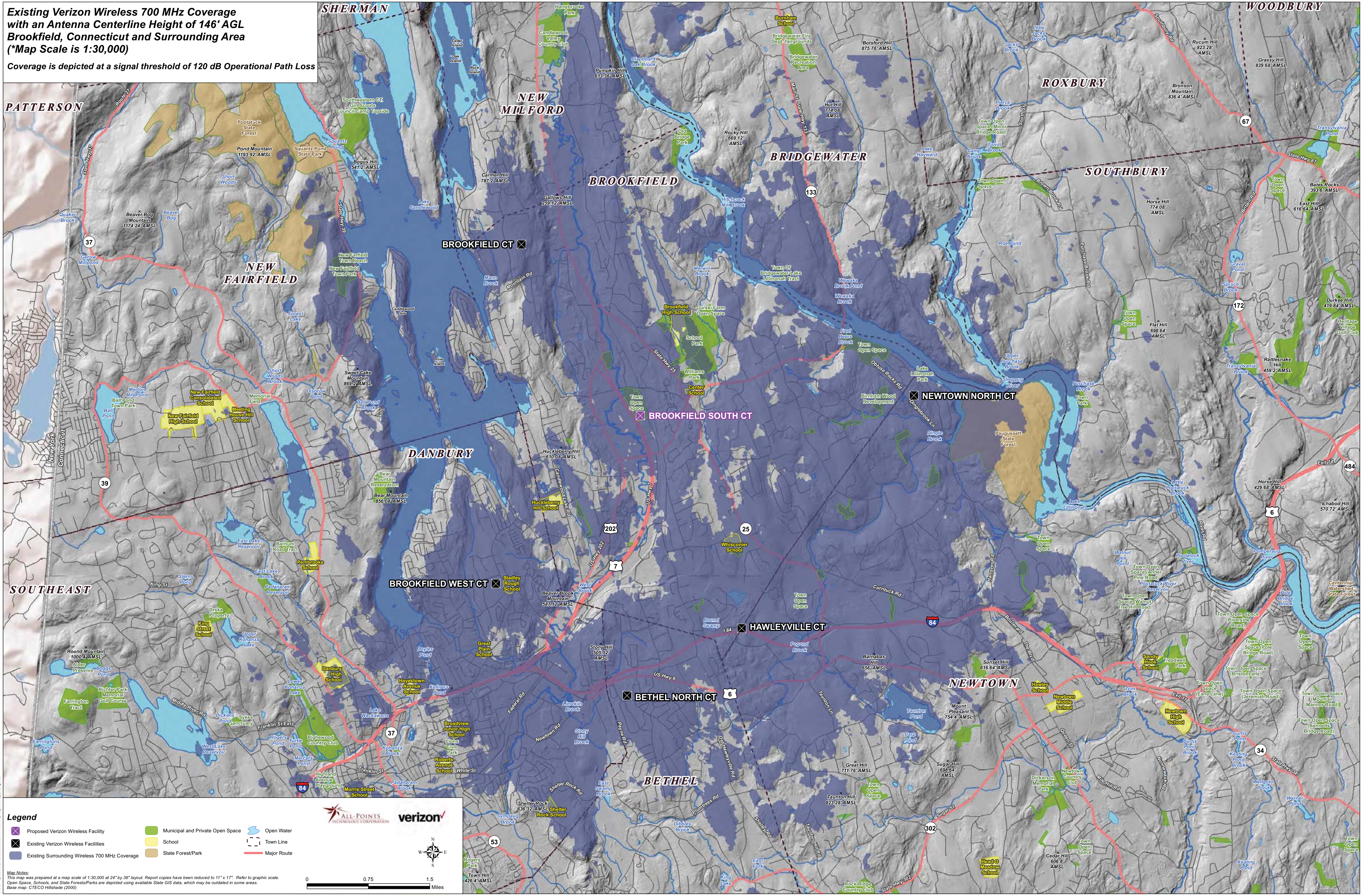
Existing Verizon Wireless 700 MHz Coverage with an Antenna Centerline Height of 146' AGL Brookfield, Connecticut and Surrounding Area (*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss



Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 700 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION

verizon

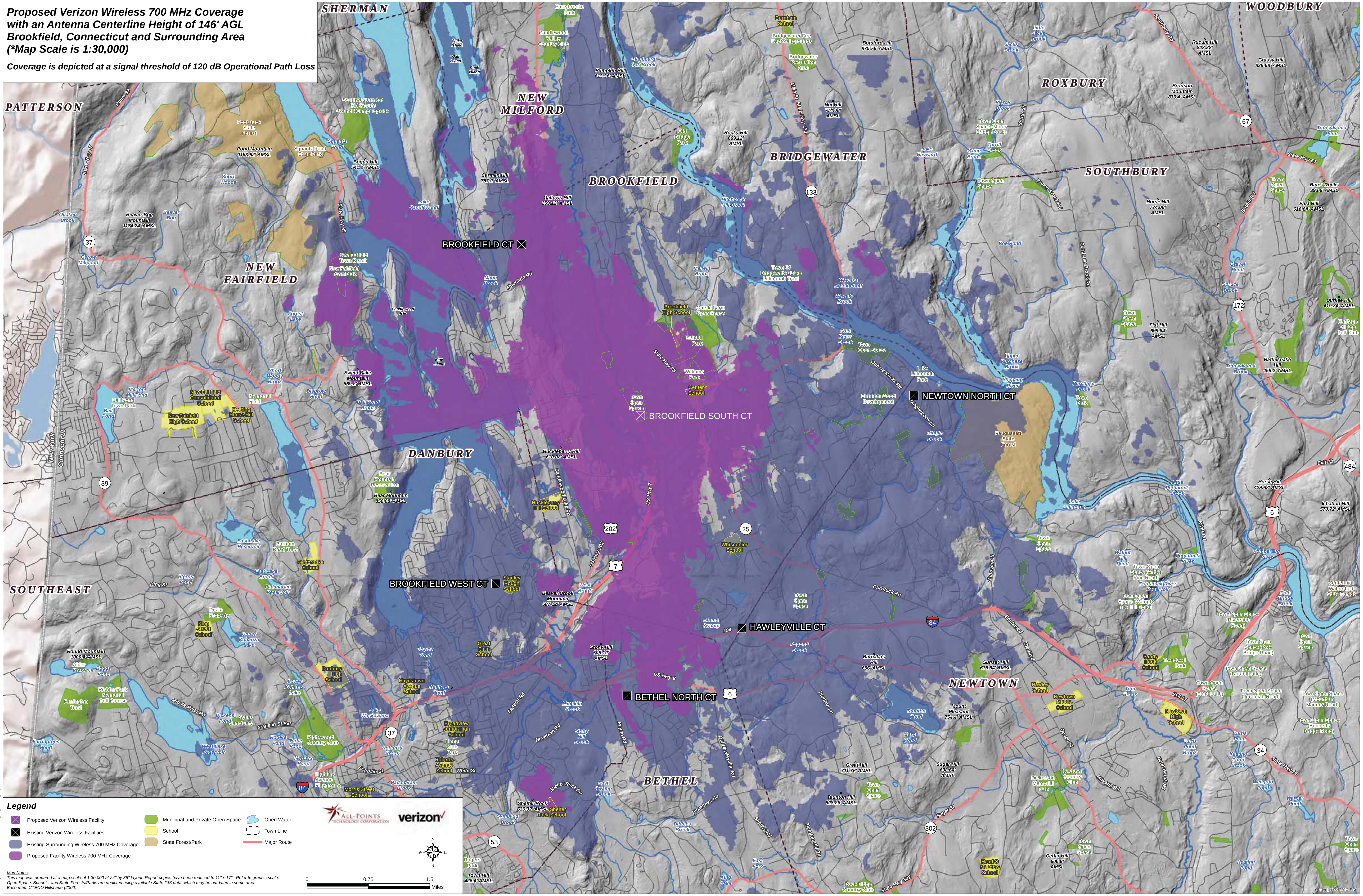
N S W E

0 0.75 1.5 Miles

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2000)

Proposed Verizon Wireless 700 MHz Coverage with an Antenna Centerline Height of 146' AGL Brookfield, Connecticut and Surrounding Area (*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

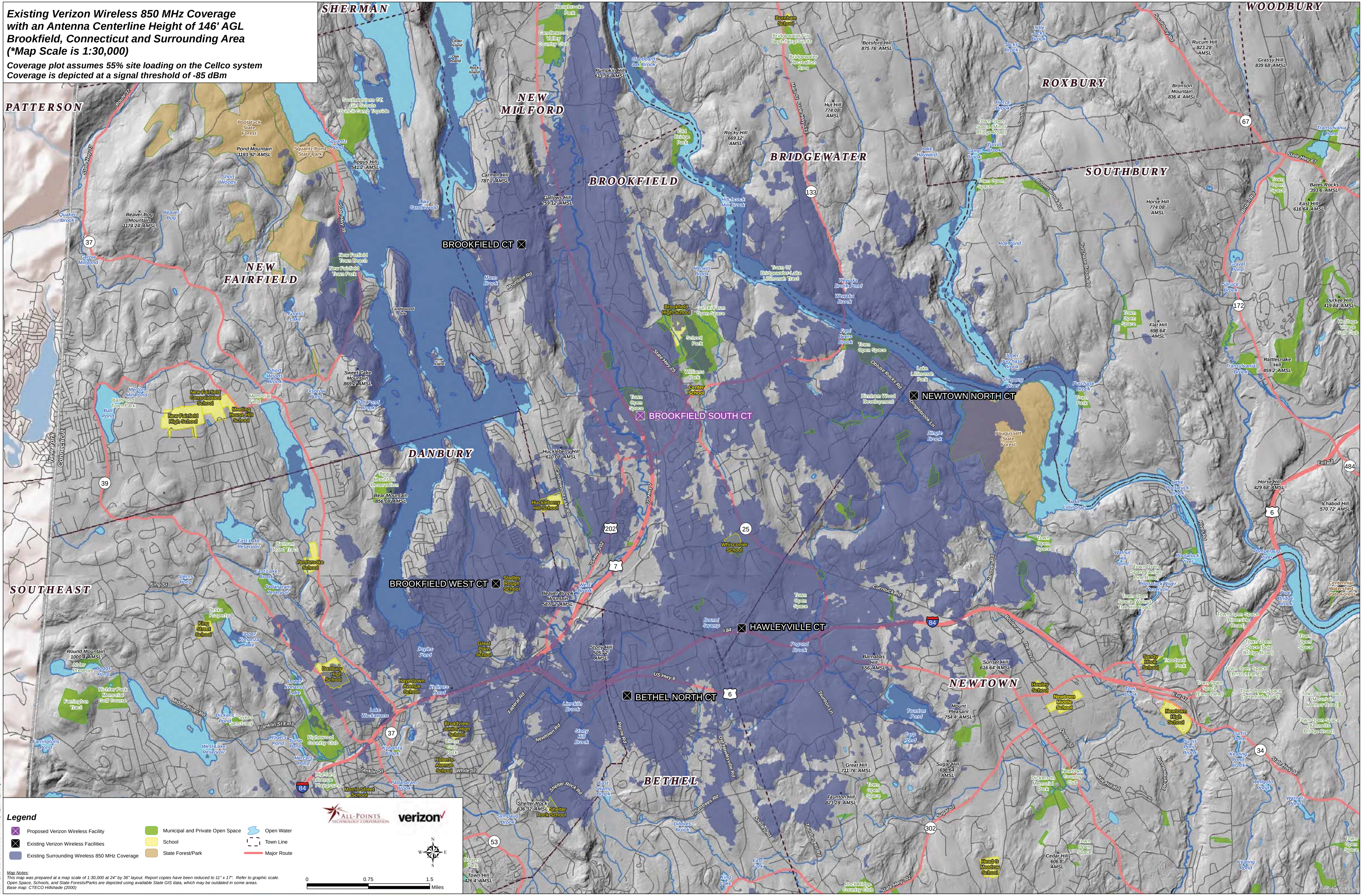


Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale.
Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas.
Base map: CTECO Hillshade (2000)

C:\GIS\Projects\Verizon\Brookfield South CT\mxd\RF_Plot_700MHz_Proposed.mxd

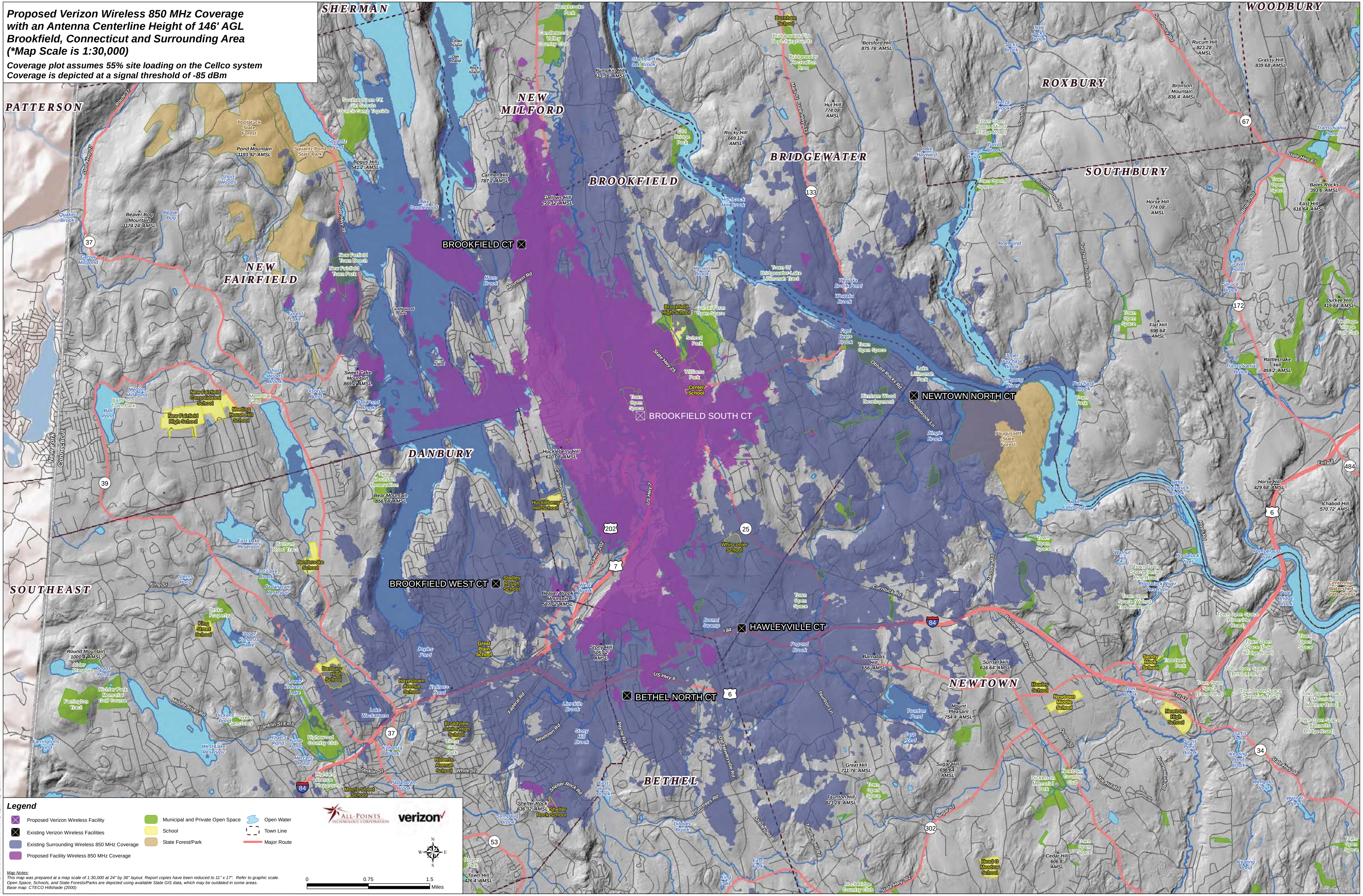
Existing Verizon Wireless 850 MHz Coverage
with an Antenna Centerline Height of 146' AGL
Brookfield, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm



Proposed Verizon Wireless 850 MHz Coverage with an Antenna Centerline Height of 146' AGL Brookfield, Connecticut and Surrounding Area (*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm



Existing Verizon Wireless 1900 MHz Coverage
with an Antenna Centerline Height of 146' AGL
Brookfield, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm

SHERMAN
WOODBURY
PATTERSON
NEW MILFORD
ROXBURY
BRIDGEWATER
BROOKFIELD
SOUTHBURY
NEW FAIRFIELD
DANBURY
SOUTHEAST
NEWTOWN
BETHEL

BROOKFIELD CT
BROOKFIELD SOUTH CT
NEWTOWN NORTH CT
BROOKFIELD WEST CT
HAWLEYVILLE CT
BETHEL NORTH CT

Pootatuck State Forest
Pond Mountain 1193.92' AMSL
Squantz Pond State Park
Bogus Hill 541.2' AMSL
Short Woods
Beaver Bog Mountain 1174.24' AMSL
Beaver Bog
Lake Candlewood
Carmen Hill 787.2' AMSL
Gallows Hill 759.12' AMSL
Pumpkin Hill 813.36' AMSL
Rocky Hill 669.12' AMSL
Hut Hill 774.08' AMSL
Botsford Hill 875.76' AMSL
Bronson Mountain 836.4' AMSL
Rucum Hill 823.28' AMSL
Grassy Hill 839.68' AMSL
Transylvania Pond
Bates Rocks 393.6' AMSL
East Hill 616.64' AMSL
Horse Hill 774.08' AMSL
Flat Hill 698.64' AMSL
Durkee Hill 419.84' AMSL
Rattlesnake Hill 459.2' AMSL
Sweet Cake Mountain 869.2' AMSL
Huckleberry Hill 610.08' AMSL
Bear Mountain 856.08' AMSL
Round Mountain 1000.9' AMSL
Stony Hill 595.92' AMSL
Barnabas Hill 656' AMSL
Sunset Hill 616.64' AMSL
Mount Pleasant 754.4' AMSL
Great Hill 711.76' AMSL
Sugar Hill 698.64' AMSL
Taunton Hill 823.28' AMSL
Cedar Hill 606.8' AMSL
Town Hill 426.4' AMSL
Beaver Brook Mountain 537.12' AMSL
Shelter Rock 636.32' AMSL
Ichabod Hill 570.72' AMSL
Horse Hill 429.68' AMSL
Centennial Watershed State Forest

Candlewood Valley Country Club
Bridgewater Fire Department Grounds
Bridgewater Recreation Area
Old Bridge Park
Hitchcock Mill Brook
Town Open Space
Town Open Space (Minor Bridge Road)
Camp Tahmi
Lake Hayward
Brown Brook Rd
Roe Pond
Gravel Pond
Spruce Brook
Town Open Space
Town Open Space (Pole Bridge Road)
Town Open Space (Bristol Lane)
Town Open Space (Lane Lane)
Town Open Space (Bennetts Bridge Road)
Town Open Space (Mountain Mutual Road)
Town Open Space (Pumpitup Road)
Town Open Space (Walnut Tree Hill Road)
Town Open Space (Pine Rd/Pootatuck River Preserve)
Town Open Space (Barnum Rd)
Town Open Space (Bennetts Bridge Road)
Town Open Space
Walnut Hill Pond
Pootatuck River
Pomperaug River
Pole Bridge Road
Keating Pond
Warner Pond
Wellsville Pond
Curtis Pond
Curtis Pond Brook
Keating Pond Brook
Transylvania Brook
Tom Brook
Meadowood Park
Sandy Hook School
Hawley School
Newtown Middle School
Newtown High School
Newtown Country Club
Dickerson Memorial Park
Head O Meadow School
Rocky Ridge Country Club
Lake Lillinonah
Lake Lillinonah Park
Town Of Bridgewater Lake Lillinonah Tract
Wewaika Brook Pond
Wewaika Brook
Tripl Bears Brook
Upper Purchase Brook
Purchase Brook
Purchase Brook Town Park
Sherwood Island State Park
Paugussett State Forest
Bingle Brook
Bunham Wood Development
Taunton Pond
Gary Pond
Lake Candlewood
Squantz Pond
Mill Pond
Merton Mill Pond
Ball Pond
Ball Pond Town Park
Ball Pond Brook
Deforow Pond
Memorial Field
Short Woods Brook
Forest Lake
Farrington Pond
Farrington Trust
Richter Park Memorial Golf Course
Alder Preserve
Boggs Pond
Dickens Pond
Sykes Sanctuary
Rogers Pond
Turtle Pond
Highland Country Club
Lake Waccabuc
West Lake Reservoir
Mercers Pond
Kohanza Brook
Padanaram Reservoir
East Lake Reservoir
Bennin Road Trail
East Lake Brook
King St
Terns Pond
Dyke Property
Upper Kohanza Lake
Lower Kohanza Lake
Dayles Pond
Kellogg Pond
Deer Island
Cedar Island
Oak Island
Rock Island
Candlewood Hill
Mountain Rd
Main Brook
Limekiln Brook
Stony Hill Brook
Taunton Lake
Whitney Brook
Saugatuck River
Little Jacks Brook
Jacks Brook
Pierce Brook
Tahmi Brook
Glasboard Oak Brook
Mill Plain Rd
Main St
Still Hill Rd
Old Sherman Hill Rd
Obtuse Rocks Rd
Bingle Brook Ln
Currituck Rd
Taunton Ln
Barnum Road Trail
Pumpitup Rd
Bennetts Bridge Rd
Mile Hill Rd
Walnut Hill Rd
Pootatuck River Rd
Pomperaug River
Tom Brook
Meadowood Park
Sandy Hook School
Hawley School
Newtown Middle School
Newtown High School
Newtown Country Club
Dickerson Memorial Park
Head O Meadow School
Rocky Ridge Country Club
Lake Lillinonah
Lake Lillinonah Park
Town Of Bridgewater Lake Lillinonah Tract
Wewaika Brook Pond
Wewaika Brook
Tripl Bears Brook
Upper Purchase Brook
Purchase Brook
Purchase Brook Town Park
Sherwood Island State Park
Paugussett State Forest
Bingle Brook
Bunham Wood Development
Taunton Pond
Gary Pond
Lake Candlewood
Squantz Pond
Mill Pond
Merton Mill Pond
Ball Pond
Ball Pond Town Park
Ball Pond Brook
Deforow Pond
Memorial Field
Short Woods Brook
Forest Lake
Farrington Pond
Farrington Trust
Richter Park Memorial Golf Course
Alder Preserve
Boggs Pond
Dickens Pond
Sykes Sanctuary
Rogers Pond
Turtle Pond
Highland Country Club
Lake Waccabuc
West Lake Reservoir
Mercers Pond
Kohanza Brook
Padanaram Reservoir
East Lake Reservoir
Bennin Road Trail
East Lake Brook
King St
Terns Pond
Dyke Property
Upper Kohanza Lake
Lower Kohanza Lake
Dayles Pond
Kellogg Pond
Deer Island
Cedar Island
Oak Island
Rock Island
Candlewood Hill
Mountain Rd
Main Brook
Limekiln Brook
Stony Hill Brook
Taunton Lake
Whitney Brook
Saugatuck River
Little Jacks Brook
Jacks Brook
Pierce Brook
Tahmi Brook
Glasboard Oak Brook
Mill Plain Rd
Main St
Still Hill Rd
Old Sherman Hill Rd
Obtuse Rocks Rd
Bingle Brook Ln
Currituck Rd
Taunton Ln
Barnum Road Trail
Pumpitup Rd
Bennetts Bridge Rd
Mile Hill Rd
Walnut Hill Rd
Pootatuck River Rd
Pomperaug River
Tom Brook
Meadowood Park
Sandy Hook School
Hawley School
Newtown Middle School
Newtown High School
Newtown Country Club
Dickerson Memorial Park
Head O Meadow School
Rocky Ridge Country Club
Lake Lillinonah
Lake Lillinonah Park
Town Of Bridgewater Lake Lillinonah Tract
Wewaika Brook Pond
Wewaika Brook
Tripl Bears Brook
Upper Purchase Brook
Purchase Brook
Purchase Brook Town Park
Sherwood Island State Park
Paugussett State Forest
Bingle Brook
Bunham Wood Development
Taunton Pond
Gary Pond
Lake Candlewood
Squantz Pond
Mill Pond
Merton Mill Pond
Ball Pond
Ball Pond Town Park
Ball Pond Brook
Deforow Pond
Memorial Field
Short Woods Brook
Forest Lake
Farrington Pond
Farrington Trust
Richter Park Memorial Golf Course
Alder Preserve
Boggs Pond
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Lake Waccabuc
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Kohanza Brook
Padanaram Reservoir
East Lake Reservoir
Bennin Road Trail
East Lake Brook
King St
Terns Pond
Dyke Property
Upper Kohanza Lake
Lower Kohanza Lake
Dayles Pond
Kellogg Pond
Deer Island
Cedar Island
Oak Island
Rock Island
Candlewood Hill
Mountain Rd
Main Brook
Limekiln Brook
Stony Hill Brook
Taunton Lake
Whitney Brook
Saugatuck River

Brookfield High School
School Park
Williams Park
Center School
Town Open Space
Gurski Farm Open Space
Whisconier School
Huckleberry Hill School
Stadley Rough School
Great Plain School
Danbury High School
Hayestown Avenue School
Broadview Elementary School
Lions Club Park
Roberts Avenue School
White St
Morris Street School
Shelter Rock School
New Fairfield Town Beach
New Fairfield Town Park
New Fairfield Consolidated School
New Fairfield High School
Meeting House Hill School
Pembroke School
Old Sawmill Brook
Old Sawmill Brook Rd
Huckleberry Hill Rd
Shelter Rock Rd
Plumtrees Rd
Padanaram Brook
Beaver Brook
Bear Mountain Reservation
Town Open Space
Town Open Space (Minor Bridge Road)
Town Open Space (Walnut Tree Hill Road)
Town Open Space (Pine Rd/Pootatuck River Preserve)
Town Open Space (Barnum Rd)
Town Open Space (Bennetts Bridge Road)
Town Open Space
Walnut Hill Pond
Pootatuck River
Pomperaug River
Pole Bridge Road
Keating Pond
Warner Pond
Wellsville Pond
Curtis Pond
Curtis Pond Brook
Keating Pond Brook
Transylvania Brook
Tom Brook
Meadowood Park
Sandy Hook School
Hawley School
Newtown Middle School
Newtown High School
Newtown Country Club
Dickerson Memorial Park
Head O Meadow School
Rocky Ridge Country Club
Lake Lillinonah
Lake Lillinonah Park
Town Of Bridgewater Lake Lillinonah Tract
Wewaika Brook Pond
Wewaika Brook
Tripl Bears Brook
Upper Purchase Brook
Purchase Brook
Purchase Brook Town Park
Sherwood Island State Park
Paugussett State Forest
Bingle Brook
Bunham Wood Development
Taunton Pond
Gary Pond
Lake Candlewood
Squantz Pond
Mill Pond
Merton Mill Pond
Ball Pond
Ball Pond Town Park
Ball Pond Brook
Deforow Pond
Memorial Field
Short Woods Brook
Forest Lake
Farrington Pond
Farrington Trust
Richter Park Memorial Golf Course
Alder Preserve
Boggs Pond
Dickens Pond
Sykes Sanctuary
Rogers Pond
Turtle Pond
Highland Country Club
Lake Waccabuc
West Lake Reservoir
Mercers Pond
Kohanza Brook
Padanaram Reservoir
East Lake Reservoir
Bennin Road Trail
East Lake Brook
King St
Terns Pond
Dyke Property
Upper Kohanza Lake
Lower Kohanza Lake
Dayles Pond
Kellogg Pond
Deer Island
Cedar Island
Oak Island
Rock Island
Candlewood Hill
Mountain Rd
Main Brook
Limekiln Brook
Stony Hill Brook
Taunton Lake
Whitney Brook
Saugatuck River

Exit 11
Exit 14

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 1900 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

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verizon

N W E S

0 0.75 1.5 Miles

Map Notes:
This map was prepared at a map scale of 1:30,000 at 24" by 36" layout. Report copies have been reduced to 11" x 17". Refer to graphic scale. Open Space, Schools, and State Forests/Parks are depicted using available State GIS data, which may be outdated in some areas. Base map: CTECO Hillshade (2000)

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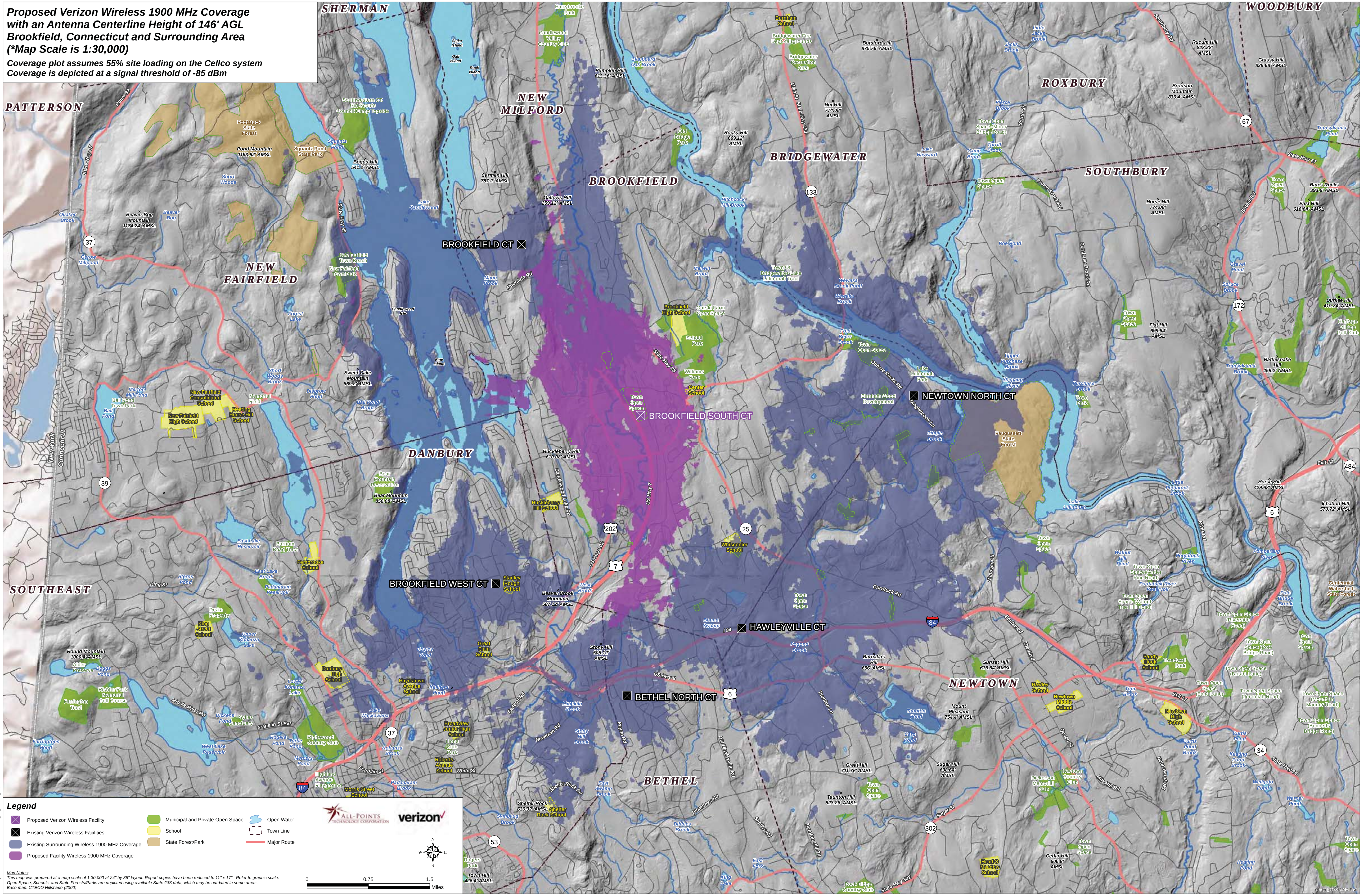
Proposed Verizon Wireless 1900 MHz Coverage with an Antenna Centerline Height of 146' AGL Brookfield, Connecticut and Surrounding Area (*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system
Coverage is depicted at a signal threshold of -85 dBm



Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 1900 MHz Coverage
- Proposed Facility Wireless 1900 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

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N S E W

0 0.75 1.5 Miles

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Existing Verizon Wireless 2100 MHz Coverage
with an Antenna Centerline Height of 146' AGL
Brookfield, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

SHERMAN
WOODBURY
PATTERSON
NEW MILFORD
ROXBURY
BRIDGEWATER
BROOKFIELD
SOUTHBURY
NEW FAIRFIELD
DANBURY
SOUTHEAST
NEWTOWN
BETHEL
BROOKFIELD CT
BROOKFIELD SOUTH CT
BROOKFIELD WEST CT
HAWLEYVILLE CT
BETHEL NORTH CT
NEWTOWN NORTH CT
Pootatuck State Forest
Pond Mountain 1193.92' AMSL
Squantz Pond State Park
Bogus Hill 541.2' AMSL
Carmen Hill 787.2' AMSL
Gallows Hill 259.12' AMSL
Rocky Hill 669.12' AMSL
Hut Hill 774.08' AMSL
Botsford Hill 875.76' AMSL
Pumpkin Hill 513.36' AMSL
Bronson Mountain 836.4' AMSL
Rucum Hill 823.28' AMSL
Grassy Hill 839.68' AMSL
Horse Hill 774.08' AMSL
Bates Rocks 393.6' AMSL
East Hill 616.64' AMSL
Durkee Hill 419.84' AMSL
Flat Hill 698.64' AMSL
Rattlesnake Hill 459.2' AMSL
Beaver Bog Mountain 1174.24' AMSL
Sweet Cake Mountain 869.2' AMSL
Round Mountain 1000.8' AMSL
Huckleberry Hill 610.08' AMSL
Bear Mountain 856.08' AMSL
Stony Hill 505.12' AMSL
Barnabas Hill 656' AMSL
Sunset Hill 616.64' AMSL
Mount Pleasant 754.4' AMSL
Great Hill 711.76' AMSL
Sugar Hill 698.64' AMSL
Taunton Hill 823.28' AMSL
Shelter Rock 636.32' AMSL
Town Hill 426.4' AMSL
Cedar Hill 606.8' AMSL
Horse Hill 429.68' AMSL
Ichabod Hill 570.72' AMSL
Lake Candlewood
Lake Waccabuc
Lake Lillinonah
Taunton Pond
Rogers Park
Tarrywile Park
Huntington Terrace
Centennial Watershed State Forest
Paugussett State Forest
Brookfield High School
Broadview Junior High School
Roberts Avenue School
Center School
Whisconier School
Huckleberry Hill School
Shelter Rock School
Meeting House Hill School
New Fairfield Consolidated School
New Fairfield High School
Pembroke School
Stadley Rough School
King Street School
Great Plain School
Danbury High School
Hayestown Avenue School
Morris Street School
Huntington Terrace School
Hawley School
Newtown Middle School
Newtown High School
Head O Meadow School
Middle Gate School
Legend
Proposed Verizon Wireless Facility
Existing Verizon Wireless Facilities
Existing Surrounding Wireless 2100 MHz Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
Major Route
ALL-POINTS TECHNOLOGY CORPORATION
verizon
Map Notes:
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Base map: CTECO Hillshade (2000)
0 0.75 1.5 Miles
N W E S
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Proposed Verizon Wireless 2100 MHz Coverage with an Antenna Centerline Height of 146' AGL Brookfield, Connecticut and Surrounding Area (*Map Scale is 1:30,000)

Coverage is depicted at a signal threshold of 120 dB Operational Path Loss

SHERMAN
WOODBURY
PATTERSON
NEW MILFORD
ROXBURY
BRIDGEWATER
BROOKFIELD
SOUTHBURY
NEW FAIRFIELD
DANBURY
SOUTHEAST
NEWTOWN
BETHEL

BROOKFIELD CT
BROOKFIELD SOUTH CT
NEWTOWN NORTH CT
BROOKFIELD WEST CT
HAWLEYVILLE CT
BETHEL NORTH CT

Harry Brook Park
Candlewood Valley Country Club
Cedar Island
Oak Island
Rock Island
Pumpkin Hill 510.36' AMSL
Clapboard Oak Brook
Burnham School
Bridgewater Fire Department Grounds
Bridgewater Recreation Area
Botsford Hill 875.76' AMSL
Main St S
Hut Hill 774.08' AMSL
Rocky Hill 669.12' AMSL
Old Bridge Park
Little Jacks Brook
Jacks Brook
Rucum Hill 823.28' AMSL
Grassy Hill 839.68' AMSL
Bronson Mountain 836.4' AMSL
Pierce Brook
Town Open Space - Minor Bridges Road
Tilrill Brook
Camp Brook
Lake Hayward
Sandy Hill
Transylvania Pond
Bates Rocks 393.6' AMSL
East Hill 616.64' AMSL
Town Open Space
Brown Brook Rd
Horse Hill 774.08' AMSL
Gravel Pond
Spruce Brook
Durkee Hill 419.84' AMSL
Flat Hill 698.64' AMSL
Heritage Village Golf Club
Rattlesnake Hill 459.2' AMSL
Transylvania Brook
Upper Purchase Brook
Shepaug River
Purchase Brook Rd
Purchase Brook Town Park
Lake Lillinonah Park
Lillinonah Trail
Bunham Wood Development
Paugussett State Forest
Little Pootatuck Brook
Lake Lillinonah
Horse Hill 429.68' AMSL
Ichabod Hill 570.72' AMSL
Pootatuck River
Pomperaug River
Walnut Hill Pond
Town Open Space (Arthur Pine Road)
Pootatuck Reservoir
Town Open Space (Walnut Treadwell Road)
Currituck Rd
Town Open Space (Riverside Road)
Bull Bridge Brook
Centennial Watershed State Forest
Town Open Space (Pole Bridge Road)
Town Open Space
Sandy Hook School
Treadwell Park
Town Open Space (Bristol Farm)
Town Open Space (Lane Lane)
Town Open Space (Jeremiah Road)
Town Open Space (Mountain Manner Road)
Town Open Space (Bennetts Bridge Road)
Curtis Pond
Curtis Pond Brook
Keating Pond Brook
Keating Pond
Wellgate Pond
Warner Pond
Newtown Country Club
Dickerson Memorial Park
Newtown Middle School
Newtown High School
Hawley School
Tom Brook
Mount Pleasant 754.4' AMSL
Taunton Pond
Carp Pond
Great Hill 711.76' AMSL
Sugar Hill 698.84' AMSL
Taunton Hill 823.28' AMSL
Town Open Space
Cedar Hill 606.8' AMSL
Hood Meadow School
Rock Ridge Country Club
Barnabas Hill 656' AMSL
Sunset Hill 616.64' AMSL
Bound Swamp
Pigpond Brook
Stony Hill 505.92' AMSL
Beaver Brook Mountain 587.12' AMSL
West Brook
Whisconier School
Huckleberry Hill 610.08' AMSL
Huckleberry Hill School
Bear Mountain Reservation
Bear Mountain 856.08' AMSL
Shelter Rock 636.32' AMSL
Shelter Rock School
East Swamp Brook
Sympaug Brook
Dibbles Brook
East Fork
King Lake
Town Hill 426.8' AMSL
Rogers Park
Pootatuck State Forest
Pond Mountain 1193.92' AMSL
Squantz Pond State Park
Southwestern CT Girl Scouts Council-Camp Topside
Squantz Pond
Bogus Hill 541.2' AMSL
Short Woods
Carmen Hill 787.2' AMSL
Gallows Hill 259.12' AMSL
Lake Candlewood
Quakez Brook
Beaver Bog Mountain 1174.24' AMSL
Beaver Bog
Gerow Millpond
New Fairfield Town Beach
New Fairfield Town Park
Mill Plain Rd
Hitchcock Mill Brook
Merwin Brook
Town Of Bridgewater Lake Lillinonah Tract
Wewaka Brook Pond
Wewaka Brook
Rose Pond
Brookfield High School
Gurski Farm Open Space
School Park
Williams Park
Center School
Town Open Space
Forest Lake
Candlewood Isle
Pine Island
Sweet Cake Mountain 869.2' AMSL
Short Woods Brook
Merton Mill Pond
Ball Pond Town Park
Ball Pond
New Fairfield Consolidated School
New Fairfield High School
Meeting House Hill School
Memorial Field
Dishaw Pond
Ball Pond Brook
Trout Brook
Ohbuck Rocks Rd
Triple Brook
Pine Rd
Newtown Rd
Stony Hill Brook
Taunton Ln
Fairfield Rd
Jim Mill Brook
Lake Waubeeka
Broadview Junior High School
Lions Club Park
Roberts Avenue School
White St
Franklin St
Franklin St Ext
Middle River Rd
Dickens Pond
Sykes Sanctuary
Rogers Pond
Turtle Pond
Highwood Country Club
Mercers Pond
Yohanza Brook
Highland Avenue Playground
Morris Street School
Paduraram Brook
West Lake Reservoir
Farrington Pond
Farrington Trail
Fischer Park Memorial Golf Course
Round Mountain 1000.8' AMSL
Alder Preserve
Boggs Pond
Upper Kohanza Lake
Lower Kohanza Lake
King Street School
Danbury High School
Haestown Avenue School
Kohanza Pond
Dayton Pond
Great Plain School
Deer Property
Stevens Pond
King St
East Lake Reservoir
East Lake Brook
Paduraram Reservoir
Pembroke School
Baldwin Road Trail
Bear Mountain Reservoir
Old Ridgebury Rd
Old Hwy 7
Jesup Rd
Stadley Rough School
Bound Swamp
Currituck Rd
Town Open Space
Kimberly Rd
Walnut Hill Pond
Pootatuck River
Pomperaug River
Town Open Space (Arthur Pine Road)
Pootatuck Reservoir
Town Open Space (Walnut Treadwell Road)
Riverside Rd
Bull Bridge Brook
Centennial Watershed State Forest
Town Open Space (Riverside Road)
Town Open Space (Pole Bridge Road)
Town Open Space
Sandy Hook School
Treadwell Park
Town Open Space (Bristol Farm)
Town Open Space (Lane Lane)
Town Open Space (Jeremiah Road)
Town Open Space (Mountain Manner Road)
Town Open Space (Bennetts Bridge Road)
Curtis Pond
Curtis Pond Brook
Keating Pond Brook
Keating Pond
Wellgate Pond
Warner Pond
Newtown Country Club
Dickerson Memorial Park
Newtown Middle School
Newtown High School
Hawley School
Tom Brook
Mount Pleasant 754.4' AMSL
Taunton Pond
Carp Pond
Great Hill 711.76' AMSL
Sugar Hill 698.84' AMSL
Taunton Hill 823.28' AMSL
Town Open Space
Cedar Hill 606.8' AMSL
Hood Meadow School
Rock Ridge Country Club
Barnabas Hill 656' AMSL
Sunset Hill 616.64' AMSL
Bound Swamp
Pigpond Brook
Stony Hill 505.92' AMSL
Beaver Brook Mountain 587.12' AMSL
West Brook
Whisconier School
Huckleberry Hill 610.08' AMSL
Huckleberry Hill School
Bear Mountain Reservation
Bear Mountain 856.08' AMSL
Shelter Rock 636.32' AMSL
Shelter Rock School
East Swamp Brook
Sympaug Brook
Dibbles Brook
East Fork
King Lake
Town Hill 426.8' AMSL
Rogers Park
Pootatuck State Forest
Pond Mountain 1193.92' AMSL
Squantz Pond State Park
Southwestern CT Girl Scouts Council-Camp Topside
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Bogus Hill 541.2' AMSL
Short Woods
Carmen Hill 787.2' AMSL
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Lake Candlewood
Quakez Brook
Beaver Bog Mountain 1174.24' AMSL
Beaver Bog
Gerow Millpond
New Fairfield Town Beach
New Fairfield Town Park
Mill Plain Rd
Hitchcock Mill Brook
Merwin Brook
Town Of Bridgewater Lake Lillinonah Tract
Wewaka Brook Pond
Wewaka Brook
Rose Pond
Brookfield High School
Gurski Farm Open Space
School Park
Williams Park
Center School
Town Open Space
Forest Lake
Candlewood Isle
Pine Island
Sweet Cake Mountain 869.2' AMSL
Short Woods Brook
Merton Mill Pond
Ball Pond Town Park
Ball Pond
New Fairfield Consolidated School
New Fairfield High School
Meeting House Hill School
Memorial Field
Dishaw Pond
Ball Pond Brook
Trout Brook
Ohbuck Rocks Rd
Triple Brook
Pine Rd
Newtown Rd
Stony Hill Brook
Taunton Ln
Fairfield Rd
Jim Mill Brook
Lake Waubeeka
Broadview Junior High School
Lions Club Park
Roberts Avenue School
White St
Franklin St
Franklin St Ext
Middle River Rd
Dickens Pond
Sykes Sanctuary
Rogers Pond
Turtle Pond
Highwood Country Club
Mercers Pond
Yohanza Brook
Highland Avenue Playground
Morris Street School
Paduraram Brook
West Lake Reservoir
Farrington Pond
Farrington Trail
Fischer Park Memorial Golf Course
Round Mountain 1000.8' AMSL
Alder Preserve
Boggs Pond
Upper Kohanza Lake
Lower Kohanza Lake
King Street School
Danbury High School
Haestown Avenue School
Kohanza Pond
Dayton Pond
Great Plain School
Deer Property
Stevens Pond
King St
East Lake Reservoir
East Lake Brook
Paduraram Reservoir
Pembroke School
Baldwin Road Trail
Bear Mountain Reservoir
Old Ridgebury Rd
Old Hwy 7
Jesup Rd
Stadley Rough School

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Surrounding Wireless 2100 MHz Coverage
- Proposed Facility Wireless 2100 MHz Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line
- Major Route

ALL-POINTS TECHNOLOGY CORPORATION
verizon

N W E S

0 0.75 1.5 Miles

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KATHREIN
SCALA DIVISION

800 10735V01

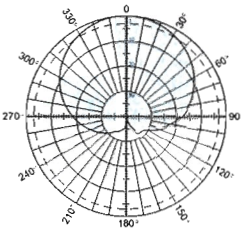
65° Single Band Panel Antenna, 6'

	Antenna
Single Band (MHz)	**698–894**
Dual Polarization	**X**
HPBW	**65°**
Adj. Electrical Downtilt Manual or optional remote control	**0°–10°**

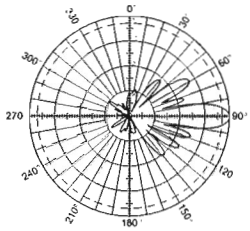
General specifications:

Frequency range	698–894 MHz
VSWR	<1.5:1
Impedance	50 ohms
Intermodulation (2x20w)	IM3: <-150 dBc
Polarization	+45° and -45°
Maximum input power	500 watts per input (at 50°C)
Connector	2 x 7-16 DIN female (long neck) (bottom mounted)
Isolation	>30 dB
Electrical downtilt	0–10 degrees (continuously adjustable)
See reverse for order information.	

698–894 MHz



Horizontal pattern
±45°- polarization



Vertical pattern
±45°- polarization
0°–10° electrical downtilt

Specifications:

	698–806 MHz	824–894 MHz
Gain	15.5 dBi	16 dBi
Front-to-back ratio	>30 dB (co-polar) 35 dB (average)	>30 dB (co-polar) 35 dB (average)
+45° and -45° polarization horizontal beamwidth	67° (half-power)	65° (half-power)
+45° and -45° polarization vertical beamwidth	11.3° (half-power)	10° (half-power)
Min. sidelobe suppression for first sidelobe above main beam average	0° 5° 10° T 16 17 17 dB 16 19 20 dB	0° 5° 10° T 18 17 16 dB 20 20 20 dB
Cross polar ratio Main direction 0° Sector ±60°	25 dB (typical) >11 dB, Average: 15 dB	25 dB (typical) >11 dB, Average: 15 dB

IRT specifications:

Logical interface ex factory[1]	3GPP/AISG 2.0
Protocols	AISG 1.1 and 3GPP/AISG 2.0 compliant
Hardware interface[2]	2 x 8 pin connector acc. IEC 60130-9; according to AISG: – IRT in (male): Control / Daisy chain in – IRT in (female): Daisy chain out
Power supply	10–30 V
Power consumption	<1 watt (standby) <8.5 watts (motor activated)
Adjustment time (full range)	40 sec.
Adjustment cycles	>50,000
Certification	FCC 15.107 Class B Computing Devices

[1] The protocol of the logical interface can be switched from 3GPP/AISG 2.0 to AISG 1.1 and vice versa with a vendor specific command. Start-up operation of the RCU 86010149 is possible in an RET system supporting AISG 1.1 or supporting 3GPP/AISG 2.0 after performing a layer 2 reset before address assignment. The protocol can also be changed as follows: AISG 1.1 to 3GPP: Enter "3GPP" into the additional data filed "Installer's ID" and perform a layer 7 reset or a power reset. 3GPP to AISG 1.1: Enter "AISG 1" into the additional datafield "Installer's ID" and perform a layer 2 reset or a power reset. After switching the protocol any other information can be entered into the "Installer's ID" field.

[2] The tightning torque for fixing the connector must be 0.5 – 1.0 Nm ("hand-tightened"). The connector should be tightened by hand only!

RoHS Lead-Free

11387-D Oct 19, 2012
936.4273/a

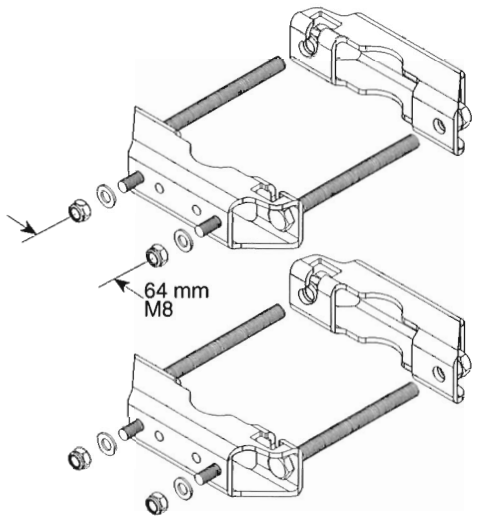
AISG Antenna Interface Standards Group

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

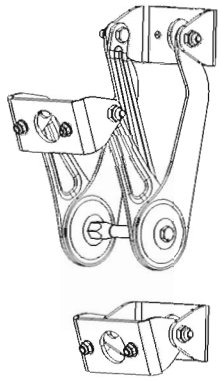
KATHREIN
SCALA DIVISION

800 10735V01

65° Single Band Panel Antenna, 6'



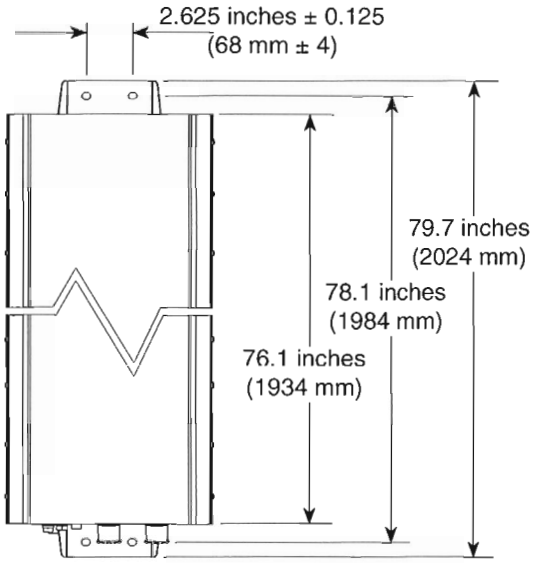
Mounting Brackets
for use with 2-point mount antennas
Mast dia. 2–4.5 inches (50–115 mm)
Weight: 4.4 lb (2 kg)



Mechanical Tilt Brackets
for use with 2-point mount antennas
Weight: 9.5 lb (4.3 kg)
(Model 850 10008)

Mechanical specifications:

Weight	30.9 lb (14 kg)	35.3 lb (16 kg) clamps included
Dimensions H x W x D	76.1 x 11.9 x 3.9 inches (1934 x 303 x 99 mm)	
Wind load Front/Side/Rear Mounting category	at 93 mph (150kph) 203 lbf / 70 lbf / 232 lbf (900 N / 310 N / 1030 N) H (Heavy)	
Wind survival rating*	150 mph (240 kph)	
Shipping dimensions	81.1 x 12.4 x 4.5 inches (2060 x 315 x 115 mm)	
Shipping weight	39.7 lb (18 kg)	
Mounting bracket	2-point hot-dip galvanized with stainless steel hardware for 2 to 4.5 inch (50 to 115 mm) OD masts.	

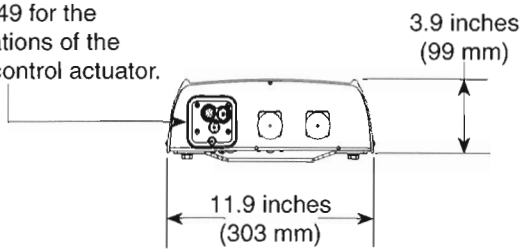


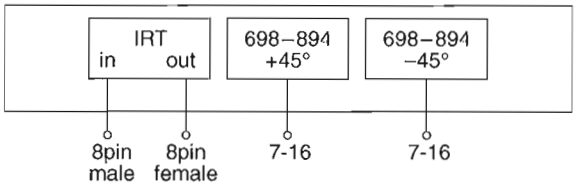
KATHREIN 860 10149

FC Tested To Comply With FCC Standards

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: Refer to part number 860 10149 for the specifications of the remote control actuator.





Order Information:

Model	Description
800 10735V01	Antenna with mounting bracket 0°–10° electrical downtilt
800 10735V01K	Antenna with mounting bracket and mechanical tilt bracket 0°–10° electrical downtilt

*Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

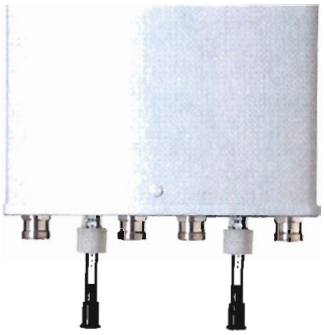
All specifications are subject to change without notice. The latest specifications are available at www.kathrein-scala.com.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

Product Specifications

COMMSCOPE®

POWERED BY ANDREW.



HBXX-6516DS-VTM

Andrew® Quad Port Antenna, 1710–2180 MHz, 65° horizontal beamwidth, RET compatible

- Each DualPol® array can be independently adjusted for greater flexibility
- Excellent gain, VSWR, front-to-back ratio, and PIM specifications for robust network performance
- Ideal choice for site collocations and tough zoning restrictions
- Great solution to maximize network coverage and capacity

Electrical Specifications

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain, dBi	17.7	18.0	18.0
Beamwidth, Horizontal, degrees	67	66	64
Beamwidth, Vertical, degrees	7.5	7.0	6.6
Beam Tilt, degrees	0–10	0–10	0–10
USLS, dB	18	18	18
Front-to-Back Ratio at 180°, dB	30	30	30
CPR at Boresight, dB	22	22	21
CPR at Sector, dB	8	9	9
Isolation, dB	30	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350
Polarization	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain by all Beam Tilts, average, dBi	17.2	17.2	17.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.3	±0.5
Gain by Beam Tilt, average, dBi	0 ° | 17.0 5 ° | 17.3 10 ° | 17.0	0 ° | 17.1 5 ° | 17.4 10 ° | 17.0	0 ° | 17.4 5 ° | 17.7 10 ° | 17.2
Beamwidth, Horizontal Tolerance, degrees	±2.7	±2.3	±3.5
Beamwidth, Vertical Tolerance, degrees	±0.5	±0.4	±0.4
USLS, dB	18	19	19
Front-to-Back Total Power at 180° ± 30°, dB	26	26	26
CPR at Boresight, dB	22	22	22
CPR at Sector, dB	9	9	9

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol® quad
Band	Single band
Brand	DualPol® | Teletilt®
Operating Frequency Band	1710 – 2180 MHz

Product Specifications

HBXX-6516DS-VTM

Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Low loss circuit board
Radome Material	PVC, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	4
Wind Loading, maximum	419.0 N @ 150 km/h 94.2 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Depth	166.0 mm | 6.5 in
Length	1297.0 mm | 51.1 in
Width	305.0 mm | 12.0 in
Net Weight	13.9 kg | 30.6 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator	HBXX-6516DS-A2M
RET System	Teletilt®

Packed Dimensions

Depth	294.0 mm | 11.6 in
Length	1609.0 mm | 63.3 in
Width	409.0 mm | 16.1 in
Shipping Weight	25.1 kg | 55.3 lb

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

600899A-2 — Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

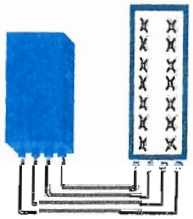
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

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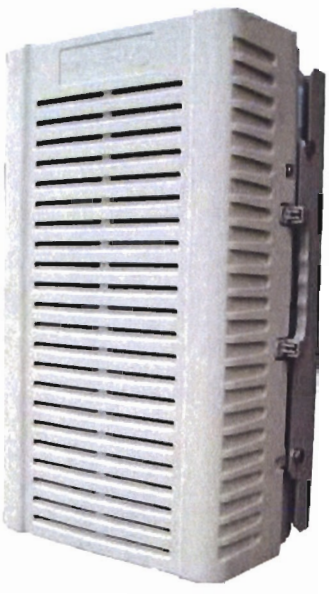
TECHNICAL SPECIFICATIONS

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.) Volume in L Weight in kg (lb) (w/o mounting HW)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voltage range DC power consumption	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal: <200N / Lateral : <150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET

RRH2X60-1900A-4R FOR BAND 2/25 APPLICATIONS

The Alcatel-Lucent RRH2x60-1900A-4R is a high power, small form factor Remote Radio Head operating in the PCS 1900MHz frequency band for WCDMA and LTE technologies. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent RRH2x60-1900A-4R is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations, administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent RRH2x60-1900A-4R integrates all the latest technologies. This allows operators to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent RRH2x60-1900A-4R is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

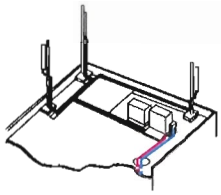
The Alcatel-Lucent RRH2x60-1900A-4R is a very cost-effective solution to deploy LTE MIMO.

EASY INSTALLATION

The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-1900A-4R installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent RRH2x60-1900A-4R is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

Installation can easily be done by a single person as the Alcatel–Lucent RRH2x60-190A-4R is compact and weighs about 21 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



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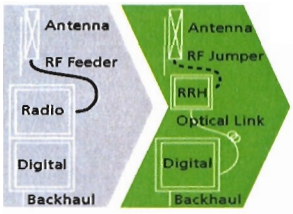
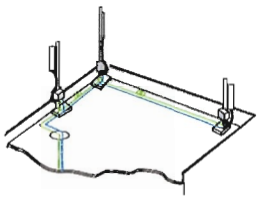


RRH for space-constrained cell sites



Distributed

FEATURES

- RRH2x60-1900A-4R integrates two power amplifiers of 60W rating (at each antenna connector)
- RRH2x60-1900A-4R can operate WCDMA only, LTE only or a mix of WCDMA and LTE
- RRH2x60-1900A-4R offers the possibility for WCDMA (non MIMO) to operate the two radio chains independently (2 blocks of 20 MHz anywhere in the band)
- RRH2x60-1900A-4R is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO deployment and/or WCDMA and LTE simultaneous operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 500x285x208 mm (30l with solar shield)
- Weight : 21 kg (46 lbs) (with solar shield)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption: 460W typ. @2x60W (100%RF)

RF Characteristics

- Supported spectrum: DL 1930-1990 / UL 1850-1910
- Frequency band: 3GPP band 2/25
- Output power: 2x60W at antenna connectors
- Technology supported: W-CDMA and LTE
- Instantaneous bandwidth: 20 MHz (MIMO) or 2x20 MHz (non MIMO)
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -124.8dBm for WCDMA and -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisychaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 15km using SM fiber
- TMA/RETA: AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions: ETS300-019-1-4 class4.1E
- Ingress Protection: IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089
- Safety : IEC60950-1, EN 60825-1
- Regulatory: CE Mark-European Directive 2002/95/EC (RoHS), 2002/96/EC (WEEE), 1999/5/EC (R&TTE)
- Health : EN 50385

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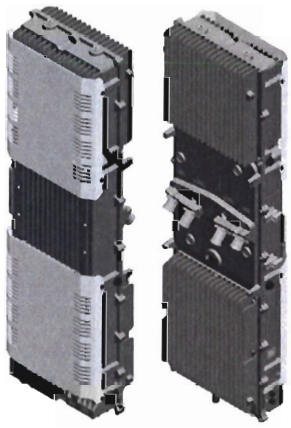
ALCATEL-LUCENT
WIRELESS PRODUCT DATASHEET
B4 RRH2X60-4R FOR AWS BAND APPLICATIONS

The Alcatel-Lucent B4 RRH2x60-4R is a high power, small form factor Remote Radio Head operating in the AWS frequency band (3GPP Band 4) for LTE technology. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent B4 RRH2x60-4R is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations, administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent B4 RRH2x60-4R integrates all the latest technologies. This allows operators to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

It supports multiple discontinuous LTE carriers within an instantaneous bandwidth of 45 MHz corresponding to the entire AWS B4 spectrum.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent B4 RRH2x60-4R is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent B4 RRH2x60-4R is a very cost-effective solution to deploy LTE MIMO.

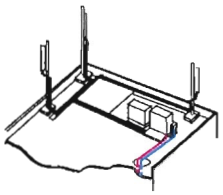
EASY INSTALLATION

The B4 RRH2x60-4R includes a reversible mounting bracket which allows for ease of installation behind an antenna, or on a rooftop knee wall while providing easy access to the mid body RF connectors.

The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent B4 RRH2x60-4R installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent B4 RRH2x60-4R is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

Installation can easily be done by a single person as the Alcatel–Lucent B4 RRH2x60-4R is compact and weighs about 25 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



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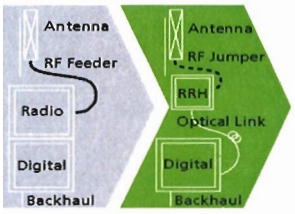
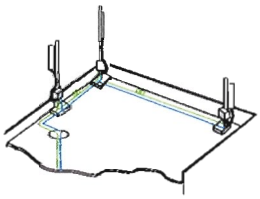


RRH for space-constrained cell sites



Distributed

FEATURES

- B4 RRH2x60-4R integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- B4 RRH2x60-4R is optimized for LTE operation
- B4 RRH2x60-4R is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 930x270x146 mm (with solar shield)
- Weight : 25 kg (55 lbs) (with solar shield)

Electrical Data

- Power Supply : -48V DC (-38 to -57V)
- Power Consumption: 346W typ. @2x30W (100%RF), 560W typ. @2x60W (100%RF)

RF Characteristics

- Frequency band: 1710-1755, UL / 2110-2155 MHz, DL (3GPP band 4)
- Output power: 2x60W at antenna connectors
- Technology supported: LTE
- Instantaneous bandwidth: 45 MHz
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -105 dBm for LTE

Connectivity

- Two CPRI (3-6) optical ports for daisychaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 300m using MM fiber, up to 15km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Four external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B
- Health : EN 50385

Alcatel·Lucent

Product Data Sheet **HB158-1-08U8-S8J18**

HYBRIFLEX™ RRH Hybrid Feeder Cabling Solution, 1-5/8", Single-Mode Fiber

Product Description

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

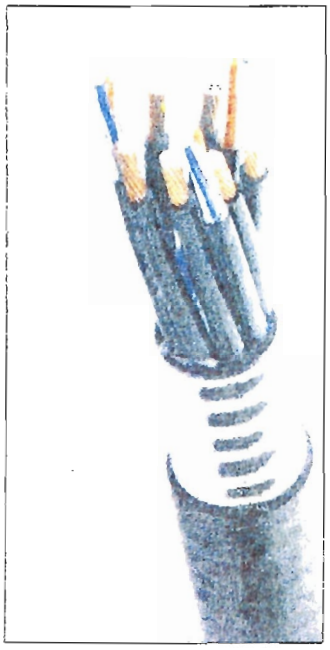


Figure 1: HYBRIFLEX Series

Features/Benefits

- Aluminum corrugated armor with outstanding bending characteristics – minimizes installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding – Eliminates typical grounding requirements and saves on installation costs
- Lightweight solution and compact design – Decreases tower loading
- Robust cabling – Eliminates need for expensive cable trays and ducts
- Installation of tight bundled fiber optic cable pairs directly to the RRH – Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable – Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor polyethylene jacket – Ensures long-lasting cable protection

Technical Specifications

Outer Conductor Armor:	Corrugated Aluminum	[mm (in)]	46.5 (1.83)
Jacket:	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection:	Individual and External Jacket		Yes
Mechanical			
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius, Single Bending		[mm (in)]	200 (8)
Minimum Bending Radius, Repeated Bending		[mm (in)]	500 (20)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
Electrical properties			
DC-Resistance Outer Conductor Armor		[Ω/km (Ω/1000ft)]	068 (0.205)
DC-Resistance Power Cable, 8.4mm²(8AWG)		[Ω/km (Ω/1000ft)]	2.1 (0.307)
Optical properties			
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		[µm]	50/125
Primary Coating (Acrylate)		[µm]	245
Buffer Diameter, Nominal		[µm]	900
Secondary Protection, Jacket, Nominal		[mm (in)]	2.0 (0.08)
Minimum Bending Radius		[mm (in)]	104 (4.1)
Insertion Loss @ wavelength 850nm		dB/km	3.0
Insertion Loss @ wavelength 1310nm		dB/km	1.0
Standards (Meets or exceeds)			UL94-V0, UL1666 RoHS Compliant
DC Power Cable Pairs			
Size (Power)		[mm² (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm² (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		[mm (in)]	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-93-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
Environmental			
Installation Temperature		[°C (°F)]	-40 to +65 (-40 to149)
Operation Temperature		[°C (°F)]	-40 to +65 (-40 to149)

* This data is provisional and subject to change

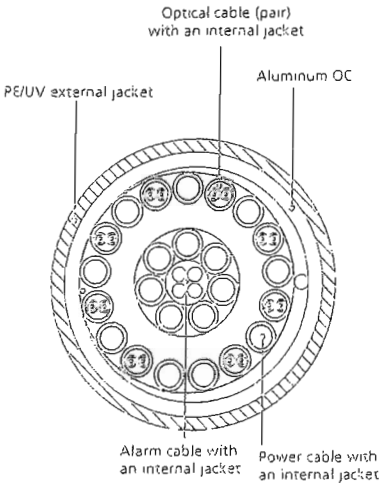


Figure 2: Construction Detail

8220K-WG972 GENERATOR SPECIFICATIONS
10kW Propane Fueled

ENGINE

Model.....WG972 (Liquid Propane)
Engine.....Kubota WG972-LPG
Cylinders.....3 In-line
Displacement.....58.7 cu.in.
Aspiration.....Liquid Propane
Emissions.....EPA and CARB Certified
Variable RPM .....2300RPM to 2600RPM
Engine Start SuperCapacitor 14.4V
SuperCapacitor DC-DC Charger.....>1A
Muffler.....Dual
Radiator.....Aluminum with Electric Fan

FUEL SYSTEM

Type.....Propane
Fuel Tank.....Supplied by Customer

Operating Range of Propane	
9 to 13	in. of H2O
0.3 to 0.5	psi

ALTERNATOR

Type.....Permanent Magnet
Regulation Type.....RPM Control
Output Ripple.....Less than 50 milivolts RMS
No. of Poles.....32
Overcurrent Protection.....250A
Disconnect Means.....Fused Disconnect

Genset UL 2200 LISTED

ETL listed per UL 2200 by Interek Testing Labs.

ENGINE CONTROLLER

Engine Controller model.....Supra 250
Instrumentation.....Generator output voltage, amperage, kW, Coolant, Temperature, RPM, Hour meter, maintenance intervals, Starting circuit voltage

Automatic Shutdown & Alarm for:.....
Under/ Overspeed, Low Oil Pressure, High Coolant Temp., Fail to Start,

Warning Alarm for:.....
Low Fuel Level, Fuel Tank Rupture Basin, Low/High Engine Battery Voltage, High Water Temp, and Low Oil Press, Pre-alarm

Glow Plug Delay.....Automatic with temp
Engine Start Delay.....Adj. set at 60 seconds
Return to Utility Delay...Adj. set at 60 seconds
Engine Cool-Down.....Adj. set at 60 seconds
Exerciser.....Programmable/ bi-weekly

Contact Closure for Remote Indication .....
.....Shutdown Alarm, Warning Alarm, Engine Run, Low Fuel Level, Fuel Leak, E-Stop Depressed

ENCLOSURE

Type.....Weather Protective
Materials.....Marine Grade Aluminum
Sound Attenuated.....<61dBA @ 7 Meters
Door Hardware..... Three Point / w Padlock Hasp and Removable Side Panel
Mounting.....Secure Mounting Tabs
Dimensions.....32" x 50" x 72"
Weight (dry).....770 lbs.

Polar Power Inc.
249 E. Gardena Blvd. Gardena, CA 90248
polarpower.com/

For more information contact: info@polarpowerinc.com

Homeland Towers
and
Cellco Partnership d/b/a Verizon Wireless

Brookfield South Facility
100 Pocono Road
Brookfield, Connecticut

Site Search Summary

Section 16-50j-74(j) of the Regulations of Connecticut State Agencies requires the submission of a statement that describes "the narrowing process by which other possible sites were considered and eliminated." In accordance with this requirement, descriptions of the general site search process, the identification of the applicable search area and the alternative locations considered for development of the proposed telecommunications facility in Brookfield are provided below.

Site Search Process

To initiate its site selection process in an area where wireless service problems have been identified a carrier first establishes a site search area. In any search area a carrier would seek to avoid the unnecessary proliferation of towers and to reduce the potential adverse environmental effects of a new tower site while at the same time maximizing the quality of service provided from a particular facility. These objectives are achieved by initially locating existing towers and other sufficiently tall structures within and near a site search area. If any are found they are evaluated to determine whether they are capable of supporting telecommunications antennas and related equipment at a location and elevation that satisfies the wireless carriers technical requirements.

The list of available locations maybe further reduced if after preliminary negotiations a property owner withdraws a site from further consideration. From among the remaining locations, the proposed sites are selected by eliminating those that have a greater potential for adverse environmental effects and fewer benefits to the public. In any given site search area the weight afforded to factors considered in the site selection process will vary depending upon availability nature of sites within the search area.

Need for the Brookfield South Facility

Within approximately four (4) miles of the proposed Brookfield South Facility, Cellco maintains five (5) macro-cell telecommunications facilities. The macro-cell facilities are identified as Cellco's Brookfield, Brookfield West, Bethel North, Hawleyville and Newtown North cell sites.

Cellco's Brookfield facility consists of antennas on a tower at 37 Carmen Hill Road in Brookfield. Cellco's Brookfield West facility consists of flush-mounted antennas on a tower at 52

Stadley Rough Road in Danbury. Cellco's Bethel North facility consists of antennas on a Eversource (CL&P) transmission line structure at 8 Sky Edge Lane in Bethel. Cellco's Hawleyville facility consists of antennas on a tower at 6 Fairfield Drive in Newtown. Cellco's Newtown North facility consists of antennas on a tower at 24 Dinglebrook Lane in Newtown.

The proposed Brookfield South Facility will provide service to existing coverage gaps along Routes 7, 202, 25 and 133 and the surrounding areas in portions of Brookfield and Danbury and capacity relief to Cellco's existing Brookfield and Bethel North facilities, which are currently operating at or near their current capacity limits.

Properties Investigated by Homeland Towers and Cellco

Homeland Towers and Cellco identified and investigated a total of four (4) sites in and around the Brookfield South search area. Descriptions of the sites investigated are provided below. Also, attached is a map depicting the approximate location of the alternative sites investigated.

A. Town of Brookfield, 100 Pocono Road, Brookfield, CT

Homeland Towers approached the Town of Brookfield's previous First Selectman, William Davidson, back in November of 2011, regarding its search for a suitable tower site in the area of Pocono Road and Route 7. The Town asked Homeland to consider the Town-owned parcel at 100 Pocono Road as an option since the Town was already interested in the possibility of siting a new tower on its property as a part of its public safety communications network. Homeland entered into a lease with the Town of Brookfield for a new tower site in March of 2014.

B. Eversource, 100 Pocono Road, Brookfield, CT

Homeland investigated the potential use of an existing Eversource transmission line tower in the northerly portion of the 43.28-acre Town-owned parcel at 100 Pocono Road. These towers carry an Eversource 345 kV transmission line through Brookfield. This structure was rejected by Eversource due to its outage category rating of a 4. This rating makes it difficult to obtain an outage to permit the installation of antennas and related equipment on this structure.

C. Existing Flagpole Tower, 2 Huckleberry Hill Road (YMCA), Brookfield, CT

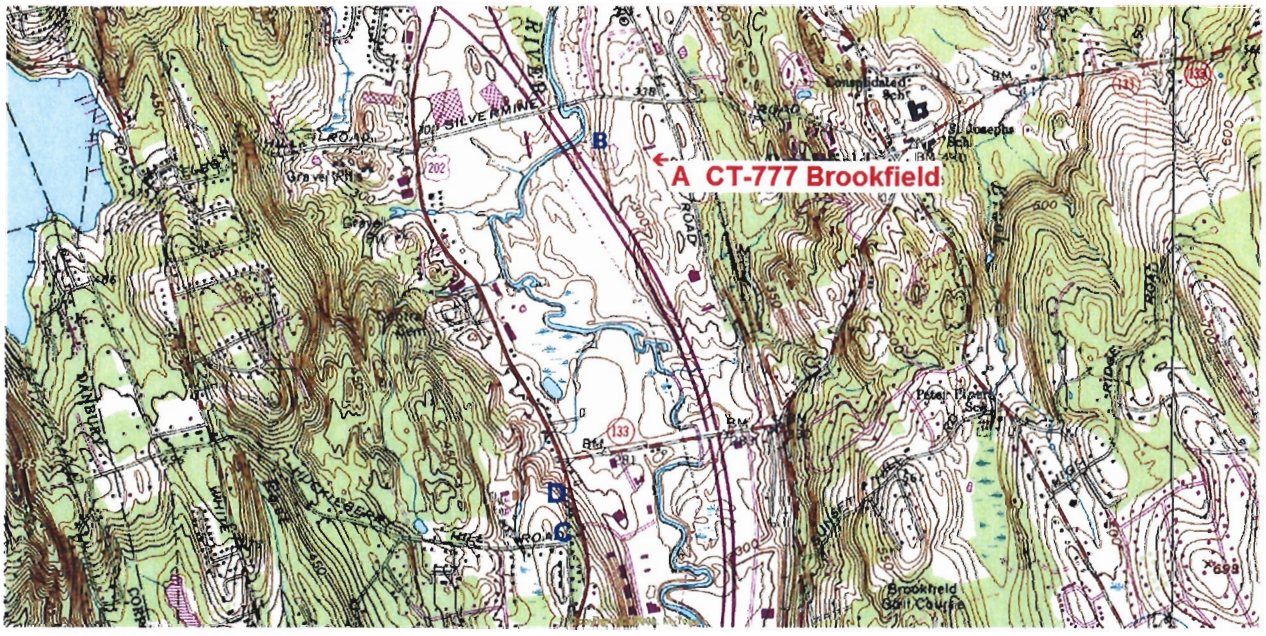
Cellco investigated the use of an existing flagpole tower at 2 Huckleberry Hill Road. This site was rejected because it did not meet Cellco's RF objectives nor was the tower capable of supporting Cellco's antennas. In addition, the owner was not interested in rebuilding the tower.

D. 60 Old New Milford Road, Brookfield, CT (Rooftop)

This existing rooftop was investigated and rejected because the height of the building did not meet Cellco's RF wireless service objective.

Aerial Map of Homeland Towers and Cellco's search and proposed site

Topographical Map of Homeland Towers and Cellco's search and proposed site



Visibility Analysis

100 Pocono Road
Brookfield, Connecticut

Prepared For:

Homeland Towers LLC
22 Shelter Rock Lane
Building C
Danbury, CT 06810

Prepared By:

All-Points TECHNOLOGY Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06141

December 2015

Project Introduction

Homeland Towers is considering the development of a new wireless communications facility ("Facility") at 100 Pocono Road in Brookfield, Connecticut (the "Property"). At the request of Homeland Towers, All-Points Technology Corporation, P.C. ("APT") prepared this Visibility Analysis to evaluate the potential visual impacts associated with the proposed Facility from within a two-mile radius (the "Study Area"). Parts of the neighboring municipalities of New Fairfield and Danbury are located in the western portion of the Study Area.

Site Description and Setting

The approximately 43.28-acre Property is located west of Pocono Road and east of State Route 7 in Brookfield Center. The Property is developed with the Brookfield Municipal Center complex. The municipal complex includes the town hall, police department, fire department, and senior center buildings and various athletic fields, playgrounds, residential yard refuse center, and supporting infrastructure.

The area proposed for the Facility (the "Site") is located in the southwestern portion of the Property, in a portion of the refuse center area, at an approximate ground elevation of 337 feet Above Mean Sea Level ("AMSL"). The proposed Facility would include a 150-foot tall steel monopole surrounded by a 62-foot by 75-foot, gravel base equipment compound. Cellco Partnership d/b/a Verizon Wireless would utilize the upper portion of the monopole by affixing an antenna platform at a centerline height of 146 feet above ground level ("AGL"). The Town of Brookfield plans to install three (3) 21-foot tall whip antennas and one (1) microwave dish mounted on a four (4) foot extension at the top of the monopole, one (1) 21-foot tall whip antenna mounted at 75 feet AGL, and one (1) microwave dish mounted at 60' AGL.

Land use within the immediate vicinity of the Property is primarily a mix of industrial and commercial development to the south, west (along Federal Road aka Route 202) and northwest; with residential development occurring to the north (beyond Silvermine Road), east (across a railroad corridor), and farther south. An electrical transmission corridor extends south to north immediately beyond Route 7 followed by a large expanse of undeveloped wooded land bordering the Still River.

The topography within the Study Area is characterized as generally by gradual to steep rolling hills and valleys; ground elevations range from approximately 200 feet AMSL to 730 feet AMSL. The tree cover within the Study Area (consisting of mixed deciduous hardwoods with interspersed stands of conifers) occupies approximately 5,735 acres of the 8,042-acre study area (±71%).

Methodology

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

Preliminary Computer Modeling

Computer modeling tools were used to predict those areas where at least a portion of the Facility is estimated to be visible including TerrSet, an image analysis program developed by Clark Labs at Clark University. Project- and Study Area-specific data were incorporated into the computer model, including the site location, its ground elevation and the proposed Facility height, as well as the surrounding topography and existing vegetation, which are the primary features that can block direct lines of sight.

Information used in the model included lidar[1]-based digital elevation data and customized land use data layers developed specifically for this analysis. Lidar is a remote-sensing technology that develops elevation data in meters 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." The system is also designed to capture many more data points than older radar-based systems. Thus, lidar-based digital elevation models ("DEM"s) have a much finer resolution and can also identify the different features of the landscape at the time that it was captured.

Viewshed analysis using lidar data provide a much more detailed view of the potential obstacles (especially trees and buildings), and therefore the viewshed modeling produces results with many smaller areas of visibility than those produced by using radar-based DEMs. Its precision makes lidar a superior source of data, but at present it is only available for limited areas of the state. The viewshed results are also checked against the most current aerial photographs in case significant changes (a new housing development, for example) have occurred since the time the lidar data was captured.

The lidar-based DEM created for this analysis represents topographic information for the state of Connecticut that was derived through the spatial interpolation of airborne LiDAR-based data collected in the years 2007 through 2012 and has a horizontal resolution of approximately two (2) feet. In addition, multiple land use data layers were created from the Natural Resources Conservation Service (through the USDA) aerial

[1] Lidar (a word invented to mean "light radar") may also be referred to as LiDAR, an acronym for Light Detection and Ranging. It is a technology that utilized lasers to determine the distance to an object or surface. LiDAR is similar to radar, but incorporates laser pulses rather than sound waves. It measures the time delay between transmission and reflection of the laser pulse.

photography (1-meter resolution, flown in 2012) using IDRISI image processing tools. The IDRISI tools develops light reflective classes defined by statistical analysis of individual pixels, which are then grouped based on common reflective values such that distinctions can be made automatically between deciduous and coniferous tree species, as well as grassland, impervious surface areas, surface water and other distinct land use features.

With these data inputs, the model is then queried to determine where the top of the Facility can be seen from any point(s) within the Study Area, given the intervening existing topography and vegetation. The results of the preliminary analysis are depicted on the attached maps and 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 5 feet above the ground and the combination of intervening topography and tree canopy (year-round) and tree trunks (seasonally, when the leaves are off the deciduous trees). The shaded areas of predicted visibility shown on the map denote locations from within the Study Area which the proposed Facility may potentially be visible year-round (in yellow) above the tree canopy and/or seasonally, through the trees (during "leaf-off" conditions; depicted in orange). The Facility however may not necessarily be visible from all locations within those shaded areas. It is important to note that the computer model cannot account for mass density, the height, diameter and branching variability of the trees, or the degradation of views that occur with distance. In addition, each point – or pixel - represents about one square meter in area, and thus is not predicting visibility from all viewpoints through all possible obstacles. Although large portions of the predicted viewshed may theoretically offer visibility of the Facility, because of these unavoidable limitations the quality of those views may not be sufficient for the human eye to recognize the tower or discriminate it from other surrounding objects. Visibility also varies seasonally with increased, albeit obstructed, views occurring during "leaf-off" conditions. Beyond the density of woodlands found within the given Study Area, each individual tree has its own unique trunk, pole timber and branching pattern characteristics that provide varying degrees of screening in leafless conditions which cannot be precisely modeled.

Once the data layers were entered, image processing tools were applied and overlaid onto USGS topographic base maps and aerial photographs to achieve an estimate of locations where the Facility might be visible. Additional data was reviewed and incorporated into the visibility analysis, including protected private and public open space, parks, recreational facilities, hiking trails, schools, and historic districts. The Still River Linear Park trail system is located approximately 600 feet west of the Site, beyond Federal Road; this system extends northward, crossing Route 7 and Silvermine Road. The William Gurski Open Space trails are located approximately one mile to the northeast. Based on a review of publicly-available information, no designated state scenic roads exist within the Study Area.

Field Reconnaissance

To supplement and fine tune the results of the computer modeling efforts, APT completed in-field verification activities consisting of a balloon float, vehicular and pedestrian reconnaissance, and photo-documentation.

Balloon Float and Field Reconnaissance

A balloon float and field reconnaissance were conducted July 13, 2015 to evaluate the visibility associated with the proposed Facility and to obtain photographs for use in this report. The balloon float consisted of raising an approximately four-foot diameter, red helium-filled balloon tethered to a string height of 150 feet

above ground level ("AGL") at the proposed Facility location. Weather conditions were favorable for the in-field activities, with calm winds (less than 3 miles per hour) and partly cloudy skies. Once the balloon 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 balloon could be seen above/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 and Simulations

During the balloon float and field reconnaissance, APT drove the public roads within the Study Area and recorded observations, including photo-documentation, of those areas where the balloon was and was not visible. Photographs were obtained from several vantage points to document the views of a proposed Facility. The geographic coordinates of the camera's position at each photo location 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, with the lens set to 50 mm.

> *"The lens that most closely approximates the view of the unaided human eye is known as the normal focal-length lens. For the 35 mm camera format, which gives a 24x36 mm image, the normal focal length is about 50 mm.[2]"*

Final Visibility Mapping

Information obtained during the field reconnaissance was incorporated into the mapping data layers, including observations of the balloon float, the photo locations, areas that experienced recent land use changes and those places where the initial model was found to over-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.

Photographic Simulations

One (1) photographic simulation was generated to portray a scaled rendering of the proposed Facility from where it will be visible on a year-round basis. Using field data, site plan information and 3-dimension (3D) modeling software, spatially referenced models of the site area 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[3].

For presentation purposes in this report, the photographs were taken with a 50 mm focal length and produced in an approximate 7-inch by 10.5-inch format. When viewing in this format size, we believe it is important to

[2] Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

[3] As a final step, the accuracy and scale of select simulations are tested against photographs of similar existing facilities with recorded camera position, focal length, photo location, and tower location.

provide the largest representational image while maintaining an accurate relation of sizes between objects within the frame of the photograph.

Photo-documentation of the balloon float and the photo-simulation of the proposed Facility are presented in the attachment at the end of this report. The balloon float photos are intended to provide visual reference points for the approximate height and location of the proposed Facility relative to the scene. The photo-simulation is intended to provide the reader with a general understanding of the different views that might be achieved of the Facility.

Photograph Locations

The table below summarizes characteristics of the photographs and simulations presented in the attachment to this report including a description of each location, view orientation, the distance from where the photo was taken relative to the proposed Facility and the general characteristics of that view. The photo locations are depicted on the visibility analysis maps provided as attachments to this report.

View	Location	Orientation	Distance to Site	View Characteristics
1	Elbow Hill Road	Southeast	±0.69 Mile	Year-round
2	Silvermine Road	Southeast	±0.62 Mile	Year-round
3	Silvermine Road	Southeast	±0.46 Mile	Year-round
4	Dean Road	Southeast	±0.41 Mile	Year-round
5	Brookfield Police Department	Southeast	±0.32 Mile	Year-round
6	Brookfield Parks and Recreation	Southeast	±0.25 Mile	Year-round
7	Brookfield Parks and Recreation	Southeast	±0.16 Mile	Year-round
8	Pocono Road	Southwest	±0.20 Mile	Year-round
9	Pocono Road	Southwest	±0.16 Mile	Year-round
10	Pocono Road	Southwest	±0.16 Mile	Not Visible
11	Pocono Road	Southeast	±0.12 Mile	Year-round
12	Pocono Road	Southwest	±0.09 Mile	Year-round
13	Junction Road	Northwest	±0.49 Mile	Year-round
14	Junction Road	Northeast	±0.54 Mile	Year-round
15	Junction Road	Northeast	±0.58 Mile	Year-round
16	Federal Road	Northeast	±0.61 Mile	Year-round
17	Federal Road	Northeast	±0.61 Mile	Not Visible
18	Federal Road	Northeast	±0.54 Mile	Year-round
19	Central Cemetery	Northeast	±0.57 Mile	Year-round
20	Old Oak Drive	East	±0.62 Mile	Year-round
21	Federal Road	Southeast	±0.73 Mile	Not Visible
22	Federal Road	Southeast	±0.80 Mile	Year-round
23	Federal Road	Southeast	±0.83 Mile	Year-round

Visibility Analysis Results

Results of this analysis are graphically displayed on the viewshed maps provided in the attachment at the end of this report. Areas from where the proposed Facility would be visible year-round comprise a total of approximately 348 acres and are primarily limited to the Property, locations to the east and north along Pocono Road and Silvermine Road, and to the south and west on Junction Road and Federal Road.

When the leaves are off the trees, seasonal views through intervening tree trunks and branches are anticipated to occur over some locations within an area of 752± additional acres. This estimate is based solely on computer modeling (APT did not have access to private properties for confirmation) which over predicts seasonal visibility. Therefore, although the "footprint" of seasonal visibility depicted on the viewshed maps covers several acres, views will not be achieved from all locations within those areas. The majority of potential seasonal views would be obstructed during leaf-off conditions by intervening tree trunks and branches or structures.

Views of the Facility from several locations on the Property would be unobstructed such that the majority of the tower would be visible. Other near-range views (within less than 0.25 mile) of the Facility would occur primarily along Pocono Road and offer similar profiles. Beyond approximately 0.35 mile from the Facility, views of the whip antennas and microwave dish will not be readily apparent.

Views of the Facility may be achieved from portions of the Still River Linear Park trail system. Areas immediately west of the Property are heavily wooded and any views from this portion of the trail would be limited to seasonal times of the year when the leaves are off the trees. Farther north along the trail, as it crosses Route 7 and Silvermine Road, year-round views of the top of the Facility may occur in some locations.

Proximity to Schools And Commercial Child Day Care Centers

No views of the proposed Facility would occur at schools or commercial child day care centers. The nearest school, Brookfield High School is located approximately 1.16 miles to the northeast. The nearest commercial child day care center, Prince of Peace Pre-School, is located approximately 0.57 mile to the south.

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, 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 2012 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 simulations provide a representation of the Facility under similar settings as those encountered during the balloon float 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 balloon float included partly cloudy skies and the photo-simulation presented in this report provides an accurate portrayal of the Facility during comparable conditions.

ATTACHMENTS

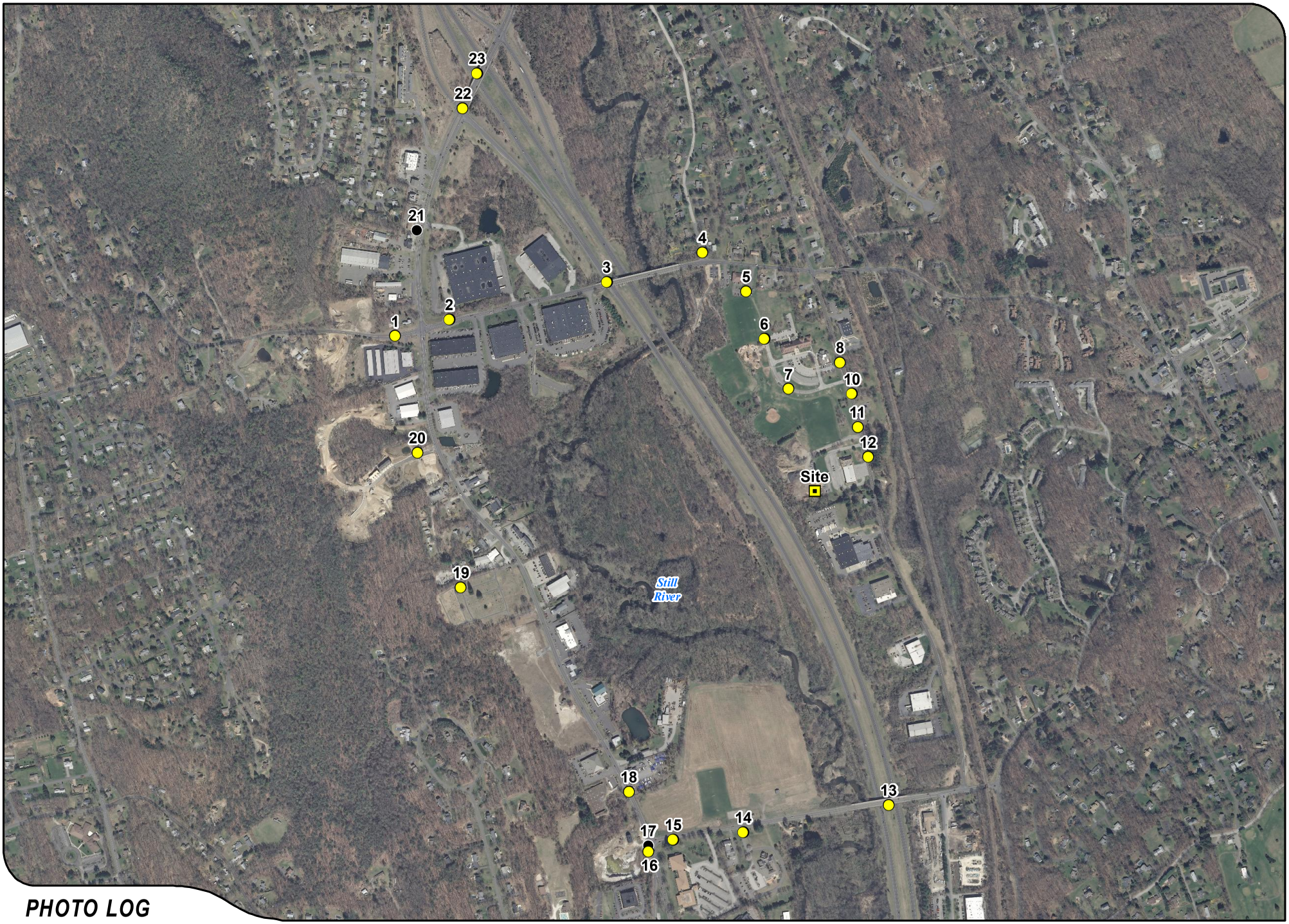


PHOTO LOG

Legend

Site Year-Round Visibility Not Visible

N W E S

1,000 500 0 1,000 Feet

1 inch = 1,000 feet

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**ELBOW HILL ROAD**	**SOUTHEAST**	**+/- 0.69 MILE**	**YEAR ROUND**

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	**ELBOW HILL ROAD**	**SOUTHEAST**	**+/- 0.69 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	SILVERMINE ROAD	SOUTHEAST	+/- 0.62 MILE	YEAR ROUND

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2	**SILVERMINE ROAD**	**SOUTHEAST**	**+/- 0.62 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**SILVERMINE ROAD**	**SOUTHEAST**	**+/- 0.46 MILE**	**YEAR ROUND**

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3	**SILVERMINE ROAD**	**SOUTHEAST**	**+/- 0.46 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**DEAN ROAD**	**SOUTHEAST**	**+/- 0.41 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4	**DEAN ROAD**	**SOUTHEAST**	**+/- 0.41 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	BROOKFIELD POLICE DEPARTMENT	SOUTHEAST	+/- 0.32 MILE	YEAR ROUND

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5	**BROOKFIELD POLICE DEPARTMENT**	**SOUTHEAST**	**+/- 0.32 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**BROOKFIELD PARKS AND RECREATION**	**SOUTHEAST**	**+/- 0.25 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6	**BROOKFIELD PARKS AND RECREATION**	**SOUTHEAST**	**+/- 0.25 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**BROOKFIELD PARKS AND RECREATION**	**SOUTHEAST**	**+/- 0.16 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7	**BROOKFIELD PARKS AND RECREATION**	**SOUTHEAST**	**+/- 0.16 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.20 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.20 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.16 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.16 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.16 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.12 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.12 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.09 MILE**	**YEAR ROUND**

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12	**POCONO ROAD**	**SOUTHWEST**	**+/- 0.09 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**JUNCTION ROAD**	**NORTHWEST**	**+/- 0.49 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
13	**JUNCTION ROAD**	**NORTHWEST**	**+/- 0.49 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**JUNCTION ROAD**	**NORTHEAST**	**+/- 0.54 MILE**	**YEAR ROUND**

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
14	**JUNCTION ROAD**	**NORTHEAST**	**+/- 0.54 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**JUNCTION ROAD**	**NORTHEAST**	**+/- 0.58 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
15	**JUNCTION ROAD**	**NORTHEAST**	**+/- 0.58 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	FEDERAL ROAD	NORTHEAST	+/- 0.61 MILE	YEAR ROUND

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	**FEDERAL ROAD**	**NORTHEAST**	**+/- 0.61 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
17	**FEDERAL ROAD**	**NORTHEAST**	**+/- 0.61 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**FEDERAL ROAD**	**NORTHEAST**	**+/- 0.54 MILE**	**YEAR ROUND**

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
18	**FEDERAL ROAD**	**NORTHEAST**	**+/- 0.54 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	CENTRAL CEMETERY	NORTHEAST	+/- 0.57 MILE	YEAR ROUND

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
19	**CENTRAL CEMETERY**	**NORTHEAST**	**+/- 0.57 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
20	**OLD OAK DRIVE**	**EAST**	**+/- 0.62 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
20	**OLD OAK DRIVE**	**EAST**	**+/- 0.62 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
21	**FEDERAL ROAD**	**SOUTHEAST**	**+/- 0.73 MILE**	**NOT VISIBLE**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**FEDERAL ROAD**	**SOUTHEAST**	**+/- 0.80 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
22	**FEDERAL ROAD**	**SOUTHEAST**	**+/- 0.80 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS

DOCUMENTATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**FEDERAL ROAD**	**SOUTHEAST**	**+/- 0.83 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

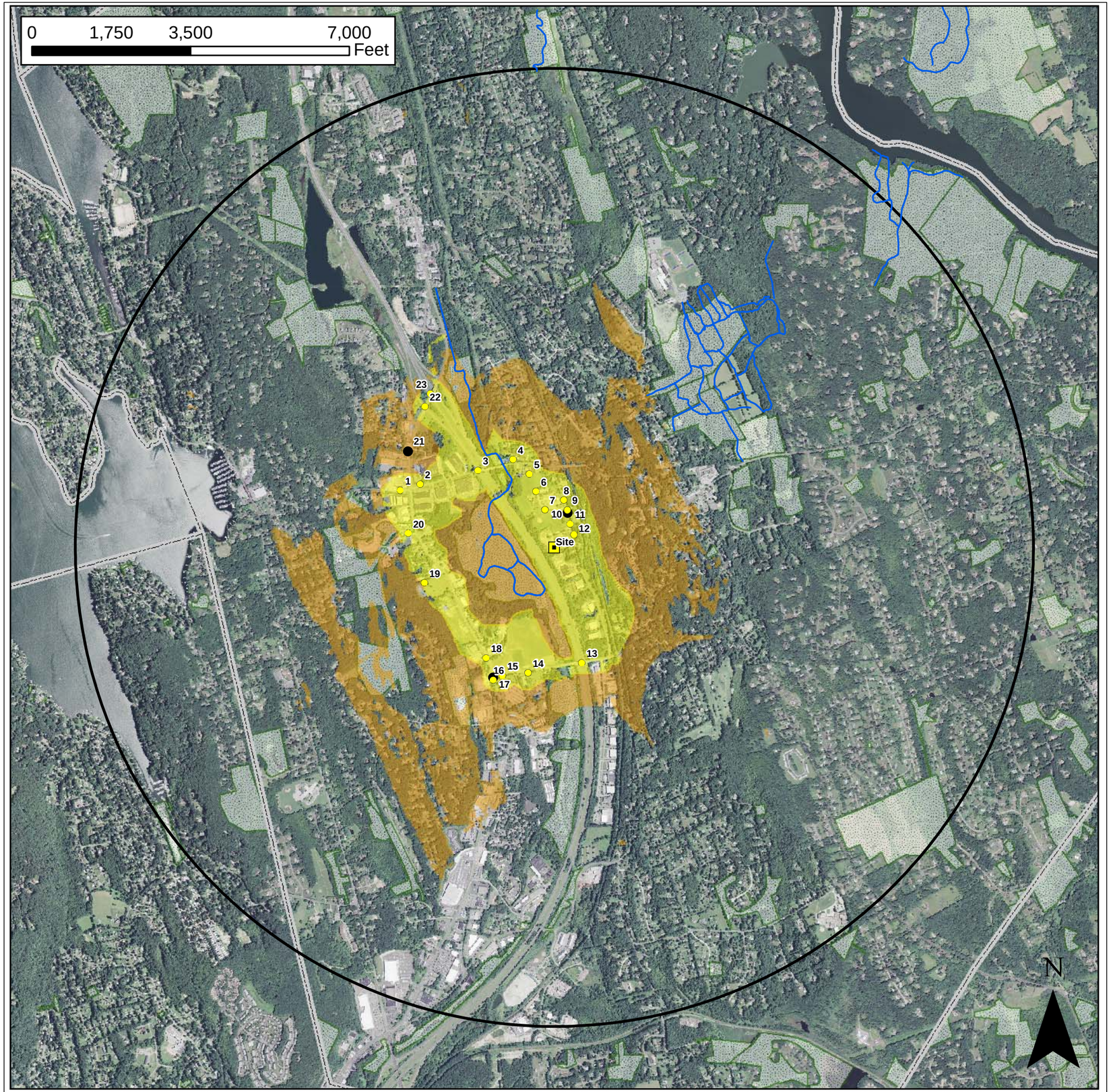
HOMELAND TOWERS

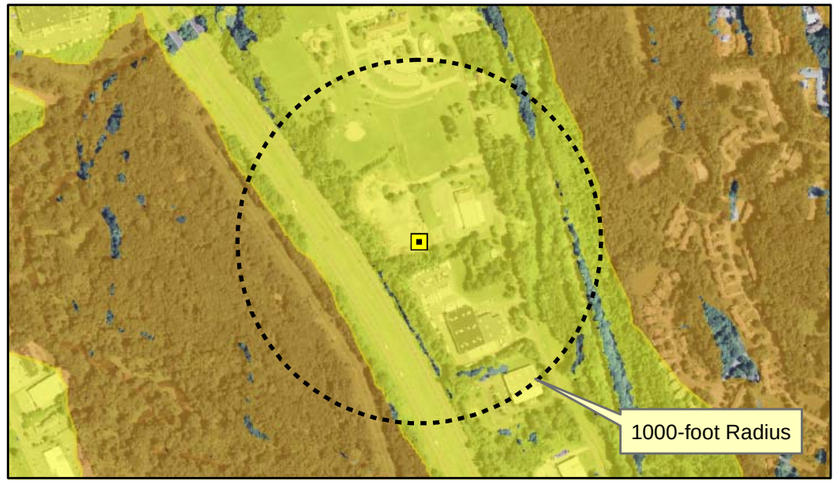
SIMULATION

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
23	**FEDERAL ROAD**	**SOUTHEAST**	**+/- 0.83 MILE**	**YEAR ROUND**

ALL-POINTS TECHNOLOGY CORPORATION

HOMELAND TOWERS





Viewshed Map – Aerial Base

Proposed Wireless Telecommunications Facility
Brookfield
100 Pocono Road, Brookfield, CT

Proposed facility height is 150 feet AGL. Study area encompasses a two-mile radius and includes 8,042 acres of land.

Map compiled 11/20/2015

Map information field verified by APT on 7/13/2015.

Only those resources located within the extent of the map are depicted. For a complete list of data sources consulted for this analysis, please refer to the Documentation Page.

Legend

- Proposed Tower

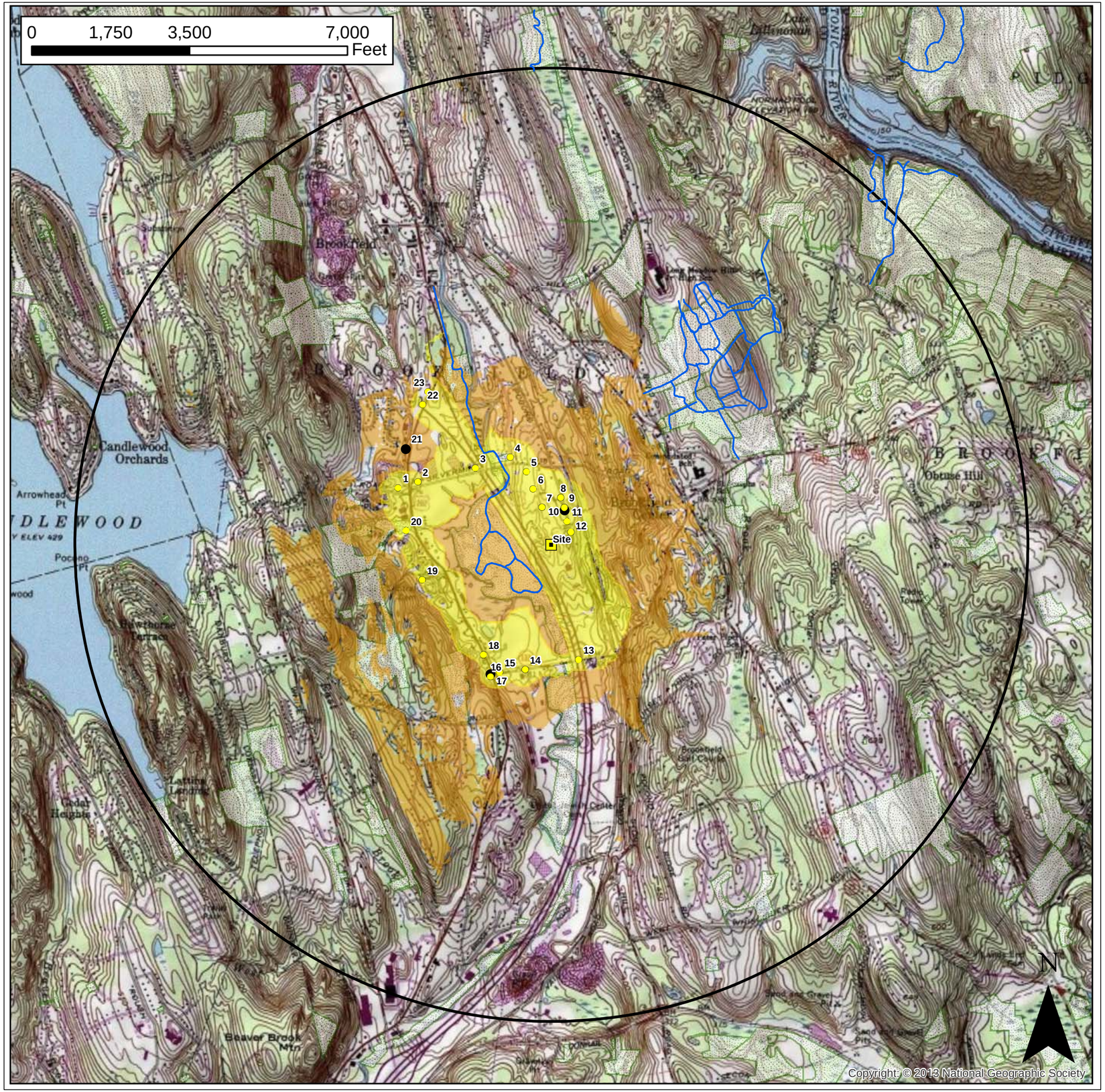
Photo Locations

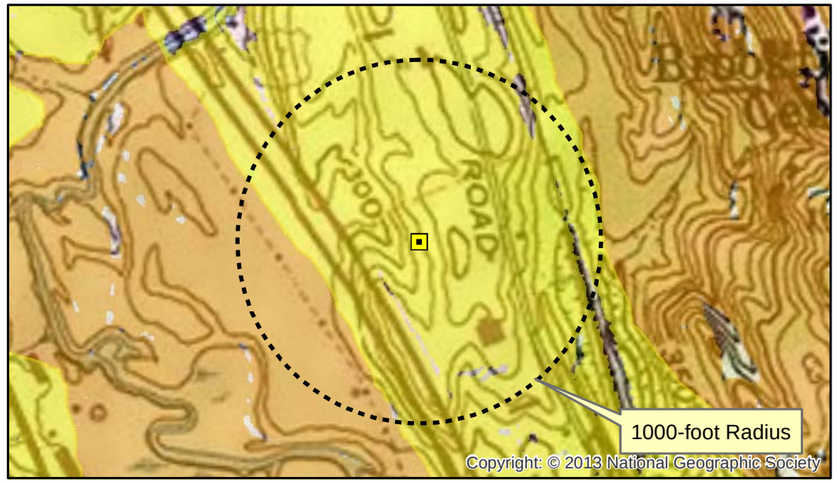
- Not Visible
- Year-round Views
- Trails
- Predicted Seasonal Visibility (752 Acres)
- Predicted Year-Round Visibility (348 Acres)
- Towns
- 2-Mile Study Area
- Open Space

Location

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION





Viewshed Map – Topo Base

Proposed Wireless Telecommunications Facility
Brookfield
100 Pocono Road, Brookfield, CT

Proposed facility height is 150 feet AGL.
Study area encompasses a two-mile radius and includes 8,042 acres of land.

Map compiled 11/20/2015

Map information field verified by APT on 7/13/2015.

Only those resources located within the extent of the map are depicted. For a complete list of data sources consulted for this analysis, please refer to the Documentation Page.

Legend

- Proposed Tower

Photo Locations

- Not Visible
- Year-round Views
- Trails
- Predicted Seasonal Visibility (752 Acres)
- Predicted Year-Round Visibility (348 Acres)
- Towns
- 2-Mile Study Area
- Open Space

Location

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

DOCUMENTATION

SOURCES CONSULTED FOR VIEWSHED MAPS
100 Pocono Road
Brookfield, Connecticut

Physical Geography / Background Data

Center for Land Use Education and Research, University of Connecticut (http://clear.uconn.edu)
- *Land Use / Land Cover (2006)
- *Coniferous and Deciduous Forest (2006)

^LiDAR data – topography (2007-2012)

United States Geological Survey
- *USGS topographic quadrangle maps – Danbury, Newtown (1984)

National Resource Conservation Service
- *NAIP aerial photography (2012)

Department of Transportation data
- ^State Scenic Highways (updated monthly)

Heritage Consultants
- ^Municipal Scenic Roads

Cultural Resources

Heritage Consultants
- ^National Register
- ^ Local Survey Data

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 –
  The Guide to the Blue-Blazed Hiking Trails of Western Connecticut, 19th Edition, 2006.

Other

- ^ConnDOT Scenic Strips (based on Department of Transportation data)

*Available to the public in GIS-compatible format (some require fees).
^ Data not available to general public in GIS format. Reviewed independently and, where applicable, GIS data later prepared specifically for this Study Area.

NOTE 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 heights and structures. This analysis may not necessarily account for all visible locations, as it is based on the combination of computer modeling, incorporating 2012 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.

The photo-simulations in this report are provided for visual representation only. Actual visibility depends on various environmental conditions, including (but not necessarily limited to) weather, season, time of day, and viewer location.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

February 5, 2016

Reference: Project — Homeland Towers' Telecommunications Facility
Location — Brookfield, CT

Chris Bond
IVI Telecom Services
55 West Red Oak Lane
White Plains, NY 10604

Dear Mr. Bond:

This responds to your correspondence, dated December 1, 2015, requesting information on the presence of federally listed and/or proposed endangered or threatened species in relation to the proposed activity referenced above. These comments are provided in accordance with the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531, *et seq.*).

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area. While the proposed project would occur within the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*) and bog turtle (*Clemmys muhlenbergii*), the area is highly disturbed and habitat suitable for these species is not present. Based on the information provided in your correspondence and the information in our files, we have no information to refute your no effect determination.

Further consultation with us under section 7 of the Endangered Species Act is not required. If the project plans change such that listed species or their habitats may be affected, please contact us to determine if additional consultation is necessary. For future projects, please note that neither section 7 of the Endangered Species Act, nor the section 7 implementing regulations require Federal agencies or their designated non-Federal representatives to obtain concurrence from the U.S. Fish and Wildlife Service for "no effect" determinations.

Thank you for your cooperation, and please contact Ms. Cindy Corsair (Maynard) of this office at (401) 364-9124, extension 6003, if you need any further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

November 28, 2015

Mr. Christopher Bond
IVI Telecom Services, a CBRE Company
55 West Red Oak Lane
White Plains, NY 10604
Chris.bond@ivi-inti.com

Project: Construction of a Telecommunications Facility (CT777) at 100 Pocono Rd, Brookfield, Connecticut
NDDB Determination No.: 201508541

Dear Christopher,

I have re-reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the proposed Construction of a telecommunications facility (CT777) at 100 Pocono Rd, Brookfield, Connecticut. According to our records we have known extant populations of State Special Concern *Terrapene carolina carolina* (box turtle) and *Glyptemys insculpta* (wood turtle) in the vicinity of the project site. We also have historic records for Federal Threatened and State Endangered *Glyptemys muhlenbergii* (bog turtle) from this area of Brookfield. Please be advised that you must contact the USFWS to conduct an Endangered Species Act Section 7 consultation for this federally endangered species. I have included recommended protection strategies and best management practices for the two state special concern turtles.

Wood Turtle: Habitat destruction, degradation or alteration and fragmentation all threaten Wood Turtle populations. Turtles are also particularly vulnerable to any activity that consistently reduces adult survivorship. Disturbances to stream and riparian habitats and activities that change the hydrology of the stream, the physical habitat itself and water quality are all potentially detrimental activities for the Wood Turtle. Although Wood Turtles are found within forested areas, they prefer areas that do not have a fully closed canopy cover. The greatest concern during projects occurring in wood turtle habitat are turtles being run over and crushed by mechanized equipment. Reducing the frequency that motorized vehicles enter Wood Turtle habit**a**t would be beneficial in minimizing direct mortality of adults.

Eastern Box Turtle: Eastern box turtles inhabit old fields and deciduous forests, which can include power lines and logged woodlands. They are often found near small streams and ponds. The adults are completely terrestrial but the young may be semiaquatic, and hibernate on land by digging down in the soil from October to April. They have an extremely small home range and can usually be found in the same area year after year. Eastern box turtles have been negatively impacted by the loss of suitable habitat. Some turtles may be killed directly by construction activities, but many more are lost when important habitat areas for shelter, feeding, hibernation,

or nesting are destroyed. As remaining habitat is fragmented into smaller pieces, turtle populations can become small and isolated.

Recommended Protection Strategies for turtles:

If any work will occur when these turtles are active (April 1st to September 30th) I recommend the additional following protection strategies in order to protect these turtles:

- Silt fencing should be installed around the work area prior to construction, please avoid erosion control products that are embedded with netting as these can be fatal to wildlife;

- Where possible, AVOID installing sediment and erosion control materials from late August through September and from March through mid-May. These two time periods are when amphibians and reptiles are most active, moving to and from wetlands to breed;

- After silt fencing is installed and prior to construction, a sweep of the work area should be conducted to look for turtles;

- Workers should be apprised of the possible presence of turtles, and provided a description of the species (http://www.ct.gov/dep/cwp/view.asp?a=2723&q=473472&depNav_GID=1655);

- Any turtles that are discovered should be moved, unharmed, to an area immediately outside of the fenced area, and position in the same direction that it was walking;

- No vehicles or heavy machinery should be parked in any turtle habitat;

- Work conducted during early morning and evening hours should occur with special care not to harm basking or foraging individuals; and

- All silt fencing should be removed after work is completed and soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

- Stockpiles of soil should be cordoned off with silt fencing so turtles do not attempt to try and nest in them.

- Use native plantings if possible. Any plantings should be composed of species native to northeastern United States and appropriate for use in riparian habitat.

Thank you for including the protection strategies and protocols that will be in place to protect wood turtles and box turtles species from project impacts. If these protection strategies are followed then the proposed activities will lessen the impact on the wood turtle and eastern box

turtle. I have attached fact sheets on these turtles. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by November 28, 2016.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base. Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEEP for the proposed site.

Sincerely,

Dawn M. McKay

Dawn M. McKay
Environmental Analyst 3

WILDLIFE IN CONNECTICUT

STATE SPECIES OF SPECIAL CONCERN

Wood Turtle

Glyptemys insculpta

Background

Wood turtles may be found throughout Connecticut, but they have become increasingly rare due to their complex habitat needs. Wood turtles also have become more scarce in Fairfield County due to the fragmentation of suitable habitat by urban development.

© PAUL J. FUSCO

Range

Wood turtles can be found across the northeastern United States into parts of Canada. They range from Nova Scotia through New England, south into northern Virginia, and west through the Great Lakes region into Minnesota.

Description

The scientific name of the wood turtle, *Glyptemys insculpta*, refers to the deeply sculptured or chiseled pattern found on the carapace (top shell). This part of the shell is dark brown or black and may have an array of faint yellow lines radiating from the center of each chiseled, pyramid-like segment due to tannins and minerals accumulating between ridges. These segments of the carapace, as well as those of the plastron (bottom shell), are called scutes. The carapace also is keeled, with a noticeable ridge running from front to back. The plastron is yellow with large dark blotches in the outer corners of each scute. The black or dark brown head and upper limbs are contrasted by brighter pigments ranging from red and orange to a pale yellow on the throat and limb undersides. Orange hues are most typical for New England's wood turtles. The hind feet are only slightly webbed, and the tail is long and thick at the base. Adults weigh approximately 1.5 to 2.5 pounds and reach a length of 5 to 9 inches.

Habitat and Diet

Wood turtles use aquatic and terrestrial habitats at different times of the year. Their habitats include rivers and large streams, riparian forests (adjacent to rivers), wetlands, hayfields, and other early successional habitats. Terrestrial habitat that is usually within 1,000 feet of a suitable stream or river is most likely used. Preferred stream conditions include moderate flow, sandy or gravelly bottoms, and muddy banks.

Wood turtles are omnivorous and opportunistic. They are not picky eaters and will readily consume slugs, worms, tadpoles, insects, algae, wild fruits, leaves, grass, moss, and carrion.

Life History

From late spring to early fall, wood turtles can be found roaming their aquatic or terrestrial habitats. However, once temperatures drop in autumn, the turtles retreat to rivers and large streams for hibernation. The winter

is spent underwater, often tucked away below undercut riverbanks within exposed tree roots. Dissolved oxygen is extracted from the water, allowing the turtle to remain submerged entirely until the arrival of spring. Once warmer weather sets in, the turtles will become increasingly more active, eventually leaving the water to begin foraging for food and searching for mates. Travel up or down stream is most likely, as turtles seldom stray very far from their riparian habitats.

Females nest in spring to early summer, depositing anywhere from 4 to 12 eggs into a nest dug out of soft soil, typically in sandy deposits along stream banks or other areas of loose soil. The eggs hatch in late summer or fall and the young turtles may either emerge or remain in the nest for winter hibernation. As soon as the young turtles hatch, they are on their own and receive no care from the adults.

Turtle eggs and hatchlings are heavily preyed upon by a wide variety of predators, ranging from raccoons to birds and snakes. High rates of nest predation and hatchling mortality, paired with the lengthy amount of time it takes for wood turtles to reach sexual maturity, present a challenge to maintaining sustainable populations. Wood turtles live upwards of 40 to 60 years, possibly more.

Conservation Concerns

Loss and fragmentation of habitat are the greatest threats to wood turtles. Many remaining populations in Connecticut are low in numbers and isolated from one another by human-dominated landscapes. Turtles forced to venture farther and farther from appropriate habitat to find mates and nesting sites are more likely to be run over by cars, attacked by predators, or collected by people as pets.

Other sources of mortality include entanglements in litter and debris left behind by people, as well as strikes from mowing equipment used to maintain hayfields and other early successional habitats.

The wood turtle is imperiled throughout a large portion of its range and was placed under international trade regulatory protection through the Convention on International Trade in Endangered Species (CITES) in 1992. Wood turtles also have been included on the International Union for Conservation of Nature's (IUCN) Red List as a vulnerable species since 1996. They are listed as a species of special concern in Connecticut and protected by the Connecticut Endangered Species Act.

How You Can Help

- *Conserve riparian habitat. Maintaining a buffer strip of natural vegetation (minimum of 100 feet) along the banks of streams and rivers will protect wood turtle habitat and also help improve the water quality of the stream system. Stream banks that are manicured (cleared of natural shrubby and herbaceous vegetation) or armored by rip rap or stone walls will not be used by wood turtles or most other wildlife species.*
- *Do not litter. Wood turtles and other wildlife may accidentally ingest or become entangled in garbage and die.*
- *Leave turtles in the wild. They should never be kept as pets. Whether collected singly or for the pet trade, turtles that are removed from the wild are no longer able to be a reproducing member of a population. Every turtle removed reduces the ability of the population to maintain itself.*
- *Never release a captive turtle into the wild. It probably would not survive, may not be native to the area, and could introduce diseases to wild populations.*
- *As you drive, watch out for turtles crossing the road. Turtles found crossing roads in June and July are often pregnant females. They should* ***not*** *be collected but can be helped on their way. Without creating a traffic hazard or compromising safety, drivers are encouraged to avoid running over turtles that are crossing roads. Also, still keeping safety precautions in mind, you may elect to pick up turtles from the road and move them onto the side in the direction they are headed. Never relocate a turtle to another area that is far from where you found it.*
- *Learn more about turtles and their conservation concerns, and educate others.*
- *If you see a wood turtle, leave it in the wild, take a photograph, record the location where it was seen, and contact the Connecticut Department of Environmental Protection (DEP) Wildlife Division at dep.wildlife@ct.gov, or call 860-424-3011 to report your observation.*

State of Connecticut
Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
www.ct.gov/dep

4/2011

WILDLIFE IN CONNECTICUT

STATE SPECIES OF SPECIAL CONCERN

Eastern Box Turtle

Terrapene carolina carolina

Description

The eastern box turtle is probably the most familiar of the 8 species of turtles found in Connecticut's landscape. It is known for its high-domed carapace (top shell). The carapace has irregular yellow or orange blotches on a brown to black background that mimic sunlight dappling on the forest floor. The plastron (under shell) may be brown or black and may have an irregular pattern of cream or yellow. The length of the carapace usually ranges from 4.5 to 6.5 inches, but can measure up to 8 inches long. The shell is made up of a combination of scales and bones, and it includes the ribs and much of the backbone.

Each individual turtle has distinctive head markings. Males usually have red eyes and a concave plastron, while females have brown eyes and a flat plastron. Box turtles also have a horny beak, stout limbs, and feet that are webbed at the base. This turtle gets its name from its ability to completely withdraw into its shell, closing itself in with a hinged plastron. Box turtles are the only Connecticut turtle with this ability.

Range

Eastern box turtles are found throughout Connecticut, except at the highest elevations. They range from southeastern Maine to southeastern New York, west to central Illinois, and south to northern Florida.

Habitat and Diet

In Connecticut, this terrestrial turtle inhabits a variety of habitats, including woodlands, field edges, thickets, marshes, bogs, and stream banks. Typically, however, box turtles are found in well-drained forest bottomlands and open deciduous forests. They will use wetland areas at various times during the season. During the hottest part of a summer day, they will wander to find springs and seepages where they can burrow into the moist soil. Activity is restricted to mornings and evenings during summer, with little to no nighttime activity, except for egg-laying females. Box turtles have a limited home range where they spend their entire life, ranging from 0.5 to 10 acres (usually less than 2 acres).

Box turtles are omnivorous and will feed on a variety of food items, including earthworms, slugs, snails, insects, frogs, toads, small snakes, carrion, leaves, grass, berries, fruits, and fungi.

Life History

From October to April, box turtles hibernate by burrowing into loose soil, decaying vegetation, and mud. They tend to hibernate in woodlands, on the edge of woodlands, and sometimes near closed canopy wetlands in the forest. Box turtles may return to the same place to hibernate year after year. As soon as they come out of hibernation, box turtles begin feeding and searching for mates.

The breeding season begins in April and may continue through fall. Box turtles usually do not breed until they are about 10 years old. This late maturity is a result of their long lifespan, which can range up to 50 to even over 100 years of age. The females do not have to mate every year to lay eggs as they can store sperm for up

to 4 years. In mid-May to late June, the females will travel from a few feet to more than a mile within their home range to find a location to dig a nest and lay their eggs. The 3 to 8 eggs are covered with dirt and left to be warmed by the sun. During this vulnerable time, skunks, foxes, snakes, crows, and raccoons often raid nests. Sometimes, entire nests are destroyed. If the eggs survive, they will hatch in late summer to early fall (about 2 months after being laid). If they hatch in the fall, the young turtles may spend the winter in the nest and come out the following spring.

As soon as the young turtles hatch, they are on their own and receive no care from the adults. This is a dangerous time for young box turtles because they do not develop the hinge for closing into their shell until they are about 4 to 5 years old. Until then, they cannot entirely retreat into their shells. Raccoons, skunks, foxes, dogs, and some birds will prey on young turtles.

Conservation Concerns

The eastern box turtle was once common throughout the state, mostly in the central Connecticut lowlands. However, its distribution is now spotty, although where found, turtles may be locally abundant. Because of the population decline in Connecticut, the box turtle was added to the state's List of Endangered, Threatened, and Special Concern Species when it was revised in 1998. It is currently listed as a species of special concern. The box turtle also is protected from international trade by the 1994 CITES treaty. It is of conservation concern in all the states where it occurs at its northeastern range limit, which includes southern New England and southeastern New York.

Many states have laws that protect box turtles and prohibit their collection. In Connecticut, eastern box turtles **cannot** be collected from the wild (DEP regulations 26-66-14A). Another regulation (DEP regulations 26-55-3D) "grandfathers" those who have a **box turtle collected before 1998**. This regulation limits possession to a single turtle collected before 1998. These regulations provide some protection for the turtles, but not enough to combat some of the even bigger threats these animals face. The main threats in Connecticut (and other states) are loss and fragmentation of habitat due to deforestation and spreading suburban development; vehicle strikes on the busy roads that bisect the landscape; and indiscriminate (and now illegal) collection of individuals for pets.

Loss of habitat is probably the greatest threat to turtles. Some turtles may be killed directly by construction activities, but many more are lost when important habitat areas for shelter, feeding, hibernation, or nesting are destroyed. As remaining habitat is fragmented into smaller pieces, turtle populations can become small and isolated.

Adult box turtles are relatively free from predators due to their unique shells. The shell of a box turtle is extremely hard. However, the shell is not hard enough to survive being run over by a vehicle. Roads bisecting turtle habitat can seriously deplete the local population. Most vehicle fatalities are pregnant females searching for a nest site.

How You Can Help

- *Leave turtles in the wild. They should never be kept as pets. Whether collected singly or for the pet trade, turtles that are removed from the wild are no longer able to be a reproducing member of a population. Every turtle removed reduces the ability of the population to maintain itself.*
- *Never release a captive turtle into the wild. It probably would not survive, may not be native to the area, and could introduce diseases to wild populations.*
- *Do not disturb turtles nesting in yards or gardens.*
- *As you drive, watch out for turtles crossing the road. Turtles found crossing roads in June and July are often pregnant females and they should be helped on their way and not collected. Without creating a traffic hazard or compromising safety, drivers are encouraged to avoid running over turtles that are crossing roads. Also, still keeping safety precautions in mind, you may elect to pick up turtles from the road and move them onto the side they are headed. Never relocate a turtle to another area that is far from where you found it.*
- *Learn more about turtles and their conservation concerns. Spread the word to others on how they can help Connecticut's box turtle population.*

State of Connecticut
Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
www.ct.gov/dep

The production of this Endangered and Threatened Species Fact Sheet is made possible by donations to the Connecticut Endangered Species/Wildlife Income Tax Checkoff Fund.

5/2008

ALL-POINTS TECHNOLOGY CORPORATION

WETLAND INSPECTION

June 16, 2015, Revised May 11, 2016 **APT Project No.: CT283150**

Prepared For:	Homeland Towers 22 Shelter Rock Road, Bld. C Danbury, CT 06810
HLT Site Name:	CT777 Brookfield
Site Address:	100 Pocono Road Brookfield, Connecticut
Date(s) of Investigation:	5/7/2015
Field Conditions:	**Weather:** sunny, mid 70'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†:

Dean Gustafson

Dean Gustafson, Professional Soil Scientist

Enclosures: Wetland Delineation Field Forms & 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.

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* *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 Forms
- Wetland Inspection Map

Wetland Delineation Field Form

Wetland I.D.:	Wetland 1	
Flag #'s:	WF 1-01 to 1-09	
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 to Wetland 1 is a drainage ditch (man-made intermittent watercourse) that functions as a curtain drain to keep stormwater runoff from flowing uncontrolled onto Route 7 located nearby to the west.		

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:

Red Maple (Acer rubrum)	Japanese Barberry* (Berberis thunbergii)
Multiflora Rose* (Rosa multiflora)	Silky Dogwood (Cornus amomum)
Sycamore (Platanus occidentalis)	Skunk Cabbage (Symplocarpus foetidus)
Asiatic Bittersweet* (Celastrus orbiculatus)	Glossy Buckthorn (Rhamnus frangula)

* denotes Connecticut Invasive Species Council invasive plant species

GENERAL COMMENTS:

The proposed facility is located in the south end of the Town of Brookfield Residential Yard & Refuse Center property in a cleared and graded area used for storage of various earth and refuse materials. The proposed Homeland Towers facility is located ±390 feet southeast of Wetland 1 and the access, which follows an existing paved and gravel drive, is located approximate 300 feet west of Wetland 1 at its nearest point. The proposed development will not result in an adverse impact to Wetland 1 provided appropriate erosion and sedimentation controls are installed and maintained during construction in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (DEP Bulletin 34).

Wetland Delineation Field Form

Wetland I.D.:	Wetland 2	
Flag #'s:	WF 2-01 to 2-09	
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: Wetland appears to have been created as a constructed stormwater wetland basin to treat stormwater runoff from the Brookfield Volunteer Fire Company firehouse parking lot.		

CLASS:

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

WATERCOURSE TYPE:

Perennial ☐	Intermittent ☐	Tidal ☐
Watercourse Name: None		
Comments: None		

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:

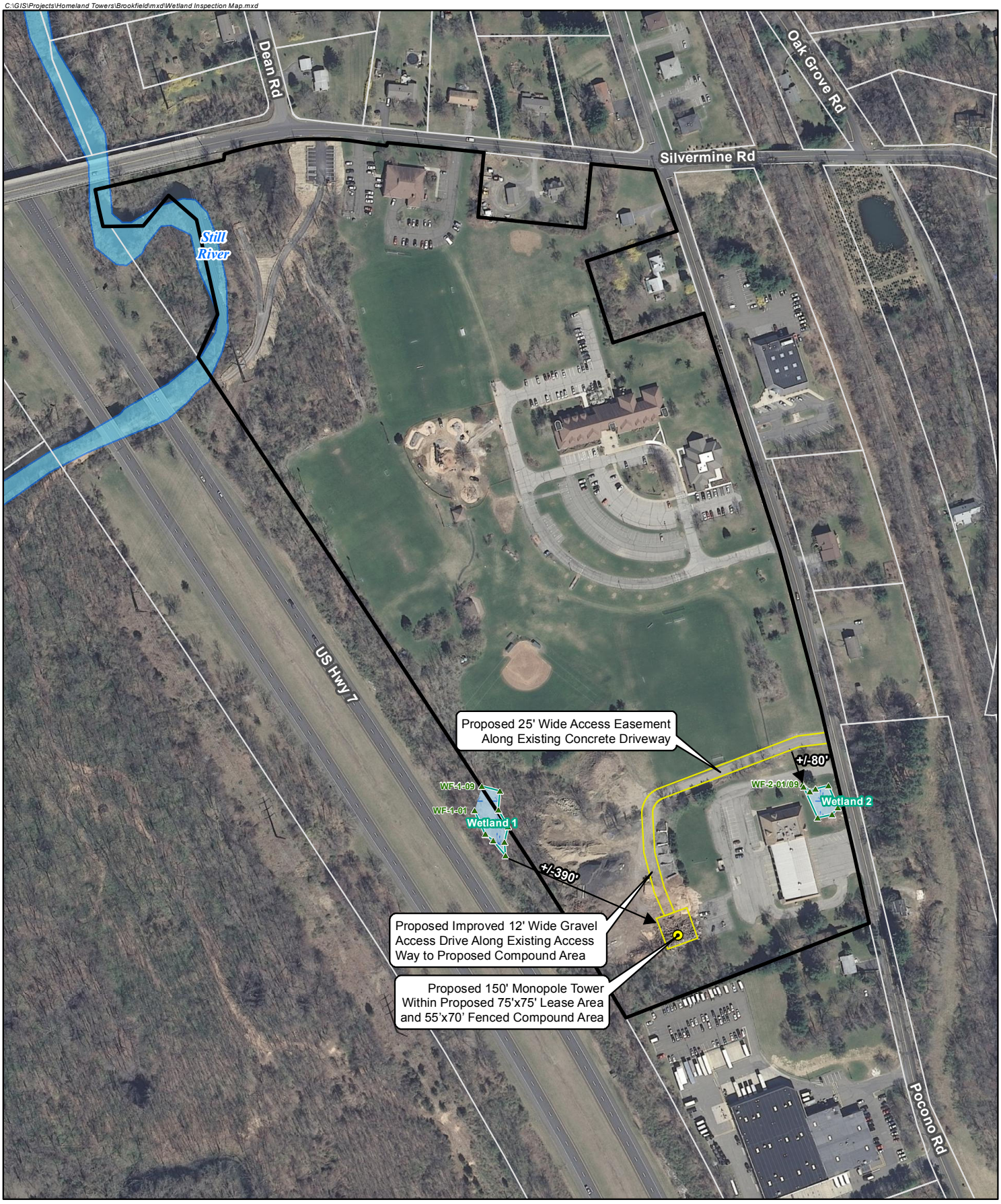
Broad-Leaf Cattail (Typha latifolia)	Reed Canarygrass* (Phalaris arundinacea)

* denotes Connecticut Invasive Species Council invasive plant species

GENERAL COMMENTS:

The proposed facility is located in the south end of the Town of Brookfield Residential Yard & Refuse Center property in a cleared and graded area used for storage of various earth and refuse materials. The proposed Homeland Towers facility is located ±385 feet southwest of Wetland 2 and the access, which follows an existing paved and gravel drive, is located approximately 80 feet west of Wetland 2 at its nearest point. The proposed development will not result in an adverse impact to Wetland 2.

C:\GIS\Projects\Homeland Towers\Brookfield\mxd\Wetland Inspection Map.mxd



Legend

- Proposed 150' Tall Monpole Tower
- Approximate Proposed Facility Layout
- Subject Property
- Approximate Parcel Boundary (CTDEEP GIS)
- Wetland Flag
- Delineated Wetland Boundary
- Wetland Area

N
W E
S

300 150 0 300
Feet

Wetland Inspection Map

Proposed Wireless Telecommunications Facility
Brookfield
100 Pocono Road
Brookfield, Connecticut

verizon

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 300 feet
Map Date: May 2016

Department of Economic and Community Development

Connecticut
still revolutionary

November 19, 2015

Mr. Andrew Maziarski
IVI/CBRE
4 West Red Oak Lane
White Plains, NY 10604

Subject: 100 Pocono Road
Brookfield, CT
Homeland Towers

Dear Mr. Maziarski:

The State Historic Preservation Office is in receipt of the proposal for the above-referenced project, submitted for review and comment pursuant to the National Historic Preservation Act and in accordance with Federal Communications Commission regulations.

After completing review of the proposed undertaking, SHPO has determined that there will be no historic properties affected by the proposed installation of a 171' monopole tower within a 75' by 75' lease area and associated equipment at the subject property. Please note that SHPO considers this location to be archeologically sensitive, but the confirmed level of disturbance suggests low potential to encounter archeological resources. Based on the information provided to this office, SHPO concurs that no historic properties will be affected by this undertaking.

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 Todd Levine, Environmental Reviewer, at (860) 256-2759 or todd.levine@ct.gov.

Sincerely,

Catherine Labadia
Deputy State Historic Preservation Officer

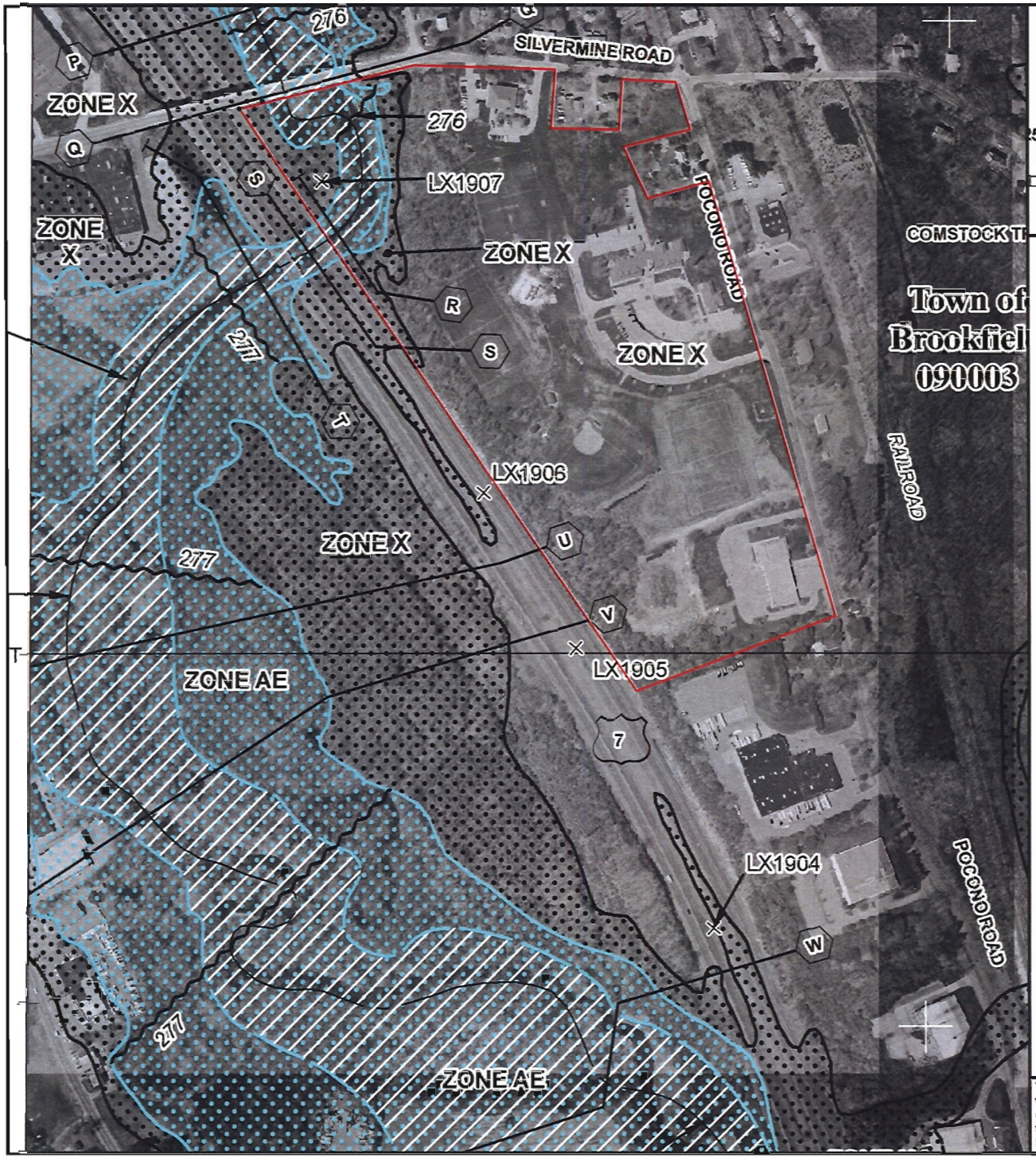
Site Name: BROOKFIELD SOUTH, CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	2389	2389	146	0.0403	1.0	4.03%
VZW Cellular	869	9	340	3060	146	0.0516	0.579333333	8.91%
VZW AWS	2145	1	2619	2619	146	0.0442	1.0	4.42%
VZW 700	746	1	1087	1087	146	0.0183	0.497333333	3.69%
Total Percentage of Maximum Permissible Exposure								21.05%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used.



MAP SCALE 1" = 500'

250 0 500 1000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0134F

FIRM

FLOOD INSURANCE RATE MAP

FAIRFIELD COUNTY, CONNECTICUT
(ALL JURISDICTIONS)

PANEL 134 OF 626

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BROOKFIELD, TOWN OF	090003	0134	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
09001C0134F

EFFECTIVE DATE
JUNE 18, 2010

Federal Emergency Management Agency

SITESAFE
RF COMPLIANCE EXPERTS
A BUSINESS OF FDH VELOCITEL

200 North Glebe Road, Suite 1000, Arlington, VA 22203-3728
703.276.1100 703.276.1169 fax
FAA@sitesafe.com www.sitesafe.com

FAA Aeronautical Evaluation

Brookfield
CT777

For more information contact:
faa@sitesafe.com
770.532.3255 phone
703.276.1169 fax

SITESAFE
RF COMPLIANCE EXPERTS
A BUSINESS OF FDH VELOCITEL

SITE SPECIFIC EVALUATION
FOR
Client Site Name: Brookfield
Client Site Number: CT777
Client Site Location: Brookfield, CT.

Client/Requestor Name: Eileen Tavolacci Date: 12/3/15
Company Name: Homeland Towers
Address: 22 Shelter Rock Lane
Address: Danbury Ct. 06810

This is an evaluation based on application of surfaces identified in Federal Aviation Regulation (FAR) Part 77 and Federal Communication Commission (FCC) Rules Part 17.

EXECUTIVE SUMMARY OF FINDINGS

- **The maximum height that can be built at this site without notice to the FAA is 200 feet AGL or 537 feet AMSL.**
- Maximum No Extended Study height at this site is 499 AGL, or 836 AMSL.
- Maximum No Hazard height at this site is 499 AGL, or 836 AMSL.
- Maximum no marking and lighting height at this site is 200 AGL, or 537 AMSL.

SITE DATA SUBMITTED FOR STUDY

Type of Structure:	Antenna	
Coordinates of site:	Lat:	41° 27' 46.72"
	Long:	73° 23' 53.97"
	Datum:	NAD 83

Site Ground Elevation:	337
Total Height above the ground of the entire structure (AGL):	176
Overall height of structure above mean sea level (AMSL):	513

***Note**: This report is for planning purposes only. If notification to the FAA or FCC is submitted on a site (whether it is, or is not required), a determination of no hazard or an approval letter should be received prior to any actions taken at this site.*

AIRPORT AND HELIPAD INFORMATION

Nearest public use or Government Use (DOD) facility is Danbury Municipal.

This structure would be located 6.6 NM or 40454 FT from the airport on a bearing of 214 degrees true to the airport.

Nearest private use facility is Danbury Hospital.

This structure would be located 4.0 NM from the helipad on a bearing of 211 degrees true to the helipad.

FINDINGS

AM Facilities:

(The FCC protects AM transmission stations from possible electro magnetic interference for a distance of 3.0 km for directional facilities, and 1.0 km for non-directional facilities. Any antenna structures within these distances will most likely require a detuning evaluation of the site) ***(Sitesafe offers a full range of detuning services)***

For a free analysis of this site against the most current FCC data, go to our AM evaluation web site at http://sitesafe.com. A negative certificate can be generated, (on-line) if no conflict is found. If a conflict is found, our AM Detune department will contact you to review the findings.

This site was evaluated against the FCC's AM database, and is not within an AM transmission area.

FCC Notice Requirements:

(FCC Rules, Part 17)

This structure does not require notification to the FAA or FCC based on these rules.

FAA EMI:

(The FAA protects certain air navigational aids and radio transmitters from possible electro-magnetic interference. The distance and direction are dependent on the type of facility be evaluated. Most of these transmission and receiver facilities are listed in the National Flight Data Center (NFDC) database.)

This site would not affect any FAA air navigational aids or transmitters listed in the NFDC database.

Military Airspace:

This structure will not affect this airspace.

***Note**: This report is for planning purposes only. If notification to the FAA or FCC is submitted on a site (whether it is, or is not required), a determination of no hazard or an approval letter should be received prior to any actions taken at this site.*

FAA Evaluation:

FAR Part 77 paragraph 9 (FAR 77.9). Construction or Alteration requiring notice:
(These are the imaginary surfaces that the FAA has implemented to provide general criteria for notification purposes only.)

This structure does not require notification to the FAA.

FAR Part 77 paragraph 17 (FAR 77.17). Standards for Determining Obstructions:
(These are the imaginary surfaces that the FAA has implemented to protect aircraft safety. If any of these surfaces are penetrated, the structure may pose a Hazard to Air Navigation.)

This structure does not exceed these surfaces.

MARKING AND LIGHTING

FAA Advisory Circular 70/7460-1

Marking and lighting is not required for this structure.

RECOMMENDATIONS OR ACTIONS

Sitesafe does not consider this site to be a hazard to air navigation as specified in FAR part 77.

***Note**: This report is for planning purposes only. If notification to the FAA or FCC is submitted on a site (whether it is, or is not required), a determination of no hazard or an approval letter should be received prior to any actions taken at this site.*

C:\GIS\Projects\Homeland Towers\Brookfield\mxd\Site Location Map.mxd

Legend

- Site
- Municipal Boundary

USGS Topographic Site Location Map

Proposed Wireless
Telecommunications Facility
Brookfield
100 Pocono Road
Brookfield, Connecticut

verizon

HOMELAND TOWERS

ALL-POINTS TECHNOLOGY CORPORATION

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Danbury (1984), CT
Map Scale: 1:24,000
Map Date: October 2015

N W E S

1,000 500 0 1,000 Feet

REDACTED VERSION

SITE NAME: Brookfield
LESSOR: Town of Brookfield
LEASE NO.: CT777

OPTION AND GROUND LEASE AGREEMENT

THIS GROUND LEASE AGREEMENT ("Agreement") is made and entered into as of this 3rd day of March 2014 (the "Effective Date") by and among **Town of Brookfield** ("LESSOR") and **HOMELAND TOWERS, LLC**, a New York limited liability company ("LESSEE").

Recitals

A. WHEREAS, LESSOR is the owner of the following described property located at 100 Pocono Road, Brookfield, County of Fairfield, CT 06804 (APN #: Map E10, Lot 014), a legal description of which is set forth in **Exhibit "A"** hereto (the "Property"); and

B. WHEREAS, LESSEE desires to lease certain ground space on the Property for the placement of equipment, building(s) and tower(s) for the purpose of constructing, establishing, and maintaining a radio transmission tower facility for LESSEE's use and that of its subtenants, licensees and customers (collectively, "Customers"), which facility includes tower(s), building(s), radio transmitting and receiving antennas, communications equipment, and related cables, wires, conduits, air conditioning equipment and other appurtenances (the "Telecommunications Facilities"); and

C. WHEREAS, LESSOR understands and accepts that LESSEE's primary business is the leasing, subleasing, and licensing portions of the Telecommunications Facilities to its Customers.

Agreement

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants and promises contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, LESSOR and LESSEE agree as follows:

1. **Option to Lease and Leased Premises.** (a) In consideration of the payment of [redacted] and 00/100 Dollars ($[redacted]) (the "Option Fee") by LESSEE to LESSOR, LESSOR hereby grants to LESSEE an option to lease the Leased Premises (as defined in Section 2 below), on the terms and conditions set forth herein (the "Option"). The Option shall be for a term of twelve (12) months, commencing upon the date of mutual execution of this Agreement and ending twelve (12) months from such date (the "Initial Option Period"). LESSEE shall have the right to extend the Option for one (1) additional twelve (12) month period (an "Extension Period") by giving written notice to LESSOR prior to the end of the Initial Option Period, which notice shall be accompanied by an additional option fee payment of [redacted] and 00/100 Dollars ($[redacted]) (the "Extension Option Fee"). During the Extension Period if LESSEE has submitted an application(s) for the Governmental Approvals, including, without limitation, commencement of zoning of the Leased Premises, LESSEE shall have the right to further extend the Option for one (1) additional six (6) month period ("Additional Extension Period") by giving written notice to LESSOR prior to the end of the Extension Period, which notice shall be accompanied by an additional option fee payment of [redacted] and 00/100 Dollars ([redacted]) (the "Additional Option Fee"). As used herein, "Option Period" means the Initial Option Period and the Extension Period and/or the Additional Extension Period, as applicable.

(b) During the Option Period and any applicable extension thereof, LESSEE may exercise the Option by so notifying LESSOR in writing.

(c) The provisions of Sections 3(b) and 3(c) of this Agreement shall apply with equal force during the Option Period and, to the extent that LESSEE exercises the Option, the Term of this Agreement.

(d) LESSOR hereby leases to LESSEE the Leased Premises and LESSEE hereby leases from LESSOR the Leased Premises upon the terms and conditions contained in this Agreement. The Leased Premises consists of certain ground space on the Property sufficient for the construction and maintenance of Lessee's Telecommunications Facilities, together with all necessary easements for access, egress and utilities, as generally described in this Agreement and depicted in **Exhibit "B"** hereto (collectively referred to hereinafter as the "Leased Premises"). The Leased Premises, located at 100 Pocono Road, Brookfield, CT, is comprised of approximately five thousand six hundred twenty five (5,625) square feet of ground space.

2. Term.

(a) The initial Term of the Agreement shall be ten (10) years (the "Initial Term"), commencing on the date of LESSEE's exercise of the Option ("Commencement Date"). Upon exercise of the Option, LESSEE shall notify LESSOR of the Commencement Date. LESSEE shall have the right to extend this Agreement for nine (9) renewal terms of five (5) years each (each, a "Renewal Term"; the Initial Term and any Renewal Term are hereinafter referred to collectively as the "Lease Term"). Each Renewal Term shall be on the same terms and conditions as set forth herein.

(b) If LESSEE elects not to exercise LESSEE's right to renew the Term or any Renewal Term, as the case may be, LESSEE shall notify LESSOR, in writing, of LESSEE's intention not to renew this Agreement, at lease sixty (60) days prior to the expiration of the then current term. Unless LESSEE notifies LESSOR, in writing, of its intention not to exercise a Renewal Term, such Renewal Term shall be deemed automatically exercised and this Agreement shall continue pursuant to the terms hereof.

(c) If LESSOR remains in possession of the Leased Premises at the expiration of the Lease Term without a written agreement, such tenancy shall be deemed a month-to-month tenancy under the same terms and conditions of this Agreement. In such event, the rent hereunder shall increase to 125% of the rent in the last Renewal Term of this Agreement.

(d) In the event that LESSEE exercises all of the Renewal Terms set forth in the preceding paragraph, LESSEE shall have the exclusive right for the period commencing on the last day of the final Renewal Term through the date which is six (6) months thereafter, to negotiate with LESSOR for a new lease at then-current fair market rental rates ("LESSEE's Limited First Right To Negotiate"). If, at the end of such six (6) month period, the parties have not reached agreement as to all of the material terms of such new lease (including, without limitation, the rent payable thereunder), then LESSEE's Limited First Right To Negotiate shall be of no further force or effect.

3. Permitted Use; Governmental Approvals; Construction; Removal.

(a) The Leased Premises shall be used by LESSEE, in its sole judgment, for the construction, maintenance, replacement, modification, installation, upgrading, rebuilding, relocation and/or operation of the Telecommunication Facilities for the transmission and reception of communications signals, including wireless communication purposes and uses incidental thereto. The Telecommunication Facilities shall be initially configured as generally set forth in **Exhibit "C"** hereto (the "Site Plan"). LESSEE shall have the right to modify, replace, add to, upgrade, rebuild, and/or relocate the Telecommunication Facilities at any time during the Term. LESSEE shall install fencing around the Leased Premises and ensure that access to the Leased Premises and the Telecommunications Facilities is locked when LESSEE or its Customer, agents, representatives or agents are not performing construction, maintenance or other work at the Leased Premises. LESSEE shall obtain all licenses, certificates, permits, authorizations or approvals from all applicable governmental and/or regulatory entities including, but not limited to all necessary building permits and certificates of occupancy (collectively, the "Governmental Approvals"), all at LESSEE's sole cost and expense.

(b) LESSOR hereby authorizes LESSEE to prepare, execute, and file all required applications for the Governmental Approvals, subject to the approval of the LESSOR, not to be unreasonably withheld, conditioned or delayed. LESSEE shall be responsible for vigorously and diligently defending on its behalf (but not representing LESSOR) all Governmental Approvals granted for the Telecommunications Facilities and Leased Premises, including any approvals made by a board or commission of the LESSOR, which are challenged by a third party in any administrative agency or court of law.

(c) LESSEE shall have the right, at LESSEE's expense, to conduct engineering tests, environmental tests, and all other feasibility studies necessary or desirable for LESSEE's use of the Leased Premises. Such testing by LESSEE shall not unreasonably interfere with the operations of the LESSOR at the Property. In addition to the provisions of Section 7 below, prior to LESSEE's construction of the Telecommunications Facilities, LESSEE shall have the right to immediately terminate this Agreement upon written notice to LESSOR if LESSEE deems the results of any of the studies, reports, and/or Governmental Approvals referenced in this Section 3 to be unacceptable to LESSEE in its sole discretion.

(d) Upon obtaining all Governmental Approvals, LESSEE shall have the right, at LESSEE's expense, to construct and maintain the Telecommunications Facilities on the Leased Premises. In this regard, LESSEE shall have the right to install, at LESSEE's sole cost and expense, utilities and conduits necessary to service the Structure, to improve the present utilities on the Property. All work by LESSEE shall be performed in compliance with applicable laws and ordinances and shall be done in a fashion so as to minimize interference with the use of the area surrounding the Leased Premises by LESSOR and, upon completion of such construction, any area disturbed by the work, shall be restored to the condition it was in prior to the commencement of said work. Notwithstanding the above, if commercially reasonable and to the extent available by the utility provider(s), LESSEE agrees that utilities shall be installed underground.

(e) LESSOR shall have the right to install, maintain and operate communications equipment described on Exhibit E, for use by LESSOR for governmental purposes, (collectively, "LESSOR's Equipment"), on LESSEE'S Telecommunications Facilities and otherwise on the Leased Premises. LESSEE shall determine the location of LESSOR's Equipment at the Leased Premises, including the location on LESSEE's Telecommunications Facilities, and LESSEE hereby agrees that LESSEE, its agent or representative shall install LESSOR's Equipment during the construction of the Telecommunications Facilities at no charge to LESSOR. If at any time LESSEE desires to relocate LESSOR's Equipment, LESSEE may do so, at LESSEE's expense, provided that (i) LESSEE obtain the prior written consent of LESSOR, which consent shall not be unreasonably withheld, and (ii) the use of LESSOR's Equipment as described in this Section 3(e) is not affected.

(f) Notwithstanding the fact that certain such equipment and appurtenances that are a part of the Telecommunications Facilities may be classified as fixtures under applicable law, the parties agree and acknowledge that all such equipment and appurtenances are, and shall at all times remain, the sole property of LESSEE or its Customers, as the case may be, and that LESSEE shall have the right, but not the obligation, to remove any or all of the same during the Term of this Agreement and/or at the expiration or earlier termination hereof. If LESSEE has not removed the Telecommunications Facilities within ninety (90) days after the expiration or earlier termination of the Agreement, LESSOR shall: (i) have the right to purchase the Telecommunications Facilities from LESSEE for One and 00/100 ($1.00) Dollar. At such time, ownership in the Telecommunications Facilities shall transfer to the LESSOR and LESSEE shall have no further obligations of the Telecommunications Facilities or under this Agreement; or (ii) provide notice to LESSEE requiring the removal of the Telecommunications Facilities within thirty (30) days of LESSEE's receipt of LESSOR's notice. LESSEE shall then remove Telecommunications Facilities (excepting the foundation), and restore the Leased Premises to substantially the condition existing on the Commencement Date, except for any tree, shrub or other vegetation that was removed and for ordinary wear and tear and casualty loss. If LESSOR elects to have LESSEE remove the Telecommunications Facilities, LESSEE shall remove the tower foundation down to grade. Upon commencement of construction, LESSEE agrees to post a removal bond for the removal costs (the "Removal Bond"), as determined by an independent third party mutually agreed upon by LESSOR and LESSEE. LESSOR acknowledges and agrees that in the event LESSEE is required to post a bond for removal of the Telecommunications Facilities by any governmental/municipal authority in connection with or associated with the Governmental Approvals, such removal bond shall satisfy the requirements of the Removal Bond in this Section 3(f) and LESSEE shall not be required to obtain a separate bond as herein stated.

4. <u>Access; Utilities and Taxes</u>.

(a) LESSOR hereby grants LESSEE access to the Leased Premises over, under and across the Property ("Access Rights") twenty-four (24) hours per day, seven (7) days per week, for the purpose of ingress, egress, installation, maintenance and operation of the Telecommunications Facilities and any associated utilities. The Access Rights granted herein (i) include the nonexclusive right to enter the Property from the nearest public street and driveway, parking rights, and (ii) shall automatically extend to all of LESSEE's agents, representatives, contractors, invitees and vendors, as well as to all Customers, subtenants and their agents, representatives, contractors, invitees and vendors.

(b) LESSOR's access to the Leased Premises shall be restricted, except as to repair and replacement of its equipment, as follows: (i) unless an emergency condition exists, all access shall be on reasonable notice to LESSEE; (ii) LESSOR shall take commercially reasonable precautions to ensure that no damage occurs to the Telecommunications Facilities or other improvements or any of the property of LESSEE or any subtenant during or as a result of such access; and (iii) LESSOR shall promptly repair, to LESSEE's reasonable satisfaction, any damage caused as a result of any such access. The Brookfield Police and Fire Department shall have access (including keys) for emergency purposes.

(c) LESSEE shall have the right to obtain, for itself and on behalf of its subtenants, sufficient utility services to the Leased Premises, including, without limitation, electric service, fiber and telephone service. Subject to LESSOR's reasonable approval of the location (which may be along the Access Rights) and at LESSEE's sole cost, LESSEE shall have the right to install conduits, utility lines, related equipment and other items to connect the Leased Premises to such utility services. At the time of such installation by LESSEE, LESSEE (at LESSEE's sole cost and expense) shall provide conduits and sufficient electrical capacity to allow LESSOR to operate LESSOR's public safety antenna systems at the Leased Premises. Such installation by LESSEE shall not unreasonably interfere with the operations of the LESSOR at the Property. LESSEE shall pay any charges to install utilities to the Leased Premises, including emergency power generators, and shall pay all utilities charges for utilities consumed by LESSEE at the Leased Premises. Upon LESSEE's request, LESSOR agrees to promptly execute any and all documents necessary to evidence the rights granted to LESSEE pursuant to this paragraph including, without limitation, right-of-way and easement documents.

(d) LESSEE shall pay to LESSOR, or directly to the appropriate taxing authority, all personal property taxes assessed by the Town of Brookfield on the Telecommunications Facilities and other improvements owned by LESSEE on the Leased Premises. LESSEE shall pay to LESSOR, or directly to the appropriate taxing authority, any and all personal property taxes and assessments

imposed by the Town of Brookfield with respect to the Telecommunications Facilities located at the Leased Premises. LESSOR shall be responsible for all real and personal property taxes, assessments and similar charges assessed against the Property and LESSOR's property thereon.

5. Rent. (a) Commencing on the Rent Commencement Date, as defined in this paragraph, LESSEE shall pay LESSOR as monthly rent the greater of an amount equal to: (i) [redacted] ("Base Rent") or (ii) [redacted] percent ([redacted]) of all Gross Income collected by LESSEE ("Percentage Rent", together with the Base Rent, known as "Rent"). Commencing with the installation of equipment and first payment to LESSEE by LESSEE's second broadband Customer (not to include LESSOR or Town of Brookfield), LESSEE shall increase Base Rent to [redacted]. The Rent shall be payable in equal monthly installments in advance on the first day of each month to LESSOR; rent for any partial month will be prorated. Rent shall be sent to LESSOR at the following address, which address may be changed from time to time during the Term by written notice to LESSEE given pursuant to Section 17: Town of Brookfield, Town Hall Complex, P O Box 5106, Brookfield, CT 06804. As used herein, "Rent Commencement Date" means the earlier of (i) the six (6) months after the Commencement Date, and (ii) the date on which LESSEE completes construction at the Leased Premises.

(b) During the Initial Term and any Renewal Terms, the monthly Base Rent shall be increased by an amount equal to [redacted] percent ([redacted]) over the Base Rent applicable during the previous year and on such subsequent anniversary thereof to an amount equal to [redacted] percent ([redacted]) of the monthly Base Rent in effect immediately prior to the adjustment date.

(c) Gross Income shall be defined as the income actually received by LESSEE from the Customers during the applicable month or portion thereof in connection with their occupancy of the Telecommunications Facilities on the Leased Premises. The parties agree and acknowledge that the following fees, reimbursements, taxes, and pass-throughs paid to LESSEE by the Customers are expressly excluded from the definition of Gross Income: (i) installation and maintenance fees for services provided by LESSEE on behalf of the Customers; (ii) operating expense, common area cost, and tenant improvement fees and reimbursements; (iii) utility charges; (iv) damage awards, indemnification payments, and related reimbursements; (v) any and all insurance proceeds (with the limited exception of business interruption insurance, to the extent applicable); (vi) all sums collected from Customers for taxes (including, to the extent applicable, sales and use taxes, excise taxes, and similar taxes) for which LESSEE is responsible; (vii) un-forfeited security deposits; and (viii) any proceeds applicable to LESSEE's assignment of the Agreement.

(d) Effective on each anniversary of the Commencement Date, LESSEE shall remit provide LESSOR a statement of LESSEE's Gross Income during the applicable calendar year period (or portion thereof). Such statement will be accompanied by the certification of LESSEE's Chief Financial Officer (or his/her designee) confirming that the statement and the Percentage Rent payments were calculated in accordance with this Section 5.

6. Interference. Subject to LESSEE's rights under this Agreement including, without limitation, non-interference, LESSEE shall not use the Leased Premises in any way which interferes with the use of the Property by LESSOR or its lessees or licensees with rights in the Property prior in time to LESSOR's initial use thereof as a telecommunications facility. LESSOR shall not use, nor shall LESSOR permit its tenants, licensees, employees, invitees or agents to use, any portion of the Property in any way that interferes with the operations of LESSEE. Any interference prohibited by this paragraph shall be deemed to constitute a material breach of this Agreement, and the offending party shall, upon written notice from the other, promptly cause such interference to be terminated. In the event that any such interference is not so terminated, the injured party shall have the right, in addition to any other rights that it may have at law or in equity, to bring a court action to enjoin such interference or to terminate this Agreement immediately upon written notice to the other party.

7. Default and Termination. (a) In addition to other events or circumstances permitting the termination of this Agreement, this Agreement may be terminated, without any penalty or further liability, as follows: (i) by either party, upon a breach or default of any covenant or term hereof by the other party, which breach or default is not cured within thirty (30) days of the breaching party's receipt of written notice thereof from the non-breaching party; provided, however, that if efforts to cure such breach are commenced within such thirty (30) day period and are thereafter diligently prosecuted to completion, such period shall be extended for a period of time not to exceed six (6) months; and further provided that the cure period for any monetary default shall be thirty (30) days from the defaulting party's receipt of the other party's written notice of payment delinquency; (ii) by LESSEE, upon thirty (30) days prior written notice to LESSOR, in the event that the Leased Premises become technologically unsuitable, in LESSEE's opinion, for LESSEE's Telecommunications Facilities for reasons including, but not limited to, unacceptable radio signal interference and any addition, alteration, or new construction on, adjacent to, or in the vicinity of the Leased Premises and/or the Property that blocks, either partially or totally, transmission or receiving paths; (iii) by LESSEE, upon thirty (30) days prior written notice to LESSOR, in

the event that any Governmental Approval that LESSEE considers to be necessary or convenient for the construction, operation, maintenance, reconstruction, modification, addition to, or removal of the Telecommunications Facilities is not, in LESSEE's sole discretion, reasonably obtainable or maintainable in the future; (iv) by LESSEE, upon thirty (30) days prior written notice to LESSOR, in the event that the Leased Premises cease to be economically viable as a telecommunications site (as determined by LESSEE in its sole business judgment); and (v) by LESSEE, upon thirty (30) days prior written notice to LESSOR, if any Hazardous Substance (as defined in Section 10 below) is or becomes present on the Property in violation of any Environmental Laws (as also defined in Section 10 below) to the extent that such is not caused by LESSEE.

(b) Except as expressly limited by this Agreement, a party's termination hereof as the result of a breach thereof by the other party that is not cured within the applicable period set forth in Section 7(a) shall be in addition to, and not in lieu of, any and all remedies available to the terminating party, whether at law or in equity.

8. Condemnation. If all or any part of the Leased Premises, or if all or any part of the Property underlying the Telecommunication Facilities or providing access to the Premises is taken by eminent domain or other action by governmental authority(s) of appropriate jurisdiction (each, an "Act of Condemnation"), and if, in LESSEE's sole discretion, such an Act(s) of Condemnation renders the Premises unusable for the Permitted Use set forth in Section 3 hereof, then LESSEE shall have the right to immediately terminate this Agreement upon written notice to Lessor, and all Rent obligations (except those that accrued prior to the effective date of termination) shall cease. If LESSEE elects not to terminate this Agreement following an Act of Condemnation, then this Agreement shall continue unaffected, except that the Rent shall be reduced or abated in proportion to the actual reduction or abatement of LESSEE's use of the Leased Premises as a result of such Act of Condemnation. In the event of an Act of Condemnation (whether in whole or in part), LESSEE shall be entitled to pursue and receive the award related to the Telecommunication Facilities and any equipment and/or infrastructure owned or constructed by LESSEE that is related thereto. The terms set forth in this Section 11 shall survive the expiration or earlier termination of this Agreement.

9. Indemnification. Subject to the provisions of Section 11 below, LESSEE shall indemnify and hold LESSOR harmless from and against any claims (including reasonable attorneys' fees, costs and expenses incurred in defending against such claims), losses, damages, and liabilities (collectively, "Claims") resulting from the negligence or willful misconduct of LESSEE and LESSEE's agents, licensees, invitees, and contractors, and the shareholders, directors, officers, and employees of each of them (the "LESSEE Parties") occurring in or about the Premises or the Property. LESSOR shall indemnify and hold LESSEE harmless from all Claims arising from the negligence or willful misconduct of LESSOR and LESSOR's agents, lessees, licensees, invitees, and contractors, and the shareholders, directors, officers, and employees of each of them (the "LESSOR Parties") occurring in or about the Leased Premises or the Property. The terms set forth in this Section 9 shall survive the expiration or earlier termination of this Agreement.

10. Hazardous Substances. LESSOR represents and warrants to LESSEE that LESSOR (a) is not presently, nor at any time in the past did LESSOR engage in or permit, and (b) has no knowledge of any other person or entity's engaging (whether past or present) or permitting (whether past or present) any operations or activities upon, or any use or occupancy of any portion of the Property (including, without limitation, the Leased Premises), for the purpose of or in any way involving the handling, manufacturing, treatment, storage, use, transportation, spillage, leakage, dumping, discharge or disposal (whether legal or illegal), accidental or intentional, of any hazardous substances, materials or wastes (individually, a "Hazardous Substance" and collectively, "Hazardous Substances") regulated under any federal, state, or local law, rule, or regulation pertaining to the environment, public health or safety, or the handling, manufacturing, treatment storage, use, transportation, spillage, leakage, dumping, discharge or disposal of Hazardous Substances (collectively, "Environmental Laws"). LESSOR and LESSEE each agree that they will not use, generate, store, or dispose of any Hazardous Material on, under, about or within the Property or the Leased Premises in violation of any Environmental Law. LESSOR shall indemnify, defend, and hold harmless LESSEE and the LESSEE Parties (as defined in Section 9 above), and LESSEE shall indemnify, defend, and hold harmless LESSOR and the LESSOR Parties (as defined in Section 9 above), from and against any and all Claims (as also defined in Section 9) arising from the indemnifying party's breach of any obligation, representation, or warranty contained in this paragraph, except for Claims arising in whole or in any part out of the indemnified party's use or occupancy of the Property or the Leased Premises. The indemnification provisions set forth in this Section 10 shall survive the expiration or earlier termination of this Agreement.

11. Insurance. (a) During the Term of this Agreement, LESSEE shall, at its sole cost and expense, procure and maintain the following insurance with customary exceptions and exclusions: (i) Bodily Injury: $1,000,000.00 for injury to any one (1) person, and $2,000,000.00 for injury(s) sustained by more than one (1) person in any one (1) occurrence; and (ii) Property Damage: replacement cost for all of LESSEE's equipment located at the Leased Premises (collectively, the "LESSEE Policies"). LESSEE covenants and agrees that LESSOR shall be named as an additional insured under the LESSEE Policies. In the event of LESSOR's written request therefore, LESSEE shall provide LESSOR with a certificate of insurance evidencing the coverage required hereby not later than thirty (30) days following its receipt of LESSOR's request.

(b) LESSEE hereby releases and holds harmless LESSOR and the LESSOR Parties, and LESSOR hereby releases and holds harmless LESSEE and the LESSEE Parties, from and against any personal injury/death occurring at the Leased Premises and/or the Property that results from risks insured against under any insurance policy(s) carried by such party that are in force at the time of any such injury or damage. LESSOR and LESSEE shall use commercially reasonable efforts to cause all insurance policies referenced in this Section 11 to include a waiver of subrogation against the other party with respect to any injury or damage covered under such policy. The waivers and releases in this paragraph shall not only apply as between the parties, but shall also apply to any claims under or through either party as a result of any asserted right of subrogation.

(c) Notwithstanding the foregoing insurance requirements, the insolvency, bankruptcy, or failure of any insurance company carrying or writing any of the policies referenced in this Section 11 shall not be construed as a waiver of any of the provisions of this Agreement, nor shall any such insolvency, bankruptcy, or failure relieve either party from its obligations hereunder. The terms set forth in this Section 11(c) shall survive the expiration or earlier termination of this Agreement.

12. Quiet Enjoyment, Title and Authority. (a) During the Term of this Agreement, LESSEE may, provided that it is not in default hereunder beyond any applicable notice and cure period, peaceably and quietly hold and enjoy the Leased Premises, free from disturbance from any person claiming by, through, or under LESSOR.

(b) LESSOR covenants and warrants to LESSEE that: (i) LESSOR has full right, power, and authority to execute this Agreement; (ii) LESSOR has good and unencumbered title to the Property, free and clear of any liens or mortgages, except those disclosed to LESSEE and of record as of the date of this Agreement; and (iii) LESSOR's execution and performance of this Agreement will not violate the covenants, provisions, representations, or warranties of any mortgage, deed of trust, lease, or other agreement to which LESSOR is a party or by which LESSOR is otherwise bound.

(c) LESSOR agrees that, during the Term of this Agreement, LESSEE will have the exclusive right to lease the Property or any portion thereof for use as Telecommunications Facilities providing transmission and/or receiving facilities for wireless providers and/or users, and that LESSOR will not grant a lease, sublease, license, or other right to use the Property, any portion thereof, or any property that is adjacent thereto that may be owned by LESSOR, to any other person or entity for the operation of antenna and/or telecommunications facilities.

13. Notices. All notices, demands, requests, or other communications which are required to be given, served, or sent by one party to the other pursuant to this Agreement shall be in writing and shall be mailed, postage prepaid, by registered or certified mail, or forwarded by a reliable overnight courier service with delivery verification, to the following addresses for LESSOR and LESSEE, or to such address as may be designated in writing by either party pursuant to this Section 17:

If to LESSEE to: Homeland Towers, LLC
Attn: Manuel Vicente
22 Shelter Rock Lane, Building C
Danbury, CT 06810
Telephone: 203-297-6345
Facsimile: 203-797-1137

If to LESSOR to: Town of Brookfield
Attn: First Selectman
100 Pocono Road
Brookfield, CT 06804
Telephone: 203-775-7308
Facsimile: 203-775-5316

Notice given by certified or registered mail or by reliable overnight courier shall be deemed to have been delivered on the date of receipt (or on the date receipt is refused, as the case may be) as shown on the certification of receipt or on the records or manifest of the U.S. Postal Service or courier service.

14. Estoppel, Non-Disturbance and Attornment. (a) From time to time during the Term of this Agreement, LESSOR agrees, upon not less than ten (10) days prior written notice from LESSEE, to execute, acknowledge and deliver to LESSEE a written estoppel certificate (the "Lessor Estoppel") certifying that as of the date of the certification: (i) the Agreement is a valid and enforceable Agreement and is in full force and effect; (ii) that LESSEE is not in default under any of the terms, conditions, or covenants of the Agreement beyond or any applicable cure period or, if applicable, truthfully specifying any default by LESSEE hereunder and the cure period applicable thereto; (iii) the commencement and expiration dates of the then-current term hereof together with any remaining

Renewal Term(s); (iv) the amount of the then-current rent payable under the Agreement; and (v) a true and correct copy of the Agreement and all amendments thereto shall be attached to the Lessor Estoppel.

(b) LESSOR shall use good faith efforts to obtain for LESSEE from the holder of any mortgage and/or deed of trust now or hereafter encumbering the Property a non-disturbance and attornment agreement in a form reasonably satisfactory to LESSEE, which agreement shall provide that as long as LESSEE is not in default of any of its material obligations under this Agreement beyond any applicable cure period, its rights as LESSEE hereunder shall not be terminated and its access to and possession of the Leased Premises shall not be disturbed by the mortgagee or trustee, as the case may be, or by any proceedings on the debt which any such mortgage or deed of trust secures, and that any sale at foreclosure shall be subject to this Agreement.

(c) For purposes of allowing LESSEE to satisfy its lender's continuing rights with respect to LESSEE'S property on the Leased Premises, and with respect to LESSEE's rights and interests under this Agreement, LESSOR agrees as follows:

(i) LESSOR shall recognize the subleases and/or licenses of all Customers of LESSEE on the Leased Premises, and, notwithstanding any default hereunder by LESSEE, will permit such Customers to remain in occupancy thereof so long as such Customer is not in default of any material obligation under its sublease/license with LESSEE beyond any applicable notice and cure period;

(ii) LESSOR consents to the granting by LESSEE of a lien and security interest and/or mortgage in LESSEE's interest in this Agreement and all of LESSEE's personal property and fixtures located on or attached to the Property, and furthermore consents to the exercise by LESSEE's mortgagee of its rights of foreclosure with respect to such mortgagee's lien and/or security interest. LESSOR agrees to recognize LESSEE's mortgagee as LESSEE hereunder upon any such exercise by LESSEE's mortgagee of its rights of foreclosure. LESSOR further agrees (A) to subordinate any lien or security interest which it may have which arises by law or pursuant to this Agreement to the lien and security interest of LESSEE's mortgagee in the collateral securing all indebtedness at any time owed by LESSEE to its mortgagee (collectively the "Collateral"), and (B) that, upon an event of default by LESSEE under this Agreement or under any applicable mortgage, security agreement, or other loan document executed in favor of LESSEE's mortgagee, LESSEE's mortgagee shall have the full right, title, and authority to exercise its rights against the Collateral prior to the exercise by the LESSOR of any rights which it may have or claim to have therein, including, but not limited to, the right to enter upon the Leased Premises and remove the Collateral free and clear of any applicable lien or security interest of LESSOR;

(iii) Within a reasonable time after the occurrence thereof, LESSOR shall give LESSEE's lender written notice of any breach or default of the terms of this Agreement that is not cured by LESSEE within any applicable notice and cure period(s) (an "Uncured LESSEE Default"). As of the Effective Date of this Agreement, notices to LESSEE's lender are to be addressed to: Goldman Sachs Specialty Lending Group, LP, ATTN: InSite Account Manager, 6011 Connection Drive, Irving, Texas 75039, or to such other address/and or lender as may be specified by LESSEE from time to time during the Term hereof. LESSOR further agrees that no default shall be deemed to have occurred under this Agreement unless LESSOR gives the notice required to lender that is required by this paragraph, and that in the event of any Uncured LESSEE Default, lender shall have the right, to the same extent and with the same effect as LESSEE, for the period set forth in this Agreement, to cure or correct any such Uncured LESSEE Default, whether the same shall consist of the failure to pay rent or the failure to perform, and LESSOR agrees to accept such payment or performance on the part of lender as though the same had been made or performed by the LESSEE; and

(iv) LESSOR acknowledges and agrees that nothing contained in this Agreement shall construed as obligating LESSEE's mortgagee to take any action hereunder, or to perform or discharge any obligation, duty, or liability of LESSEE under this Agreement.

15. Assignment and Subletting LESSEE shall have the right to assign its interest in this this Agreement, whether in whole or in part, without LESSOR's consent. Upon notification to LESSOR of such assignment, LESSEE shall be relieved of all future performance, liabilities and obligations under this Agreement. In addition, LESSEE shall have the right to license or sublet the Leased Premises, in whole or in part, without LESSOR's consent, for the Permitted Use set forth in Section 3.

16. Right of First Refusal. If during the term of this Agreement, LESSOR receives a bona fide offer ("Bona Fide Offer") from an unaffiliated third party to lease or purchase the Property (in whole or in part), LESSOR's interest under this Agreement, LESSOR's rights to receive rents under the term of this Agreement and/or the portion of the Property on which the Leased Premises is located ("Subject Property"), whether in fee or by grant of an easement and/or to enter into a lease or option after the term of this Agreement that LESSOR is willing to accept, LESSEE shall have the right of first refusal ("Right of First Refusal") to so lease or purchase the same. LESSOR shall provide LESSEE with a written copy of the Bona Fide Offer and LESSEE shall have not less than thirty (30) days following its receipt thereof to notify LESSOR in writing as to whether it wishes to exercise its Right of First Refusal with

respect thereto. If LESSEE exercises its right to purchase the Subject Property, such purchase shall be made pursuant to all of the terms and conditions set forth under the Bona Fide Offer. If LESSEE fails to exercise its Right of First Refusal, this Agreement hereunder shall remain in full force and effect. Moreover, if LESSEE fails to so exercise its Right of First Refusal, then such Right of First Refusal shall lapse with respect to the Bona Fide Offer (but not with respect to any subsequent Bona Fide Offers if LESSOR fails to sell or lease to the third party in strict accordance with the terms of the Bona Fide Offer within one hundred eighty days (180) of the date of LESSEE's waiver of such Right of First Refusal). The parties agree and acknowledge that the Right of First Refusal set forth in this paragraph shall not apply to offers pertaining to the sale of all or substantially all of the assets of Seller (which assets include the Property).

17. LESSOR Equipment. During the term of this Agreement, LESSOR shall have the non-exclusive right to install, maintain, and operate radio communications equipment (the "Lessor Equipment"), subject to the availability of space at the Site. LESSOR shall enter into an agreement with LESSEE similar in form and substance to the Communications Use Agreement attached as **Exhibit "D"**, annexed hereto and made a part hereof.

18. Miscellaneous. (a) This Agreement, including Exhibits A-E hereto which are hereby incorporated herein by this reference, constitutes the entire Agreement and understanding of the parties with respect to the subject matter hereof, and supersedes all prior offers, negotiations, and agreements with respect thereto. There are no representations or understandings of any kind not set forth herein. Any amendments to this Agreement must be in writing and be executed by a duly authorized representative of each party.

(b) LESSOR shall, not later than thirty (30) days following the Effective Date hereof, provide LESSEE with a copy of LESSOR's organizational documents which may include, by way of example, LESSOR's Articles of Incorporation, By-Laws, Partnership Agreement, Operating Agreement and the like, which documents shall evidence LESSOR's authority, right, and ability to enter into this Agreement as well as the signature authority of the LESSOR representative who executed this Agreement on LESSOR's behalf..

(c) Upon the request of LESSEE, the parties shall execute the Memorandum of Lease attached hereto and incorporated herein as **Exhibit "E"** (the "Memorandum"). LESSEE shall cause the Memorandum to be recorded, at LESSEE's sole cost and expense, in the official records of the county and state in which the Leased Premises are located. Upon determination of the legal description of the Leased Premises by LESSEE (the "Leased Premises Legal Description"), LESSOR and LESSEE shall amend this Agreement and record an amendment to the Memorandum to incorporate the Leased Premises Legal Description.

(d) Any sale or conveyance of all or any portion of the Property shall be subject to this Agreement and LESSEE's rights hereunder.

(e) This Agreement shall be construed in accordance with the laws of the state in which the Property are located, without regard to the choice of law rules thereof.

(f) If any term of this Agreement is found to be void or invalid, such invalidity shall not affect the remaining terms of this Agreement, which shall continue in full force and effect.

(g) This Agreement may be executed in any number of counterparts (including by facsimile or by electronic copy or transmission), each of which shall be the binding agreement of the executing party, and which, when taken together, shall constitute but one and the same instrument.

(h) The provisions of this Section 21 shall survive the expiration or earlier termination of this Agreement.

[SIGNATURE PAGE FOLLOWS.]

IN WITNESS WHEREOF, the parties have caused this Option and Ground Lease Agreement to be executed by their duly-authorized representatives as of the Effective Date set forth above.

Town of Brookfield
("LESSOR")

By: _____
Name: William N. Tinsley
Title: First Selectman

Tax ID: 69-016193

Homeland Towers, LLC
("LESSEE")

By: _____
Name: Manuel Vicente
Title: President

SCHEDULE A

PROPERTY DESCRIPTION

ALL THAT CERTAIN piece or parcel of land, together with the buildings and improvements thereon, containing 43.28 acres, more or less, situated on the Westerly side of Pocono Road in the Town of Brookfield, County of Fairfield, and State of Connecticut, and bounded and described as follows:

NORTHERLY:	in part by Silvermine Road, by land now or formerly of Felix M. Ptak, Silvermine Road again, and by land now or formerly of Edward Ptak;
EASTERLY:	in part by land now or formerly of Felix M. Ptak, Pocono Road, land now or formerly of Edward Ptak, Pocono Road, and land now or formerly of Walter E. Hagley and Mildred Hagley;
SOUTHERLY:	in part by land now or formerly of Edward Ptak, land now or formerly of Walter E. Hagley and Mildred Hagley, and land now or formerly of Robert R. Goodfellow, et ux; and
WESTERLY:	by the Still River, and land of the State of Connecticut.

EXHIBIT "B" TO OPTION AND GROUND LEASE AGREEMENT

DEPICTION/DESCRIPTION OF LEASED PREMISES[1]

__X__ The Leased Premises includes ground space.

____ The Leased Premises includes rooftop space.

Refer to Exhibits A and C for descriptions

[1] LESSEE reserves the right to replace this Exhibit during the Term of this Agreement with a legal description of the Leased Premises (the "Leased Premises Legal Description"). Effective on the date of LESSEE's delivery of the Leased Premises Legal Description to LESSOR, such Legal Description shall replace the text of this Exhibit.

EXHIBIT "C" TO OPTION AND GROUND LEASE AGREEMENT

SITE PLAN[2]

[2] LESSEE reserves the right to replace this Exhibit during the Term of this Agreement with an as-built site plan (the "As-Built Site Plan"). Effective on the date of LESSEE's delivery of the As-Built Site Plan to LESSOR, such As-Built Site Plan shall replace the text of this Exhibit.

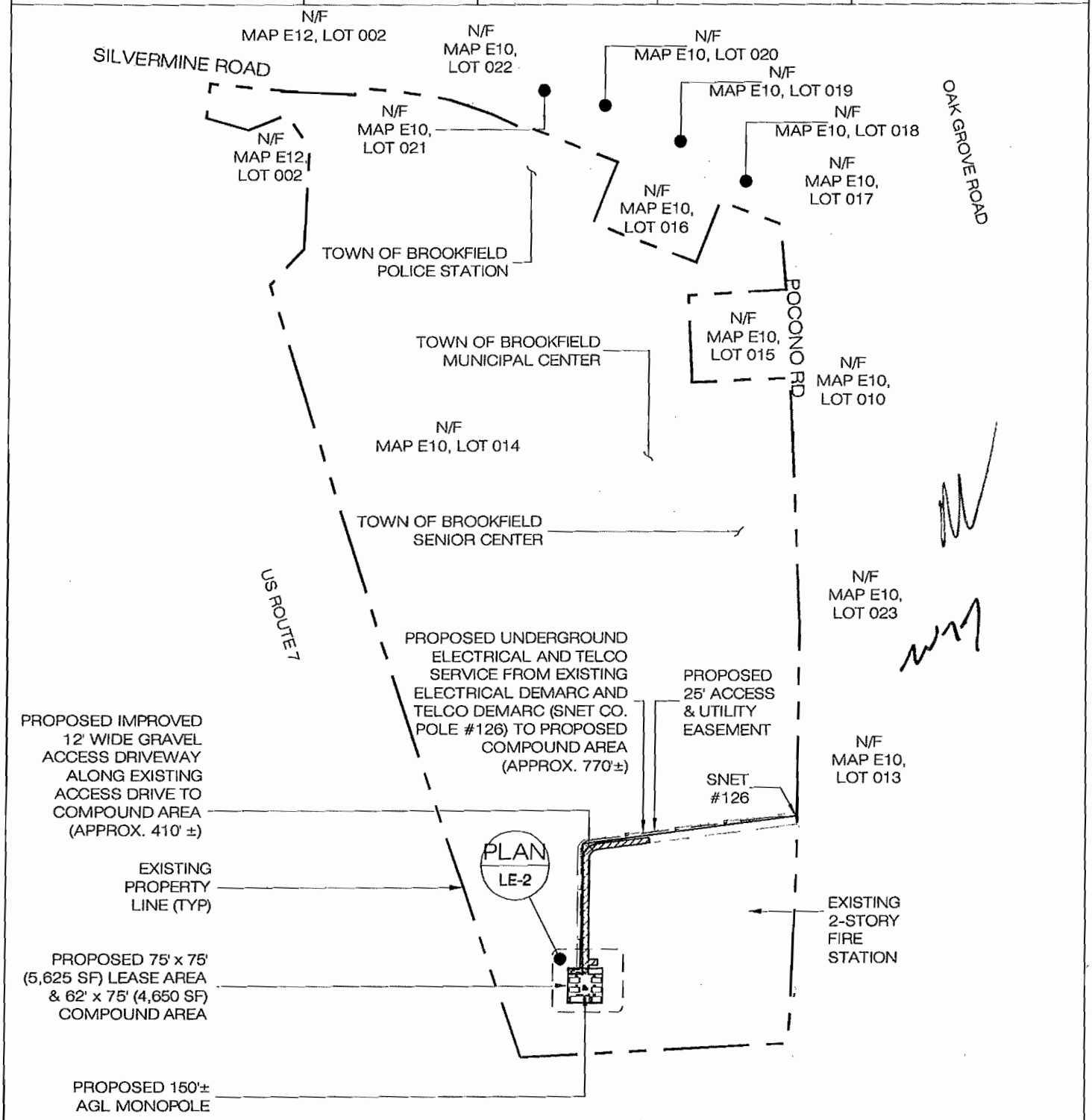
ALL-POINTS
TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
WWW.ALLPOINTSTECH.COM
PHONE: (860) 663-1697
FAX: (860) 663-0935

APT FILING NUMBER: CT-283-150	
LE-1	
SCALE: AS NOTED	DRAWN BY: RCB
DATE: 03/20/12	CHECKED BY: SMC

HOMELAND TOWERS
46 MILL PLAIN ROAD
DANBURY, CT 06811

HOMELAND TOWERS:
CT777 - BROOKFIELD

CT777 - BROOKFIELD
100 POCONO ROAD
BROOKFIELD, CT 06804-3322



REV1: 02/04/13: COMPOUND LOCATION. SMC

SITE PLAN

SCALE: 1" = 300'-0"

NOTE: EXACT LOCATION AND ORIENTATION OF PROPOSED LEASE AREA PENDING SITE SURVEY & FURTHER ENGINEERING REVIEW AND ANALYSIS. PROPOSED UTILITY ROUTING TO BE DETERMINED BY LOCAL UTILITY PROVIDERS.

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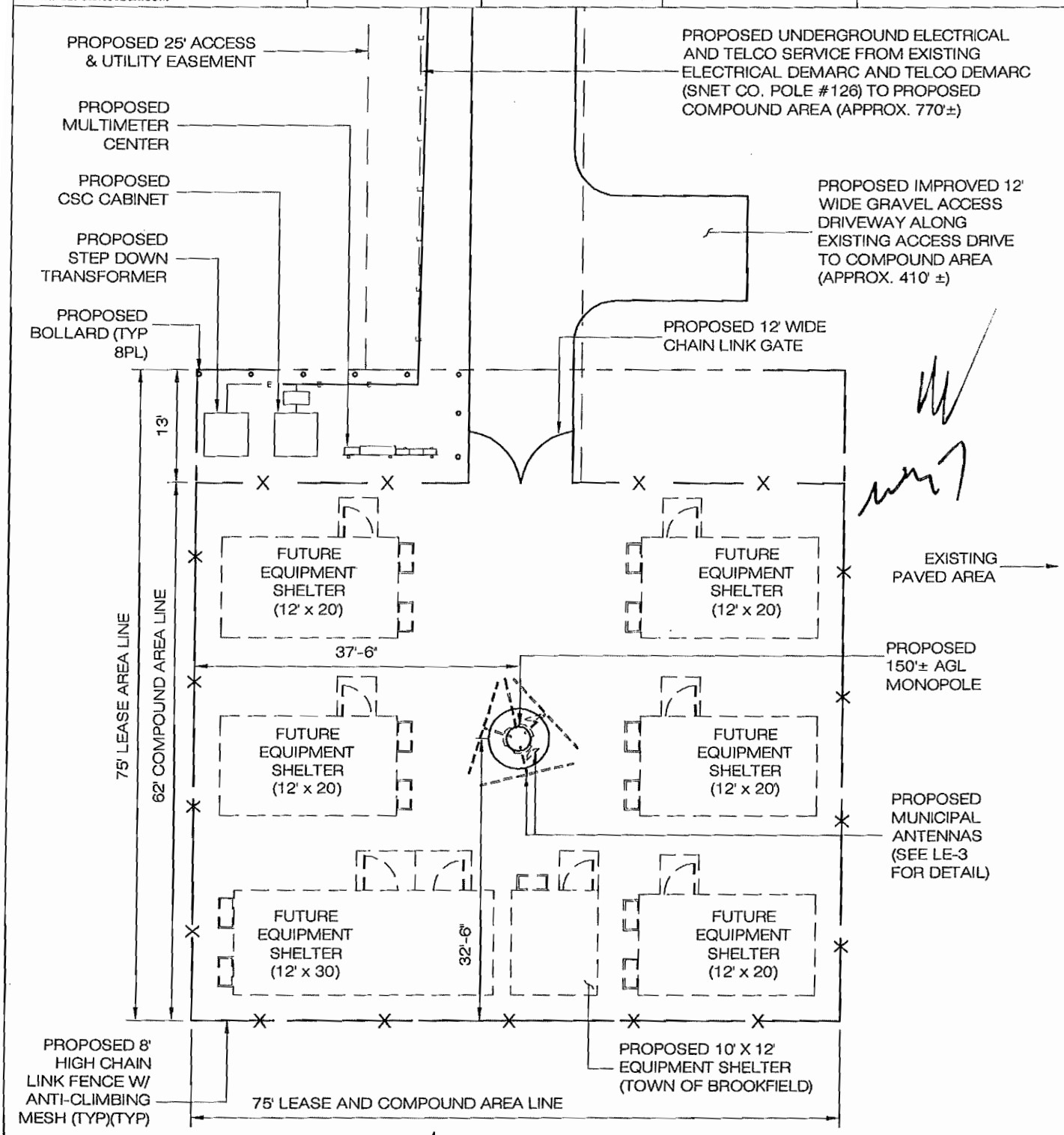
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
WWW.ALLPOINTSTECH.COM
PHONE: (860)-663-1697
FAX: (860)-663-0935

APT FILING NUMBER: CT-283-150		HOMELAND TOWERS	HOMELAND TOWERS: CT777 - BROOKFIELD
LE-2			
SCALE: AS NOTED	DRAWN BY: RCB	HOMELAND TOWERS 46 MILL PLAIN ROAD DANBURY, CT 06811	CT777 - BROOKFIELD 100 POCONO ROAD BROOKFIELD, CT 06804-3322
DATE: 03/20/12	CHECKED BY: SMC		



COMPOUND PLAN

SCALE : 1/16" = 1'-0"

REV1: 02/04/13: COMPOUND LOCATION SMC

NOTE: EXACT LOCATION AND ORIENTATION OF PROPOSED LEASE AREA PENDING SITE SURVEY & FURTHER ENGINEERING REVIEW AND ANALYSIS. PROPOSED UTILITY ROUTING TO BE DETERMINED BY LOCAL UTILITY PROVIDERS.

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KILLINGWORTH, CT 06419
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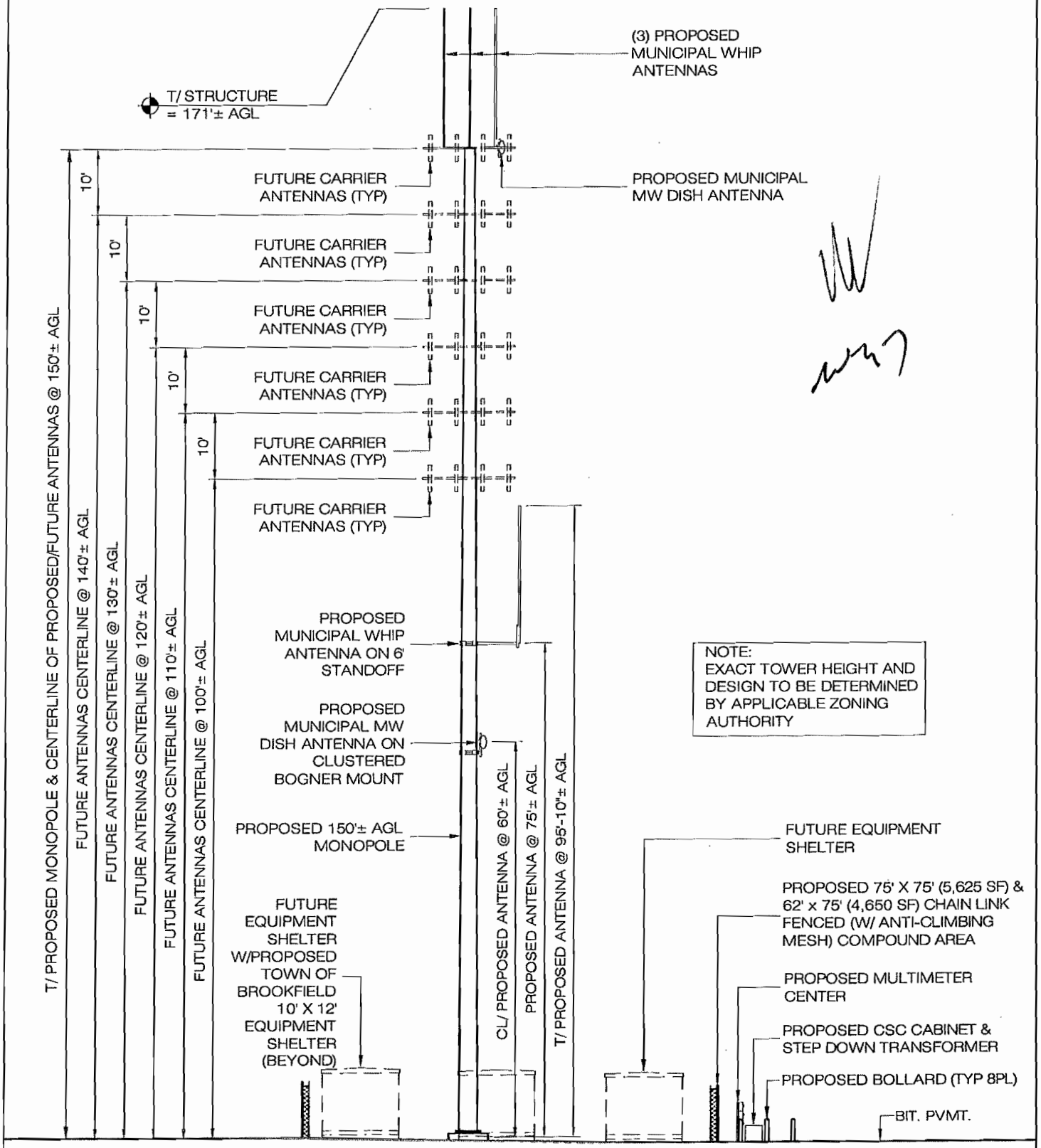
PHONE: (860)-663-1697
FAX: (860)-663-0935

APT FILING NUMBER: CT-283-150	
LE-3	
SCALE: AS NOTED	DRAWN BY: RCB
DATE: 03/20/12	CHECKED BY: SMC

HOMELAND TOWERS
46 MILL PLAIN ROAD
DANBURY, CT 06811

HOMELAND TOWERS:
CT777 - BROOKFIELD

CT777 - BROOKFIELD
100 POCONO ROAD
BROOKFIELD, CT 06804-3322



REV1: 02/04/13: COMPOUND LOCATION SMC

EASTERN ELEVATION

SCALE : 1" = 20'-0"

EXHIBIT "D" TO OPTION AND GROUND LEASE AGREEMENT

COMMUNICATIONS USE AGREEMENT FOR LESSOR EQUIPMENT

(Attached)

COMMUNICATIONS LICENSE AGREEMENT

This Communications License Agreement ("Agreement") is entered into this ___ day of _____, 2013 ("Commencement Date"), between _____ ("LICENSOR") and _____, a _____ ("LICENSEE").

1. Scope of License. Subject to the terms and conditions of this Agreement and the Maser Lease (as hereinafter defined), LICENSOR hereby grants permission to LICENSEE to install, maintain and operate the radio communications equipment ("Equipment") described in the attached **Exhibit A**, annexed hereto at LICENSOR's communication site located at _____ ("Site"), annexed hereto, at the location ("Licensed Premises") described in Exhibit A.

2. Term. (a) The "Term" of this Agreement shall commence on the Commencement Date and shall continue thereafter concurrent with the Master Lease.

3. License Fee. (a) On the Commencement Date, LICENSEE shall pay to LICENSOR an annual fee of One and 00/100 ($1.00) Dollar ("License Fee"). LICENSEE agrees that payment of the License Fee or other sums due hereunder shall be due and paid without the necessity of a demand or invoice from the LICENSOR.

(b) LICENSEE shall obtain electricity directly from the public utility company servicing the Site and have a separate electric meter installed at LICENSEE's sole cost and expense to measure LICENSEE's electric consumption. LICENSEE shall pay directly to the public utility company for the installation of the meter and for any electricity consumed by LICENSEE at the Site.

(c) If applicable, LICENSEE shall pay all personal property taxes or other taxes assessed against LICENSEE's Equipment located within the Licensed Premises, and its pro-rata share of any increase in real property taxes and other similar taxes and assessments levied against the Site over any real estate taxes and other similar taxes and assessments paid by LICENSOR prior to the Commencement Date of this Agreement. LICENSOR agrees to furnish proof of any such increase to LICENSEE. If applicable, LICENSEE further agrees to pay any sales or use tax assessed by local and/or state jurisdictions with respect to any revenues paid by LICENSEE to LICENSOR hereunder.

4. Inspection of Licensed Premises. The Licensed Premises shall be provided in **"AS IS"** condition by LICENSOR. LICENSEE acknowledges that no representations or warranties have been made to LICENSEE by LICENSOR as to the condition of the Licensed Premises, including the tower(s), as the case may be, and/or the storage facilities, or as to any engineering data. LICENSEE is responsible for determining all aspects as to the acceptability, accuracy and adequacy of the Licensed Premises for LICENSEE's use. LICENSOR shall have no obligation to obtain licenses for LICENSEE, or to maintain, insure, operate or safeguard LICENSEE's equipment.

5. Permitted Use, Installation, Operating Procedures. (a) The Licensed Premises may be used by LICENSEE for the transmission and reception of communications signals, including wireless communication purposes and uses incidental thereto. LICENSEE shall obtain all licenses, certificates, permits, authorizations or approvals from all applicable government and/or regulatory entities ("Governmental Approvals").

(b) LICENSEE shall install, construct, and maintain the Equipment on the Licensed Premises in compliance with all local, State and Federal regulations. All installations, operation and maintenance of Equipment must be in accordance with LICENSOR's policies as set forth in attached **Exhibit B** ("Installation and Maintenance Standards"), annexed hereto. Prior to the installation of LICENSEE's Equipment or any modifications, supplement, replacement, upgrade or relocation to the Equipment within the Licensed Premises at any time during the Term is subject to the following:

(i) LICENSEE shall submit in writing all plans for such installations, modifications or changes for LICENSEE's written approval, such approval not to be unreasonably withheld or delayed, to engineers and consultants selected by LICENSOR for review and approval.

(ii) All work performed at the Licensed Premises in connection with such installation, maintenance, operation, modification and removal of LICENSEE's Equipment shall be performed at LICENSEE's sole cost and expense by LICENSEE's employees or by contractors approved by LICENSOR, such approval not to be unreasonably withheld or delayed. The engagement of a contractor by LICENSEE shall not relieve LICENSEE of any of its obligations under this Agreement.

(iii) No work performed by LICENSEE, its contractors, subcontractors or materialsmen pursuant to this Agreement, whether in the nature of construction, installation, alteration or repair to the Licensed Premises or to the Equipment, will be

deemed for the immediate use and benefit of LICENSOR so that no mechanic's lien or other lien will be allowed against the property and estate of LICENSOR by reason of any consent given by LICENSOR to LICENSEE to improve the Licensed Premises.

(iv) All of LICENSEE's Equipment shall be clearly marked to show LICENSEE's name, address, telephone number and the name of the person to contact in case of emergency, FCC call sign, frequency and location. All coaxial cable relating to the Equipment shall be identified in the same manner at the bottom and top of the line. At LICENSOR's request, LICENSEE shall promptly deliver to LICENSOR written proof of compliance with all applicable Federal, State, and local laws, rules and regulations in connection with any installations or modifications of Equipment.

(c) LICENSOR agrees that LICENSEE shall have the right to nonexclusive access to the Licensed Premises over and across the Site ("Access") twenty-four (24) hours per day, seven (7) days per week, during the Term for the purpose of ingress, egress, maintenance and operation of the Equipment and any associated utilities.

(d) LICENSEE shall not sublease, share or utilize, in whole or in part, its Equipment, its frequencies or its interests pursuant to this Agreement.

6. Interference. (a) The installation, maintenance and operation of the LICENSEE's Equipment shall not interfere electrically, or in any other manner whatsoever, with the equipment, facilities or operations of LICENSOR or with any other licensee or sub-tenants at the site on the Commencement Date. Notwithstanding anything in this Agreement to the contrary, it is expressly understood and agreed that if the installation or operation of LICENSEE's Equipment shall interfere:

(i) with other radio communications systems and equipment installed prior to the Commencement Date of this Agreement, LICENSEE shall upon request (verbal or otherwise) immediately suspend its operations (except for intermittent testing) and do whatever LICENSOR deems necessary to eliminate or remedy such interference. If it is determined that such interference cannot be rectified by LICENSEE within fifteen (15) days after written notice of said interference, then LICENSOR may, at its option, terminate this Agreement upon written notice to LICENSEE unless LICENSEE commences curing the interference within said fifteen (15) day period and thereafter continuously and diligently pursues to cure the interference ("Cure Period"). In the event the interference is not cured during the initial fifteen (15) day notification period or any Cure Period, LICENSOR may, at its option, terminate this Agreement upon written notice to LICENSEE, whereupon LICENSEE shall remove the Equipment at its sole cost and expense and in accordance with Paragraph 8 herein. If LICENSEE fails to take possession of its Equipment within thirty (30) days after notice of termination, said Equipment will be deemed abandoned; or

(ii) with any other radio communications systems and equipment installed at the Licensed Premises after the Commencement Date of this Agreement, LICENSEE shall cooperate fully with LICENSOR and any future licensee or sub-tenant injured by LICENSEE's interference ("Future Party") to remedy the interference. LICENSEE shall do whatever LICENSOR deems reasonably necessary to cure such interference, provided, however, that all costs related to remedying such interference shall be the responsibility of the Future Party, unless such interference is due to failure, defects or deficiencies in LICENSEE's system, Equipment, or installation.

(b) LICENSEE hereby acknowledges that LICENSOR has licensed, and will continue to license, space at and upon the Site to third parties for the installation and operation of radio communication facilities. LICENSEE accepts this Agreement with this knowledge and waives any and all claims against LICENSOR resulting from or attributable to interference caused by present or future equipment, facilities or methods of operation employed by LICENSOR in its business upon the Site. LICENSEE also waives any and all claims against LICENSOR arising from interference resulting to LICENSEE by virtue of equipment, facilities or operations employed by any other licensee or sub-tenant of LICENSOR in its business upon the Site. In the event that any such interference occurs that materially interferes with LICENSEE's utilization of the Licensed Premises, LICENSEE, as its sole remedy, in lieu of any and all other remedies at law, or in equity, may terminate this Agreement at any time thereafter by giving LICENSOR prior written notice to that effect.

(c) LICENSOR reserves the right to require LICENSEE to relocate one or more of its antenna(s) and/or equipment within the building or shelter, and LICENSEE agrees to relocate said antenna(s) and/or equipment at LICENSOR's expense, provided that said relocation does not substantially change the operation of LICENSEE's Equipment.

7. Structural Modifications and Repairs. In the event LICENSOR, in its sole discretion, determines that any structural modifications or repairs are needed to be made to any portion of the Licensed Premises due to the presence of LICENSEE's Equipment or other improvements, LICENSOR shall notify LICENSEE of the needed modifications or repairs, and LICENSEE shall, at its sole cost and expense, promptly make all such noticed modifications or repairs in accordance with Paragraph 5 hereof; if such noticed modifications are not completed within sixty (60) days of such notice either party shall have the right to terminate this Agreement by giving the other party thirty (30) days' prior written notice. However, that in the event of an emergency, LICENSOR shall have the right to make such

modifications or repairs at LICENSEE's expense, upon notice to LICENSEE, and such sum shall be immediately due upon the rendering of an invoice as an additional fee hereunder.

8. Removal of LICENSEE's Equipment. At the expiration of this Agreement or earlier termination thereof, LICENSEE shall remove any and all of the Equipment. Such removal shall be performed pursuant to the guidelines set forth in Paragraph 5 of this Agreement, without any interference, damage or destruction to any other equipment, structures or operations at the Licensed Premises or any equipment of other licensee or sub-tenants thereon. Any and all interference or damage caused to the LICENSOR's equipment or equipment of other licensees or sub-tenants by such removal shall be immediately repaired or eliminated by LICENSEE. If LICENSEE fails to make such repairs, at LICENSEE's sole cost and expense, within ten (10) days after the occurrence of such damage, injury or interference, LICENSOR may perform all the necessary repairs at LICENSEE's cost and expense and such sum shall be immediately due upon the rendering of an invoice as an additional fee hereunder.

9. Indemnification. (a) LICENSEE shall indemnify and hold LICENSOR harmless from (i) all costs of any damage done to the facilities or equipment of the LICENSOR, and/or other licensee or sub-tenant located at the Site, that occur as a result of the installation, operation or maintenance of LICENSEE's Equipment or other improvements; and (ii) any claims, demands, or causes of action for personal injuries, including any payments made under any workers compensation law or any plan of employees disability and death benefits, arising out of LICENSEE's occupancy of the Licensed Premises or the installation, maintenance and operation or removal of LICENSEE's Equipment, except for damages, costs, claims, causes of action or demands caused solely by the gross negligence or willful misconduct of LICENSOR.

(b) LICENSEE shall also indemnify and hold LICENSOR harmless from any losses, liabilities, claims, demands or causes of action for property damage or personal injuries, including any payment made under any workers compensation law or any plan of employees disability and death benefits, arising out of or resulting from any claims, damages, losses, liabilities or causes of action resulting in any way from RF radiation emissions from LICENSEE's Equipment or any other harmful effect of LICENSEE's Equipment.

(c) LICENSOR shall not be responsible or liable to LICENSEE for any loss, damage or expense that may be occasioned by, through, or in connection with any acts or omissions of other licensees or sub-tenants occupying the Site. LICENSEE hereby assumes the risk of the inability to operate as a result of any structural or power failures at the Licensed Premises or failure of LICENSEE or LICENSEE's Equipment for any reason whatsoever and agrees to indemnify and hold LICENSOR harmless from all damages and costs of defending any claim or suit for damages of any kind, including but not limited to business interruption and attorneys fees, asserted against LICENSOR by reason of such failure. .

10. Damage or Destruction. LICENSOR and LICENSEE agree that LICENSOR shall in no way be liable for loss of use or other damage of any nature arising out of the loss, destruction or damage to the Licensed Premises or to LICENSEE's Equipment located thereon, by fire, explosion, windstorms, water or any other casualty or acts of third parties. In the event the Licensed Premises or any part thereof is damaged or destroyed by the elements or any other cause, LICENSOR may elect to repair, rebuild, or restore the Licensed Premises or any part thereof, to the same condition as it was immediately prior to such casualty. If LICENSOR chooses not to repair, restore or rebuild the Licensed Premises, LICENSOR shall send to LICENSEE a notice of cancellation of this Agreement within thirty (30) days of such casualty.

11. Condemnation. In the event that any public or quasi-public authority under a power of condemnation or eminent domain takes any part of the Licensed Premises or any access way required by LICENSEE for the operation of its radio equipment, this Agreement shall terminate as of the date title to the Licensed Premises vests in the condemning authority. Sale of all or part of the Site to a purchaser with the power of eminent domain in the face of the exercise of that power shall be deemed a taking by condemnation.

12. Insurance. LICENSEE shall keep insurance in full force and effect during the term of this Agreement in accordance with such terms and amounts referenced in **Exhibit E.** LICENSEE shall furnish to LICENSOR, prior to the installation of the Equipment, and for the duration of this Agreement thereafter, current certificates of insurance confirming that the insurance coverage as specified herein is in full force and effect.

13. Notices. All notices, demands, requests or other communications which are required to be given, served or sent by one party to the other pursuant to this Agreement shall be in writing and shall be mailed, postage prepaid, by registered or certified mail, or forwarded by a reliable overnight courier service with delivery verification, to the following addresses for LICENSOR and LICENSEE or such address as may be designated in writing by either party:

If to LICENSOR: If to LICENSEE:

Notice given by certified or registered mail or by reliable overnight courier shall be deemed delivered on the date of receipt (or on the date receipt is refused) as shown on the certification of receipt or on the records or manifest of the U.S. Postal Service or such courier service.

14. Default. (a) Any one or more of the following events shall constitute a default ("Default") under this Agreement: (i) the failure by LICENSEE to pay monetary amounts due under this Agreement within ten (10) days after LICENSOR provides written notice thereof to LICENSEE; (ii) If either party fails to observe or perform any non-monetary obligations under this Agreement and does not cure such failure within thirty (30) days from its receipt of written notice of breach or if the breach by its nature cannot be cured within said thirty (30) day period, the defaulting party shall not be in default if it commences curing within said thirty (30) day period and thereafter continuously and diligently pursues the cure to completion; (iii) abandonment of either the Equipment or that portion of the Licensed Premises upon which the Equipment was installed; or (iv) LICENSEE's failure to perform any other of its obligations under this Agreement and such failure continues for thirty (30) days after LICENSOR gives written notice thereof to LICENSEE.

(b) In the event of a Default, LICENSOR shall be entitled at LICENSOR's option to terminate this Agreement and to remove all of LICENSEE's Equipment, improvements, personnel or personal property located at the Licensed Premises at LICENSEE's cost and expense. No Default pursuant to this Paragraph 14, by operation of law or otherwise (except as expressly provided herein), no removal of the Equipment from the Licensed Premises pursuant to the terms of this Agreement, and/or no re-licensing of LICENSEE's former space at the Licensed Premises shall relieve LICENSEE of LICENSEE's obligations or liabilities hereunder, all of which shall survive such Default, removal and/or re-licensing. All of the rights, powers, and remedies of LICENSOR provided for in this Agreement or now or hereafter existing at law or in equity, or by statute or otherwise, shall be deemed to be separate, distinct, cumulative, and concurrent. No one or more of such rights, powers, or remedies, nor any mention or reference to any one or more of them in this Agreement, shall be deemed to be in the exclusion of, or a waiver of, any other rights, powers, or remedies provided for in this Agreement, or now or hereafter existing at law or in equity, or by statute or otherwise. The exercise or enforcement by LICENSOR of any one or more of such rights, powers, or remedies shall not preclude the simultaneous or later exercise or enforcement by LICENSOR of any or all of such other rights, powers, or remedies.

15. Assignment. (a) LICENSOR reserves the right to assign, transfer, mortgage or otherwise encumber the Licensed Premises and/or its interest in this Agreement. LICENSEE shall upon demand execute and deliver to LICENSOR such further instruments subordinating this Agreement, as may be required by LICENSOR in connection with LICENSOR's contemplated transaction.

(b) LICENSEE may not assign, transfer, or otherwise encumber its interest in this Agreement without the prior written consent of LICENSOR, such consent not to be unreasonably withheld or delayed.

16. Master Lease. LICENSEE hereby acknowledges that LICENSOR leases the Site pursuant to that certain Lease Agreement dated _____ (hereinafter referred to as "Master Lease"), between _____ (hereinafter referred to as "Master Licensor") and LICENSOR. This Agreement shall be subject and subordinate to the Master Lease, and to the matters to which the Master Lease is or shall be subject and subordinate. Nothing contained in this Agreement shall be construed to create privity of estate or of contract between LICENSEE and Master Licensor. If for any reason the term of the Master Lease shall terminate prior to the expiration date of this Agreement, this Agreement shall thereupon be automatically terminated and LICENSOR shall not be liable to LICENSEE by reason thereof.

17. Compliance with Laws. LICENSEE shall maintain and operate its Equipment during the term of this Agreement in compliance with all present and future rules and regulations of any local, State or Federal authority having jurisdiction with respect hereto, including without limitation, the rules and regulations of the Federal Communications Commission ("FCC"), the Federal Aviation Administration ("FAA") and the Occupational Safety and Health Administration ("OSHA").

18. RF Emissions Compliance. (a) LICENSEE is aware of its obligation to comply with all applicable rules and regulations of the FCC pertaining to RF emissions standards, as well as all applicable rules and/or regulations of any other Federal or State agency (including but not limited to OSHA) having jurisdiction over the installation, operations, maintenance and/or working conditions involving RF emissions and/or safety and work standards performed on or near communication towers and antenna licensed premises. LICENSEE agrees to be solely responsible for compliance with all applicable FCC and other governmental requirements with respect to installation, operation and maintenance of its Equipment and for repairs to its Equipment at the Licensed Premises. LICENSEE will immediately remedy its operations to comply with such laws, rules and regulations as they apply to its operations and/or the operations of all licensees and users taken in the aggregate at the Licensed Premises.

(b) LICENSEE shall take any and all steps required to cooperate with all licensees and users at the Licensed Premises to comply individually and in the aggregate with all applicable FCC and other governmental RF emissions standards. In this respect, LICENSEE agrees to pay LICENSOR its pro rata share of the cost of any engineering studies performed at the request of the LICENSOR at the Licensed Premises, involving measurement and RF emissions compliance pertaining to the Licensed Premises.

19. Replacement and Renovation of Tower. LICENSOR reserves the right, in its sole discretion, to renovate, replace or rebuild the tower structure, building or shelter and related improvements thereof. In such event, LICENSOR shall provide LICENSEE with space

suitable to allow LICENSEE to continue to operate the Equipment in a substantially similar manner during any such construction period.

20. Miscellaneous. (a) In the event of litigation between the parties in connection with this Agreement, each party shall be entitled to recover its reasonable attorneys' fees and court costs related to such issue on which that party is the prevailing party, as determined and allocated by the court as part of the judgment. (b) Each party agrees to furnish to the other, within ten (10) business days after request, such truthful estoppel information as the other may reasonably request. (c) This Agreement constitutes the entire agreement and understanding of the parties, and supersedes all offers, negotiations and other agreements. There are no representations or understandings of any kind not set forth herein. Any amendments to this Agreement must be in writing and executed by both parties. (d) If either party is represented by a real estate broker in this transaction, that party shall be fully responsible for any fee due such broker, and shall hold the other party harmless from any claims for commission by such broker. (e) This Agreement creates a license only and LICENSEE acknowledges that LICENSEE does not and shall not claim at any time, any real property interest or estate of any kind or extent whatsoever in the Licensed Premises by virtue of this Agreement or LICENSEE's use of the Licensed Premises pursuant hereto. Nothing herein contained shall be construed as constituting a partnership, joint venture or agency between LICENSOR and LICENSEE. (f) Neither this Agreement nor any memorandum hereof shall be recorded in the land records of any county or city or otherwise without the prior written consent of LICENSOR. (g) This Agreement shall be construed in accordance with the laws of the state of the Site. (h) If any term of this Agreement is found to be void or invalid, such invalidity shall not affect the remaining terms of this Agreement, which shall continue in full force and effect. (i) LICENSOR and LICENSEE each hereby waive trial by jury in any action, proceeding or counterclaim brought by either party against the other on any matter arising out of or in any way related to this Agreement. (j) This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute but one instrument. (k) LICENSOR acknowledges and agrees that LICENSEE's execution of this Agreement and the undertaking by LICENSEE of an investigation to determine whether the Licensed Premises are suitable for the purpose needed by LICENSEE are good and valuable consideration that have been delivered by LICENSEE and received by LICENSOR in connection with this Agreement. (l) The submission of this Agreement for examination does not constitute an offer to license the Licensed Premises, and this Agreement becomes effective only upon the full execution of this Agreement by the parties hereto.

This Agreement is executed as of the date reflected on page one hereof.

LICENSOR:

By: _____
Name: _____
Title: _____
Date: _____

LICENSEE:

_____

By: _____
Name: _____
Title: _____
Date: _____

EXHIBIT A to Communications License Agreement

Equipment

1. **FREQUENCIES OF OPERATION:** *TRANSMIT*: 160-174 MHz; 4.4-5.0 GHz
   RECEIVE: 160-174 MHz; 4.4-5.0 GHz

2. **POWER:**
   Power Provided By: Utility Co.
   Power Requirements: 200 Amps, _____ Volts
   Batteries: Quantity ____ Make: _____ Model: _____
   Generator: NONE
   Telco: ____ (POTS) ____(T1) ____(Microwave) _____(Fiber Optics)

3. **FCC CALL LETTERS:** Copy of FCC license to be provided to LICENSOR prior to installation of LICENSEE's Equipment.

4. **TRANSMITTER(S):**

   Make: _____
   Model: _____
   Power Output: 500 watts
   ERP: _____
   Number: _____

   RECEIVER(S):

   Make: _____
   Model: _____
   Number: _____

5. **ANTENNA(S)/DISH(ES):**

   Make: dbSpectra
   Model: DS1G06F36U-D
   Dimensions: 20.8" (66 lbs)
   Number: Four (4)

   Make: Radiowaves
   Model: SPD2-4.7
   Dimensions: 2' (22 lbs)
   Number: Two (2)

6. **TRANSMISSION LINE(S):**

   Make: _____
   Size: ½"
   Number: Six (6)

7. **LICENSED PREMISES:**

   (a) Space for: (i) three (3) antennas mounted at the 150' level, and (ii) one (1) antenna mounted at the 75' level of the tower (mounting method and exact location of antennas and related transmission line(s) subject to LICENSOR's approval).

   (b) Space for: (i) one (1) dish mounted at the 60' level, and (ii) one (1) dish mounted at the ____' level of the tower (mounting method and exact location of dishes and related transmission line(s) subject to LICENSOR's approval).

   (c) Ground space measuring 10' x 12' for LICENSEE's equipment shelter (exact location of ground space subject to LICENSOR's approval).

***NOTE*: ANY (i) CHANGE IN THE NUMBER, SIZE, PLACEMENT, ARRAY, OR LOCATION OF THE EQUIPMENT LISTED IN THIS EXHIBIT A, (ii) CHANGE IN FREQUENCY FROM THAT LISTED IN THIS EXHIBIT A, OR (iii) INCREASE IN THE SIZE OR FOOTPRINT OF THE LICENSED PREMISES SHALL REQUIRE THE WRITTEN CONSENT OF THE LICENSOR AND A WRITTEN AMENDMENT TO THIS AGREEMENT.**

EXHIBIT B to Communications License Agreement

Installation and Maintenance Standards

Purpose:
The purpose of these Standards is to insure that the installation of all LICENSEE electronics equipment at the Site meets or exceeds established Electronics Industry Association (EIA) standards. These Standards have been developed to insure a safe, interference free operating environment for all LICENSOR's licensees. LICENSOR reserves the right to make changes and/or modifications to these standards, from time to time, and shall provide LICENSEE with thirty (30) days prior written notice of any such changes or modifications.

General Considerations:
- All RF equipment installed must be FCC Type Accepted for Radio Service and frequencies proposed in the Agreement and attached exhibits.
- All 929/931 MHz PCP/RCC paging licensees are REQUIRED to install a bandpass filter on the final output of their transmitter. The bandpass filter should provide a minimum of 40dB attenuation at 896-901 MHz.
- Repeater systems shall have, as a minimum requirement, a single stage isolator and a bandpass/reject type duplexer. Notch type duplexers are not acceptable.
- All installed equipment shall be housed in suitable EIA approved enclosure(s) or equipment rack(s). All enclosure doors and covers shall remain closed and locked at all times except during actual equipment servicing.
- Site keys obtained by a LICENSEE will not be duplicated.
- LICENSEE or their representatives will refrain from making any adjustments to any on site LICENSOR equipment (heating, ventilation, air conditioning, generator, etc.)

Installation Standards:
- All LICENSEE installations require the use of certified electronics technicians, steeplejacks, electricians or licensed contractors that have received LICENSOR approval prior to commencing any installation work. All installation work shall be in accordance with a previously approved installation plan. LICENSOR at its sole discretion shall have the right to supervise the installation of any and all equipment. Certificates of Insurance may also be required by LICENSOR of any installer.
- All installation work shall conform to established EIA/TIA and manufacturer's installation standards, as well as any special standards imposed by LICENSOR. All work shall be performed in a neat and workmanlike manner. Any new installation will not cause mechanical, electrical or electronic interference to other licensee's RF equipment or other associated equipment, or any LICENSOR equipment located in the equipment shelter, generator shelter, tower structure or anywhere else at the Site.
- All installations shall comply with all applicable local, state and federal requirements. In the absence of any applicable government standards, applicable BOCA and NEC Codes, as well as EIA and TIA Standards will apply.
- Equipment shall be installed in locations and positions determined by LICENSOR. LICENSOR's representative will designate the exact locations for the installation of electronic equipment, transmission lines and antennas. If, for any reason, the proposed installation cannot conform to these instructions, LICENSOR's representative shall be contracted prior to any further work.

Transmission Line(s):
- All transmission lines shall be Heliax® Low Density Foam (LDF) Cable or approved equal with a minimum diameter of 0.5 inch (Andrew LDF4-050A or approved equal).
- All transmission lines will be attached to tower waveguide ladders using stainless steel hangers (Andrew 42396A Series or approved equal) secured to waveguide ladders with stainless steel barrel bolts (Andrew 31769 Series or approved equal). The use of stainless steel angle adapters (Andrews 31768-A or approved equal) is authorized. Cable ties, either metal or plastic, are not approved.
- Transmission lines shall be connected through an acceptable lightning arrester (Polyphaser ISPT50HN series or approved equal) located inside the equipment room and connected to the internal building "halo" ground buss.
- All transmission lines of less than 300 FT AGL overall length shall be equipped with three (03) standard grounding kits (Andrews 204989 Series or approved equal) mounted at the top and bottom of the vertical waveguide ladder and at the waveguide entry port on provided "halo" ground busses.
- All transmission lines of more than 300 FT AGL overall length shall be equipped with four (04) standard grounding kits (Andrews 204989 Series or approved equal) mounted at the top midpoint and bottom of the vertical waveguide ladder and at the waveguide entry port on provided "halo" ground busses.
- All transmission lines shall enter the equipment room through the provided four (4) or five (5) inch diameter waveguide entry port. Licensee is responsible for providing the appropriately sized waveguide entry port boot and boot cushion (Mircoflect B Series or approved equal).

- All transmission lines shall be tagged at the top and bottom of each run near the connector with an identification tag containing the Licensee's name, FCC or IRAC call sign, and the frequency assigned. Brass tags with copper wire are preferred. Plastic tags with vinyl labels or indelible ink markings are acceptable.
- Interior routing of transmission line(s) shall be via Licensor provided "unistrut" waveguide supports and using Licensee provided stainless steel hangers (Andrews 42396A Series or equal) to a point directly above Licensee's equipment and should terminate in the required lightning arrester. Cabling from the lightning arrester to Licensee's equipment shall be by "Superflex"® cable, Heliax® transmission line no larger than 0.5 inch (LDF4-50A) or approved equal. The installed waveguide ladders shall not be utilized to route transmission line(s) where overhead Unistrut® is installed, but may be used to route cabling from the lightning arrester to Licensee's equipment.

Power Cable Installations:

- Power cables will be connected to designated electrical outlets. At many tower sites, all available electrical all outlets are reserved for test equipment use only, due to circuit breaker size. If an outlet of suitable size is not available, the installation of a suitable outlet by a qualified electrician is the responsibility of the LICENSEE. One circuit breaker per cabinet is preferred. Installation of overhead outlets attached to the side of the cable ladder above LICENSEE's equipment by through bolting or by electrical box clamp is preferred.
- All electrical wiring shall be routed via electrical conduit or electrical metal tubing (EMT) using WATERTIGHT flexible jumpers. Wall runs are not authorized except to get to and from the cable or wire trays or ladder, where necessary. The use of Romex cable, BX cable or equal requires permission of LICENSOR's representative.
- EIA or TIA approved lightning surge protection is required on all AC electrical circuits, in addition to any such protection provided by the utility.

Grounding Requirements:

- All installed equipment cabinets and racks shall be grounded to the equipment room interior overhead "halo" ground buss. Termination to equipment to be via lug bolt. Termination to "halo" ground buss to be by split bolt or by "nicropress" pressure clamp.
- All equipment ground wires to be No. 6 AWG copper wire or better.
- Routing ground wire(s) via overhead cable ladders and trays is approved.

Equipment Maintenance:

- Licensee shall be responsible for all maintenance of its installed equipment in accordance with all applicable rules, regulations, and laws.
- Maintenance work shall be performed by certified electronics technicians, steeplejacks, licensed electricians and contractors previously approved by the LICENSOR.
- All equipment shall be maintained within normal operating parameters, as specified by the equipment manufacturer and in accordance with the FCC Type Acceptance certification(s). LICENSEE's equipment will not be maintained or operated in a manner that will cause harmful interference or be the source of a hazard to other licensees using the tower site.
- Upon entering or exiting any shelter, building or tower site, all fence gates and doors opened shall be closed and securely locked behind the person entering or exiting the facility. In addition, any alarms disabled upon entry must be enabled upon exiting. It is the responsibility of the LICENSEE or his designated representative to see that the site is securely locked and the premises is clean before departing the tower site. At sites that are centrally monitored, the LICENSEE or his agent must notify the Central Monitoring Station of each entry and exit, disabling and resetting any applicable alarm device(s) installed. Any problems encountered should be reported to the LICENSOR during normal business hours at (888) 748-3647 or after hours to the Emergency Telephone Number at (949) 443-5810.

Removal of Installed Equipment:

- Any or all removal of Licensee's equipment shall be performed by certified electronics technicians, steeplejacks, licensed electricians or licensed contractors previously approved by LICENSOR. All removal operations shall be in accordance with a previously approved removal plan. Removal operations shall be accomplished in a workmanlike manner without any interference, damage or destruction of any other equipment, structures or operations at the site or to any other equipment installed therein. All trash, scrap or debris shall be removed from the site along with all LICENSEE Equipment. The premises shall be left in a clean and orderly condition.
- Any equipment left by LICENSEE upon final departure from the site (all keys turned in) becomes the property of LICENSOR to do with as determined by LICENSOR.

EXHIBIT "E" TO OPTION AND GROUND LEASE AGREEMENT

MEMORANDUM OF LEASE ATTACHED