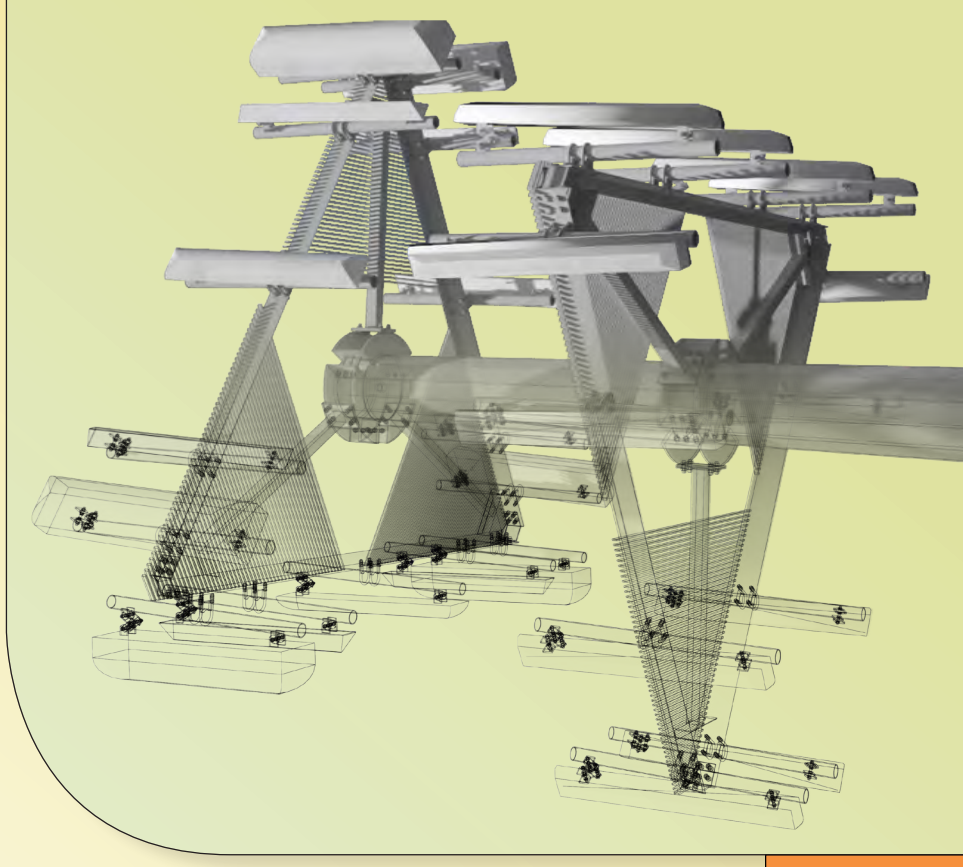


# Visibility Analysis

Proposed Verizon Wireless Facility  
Palmer Pond Search Ring  
596 Pendleton Hill Road or  
53 Gallup Road  
Voluntown, CT

Prepared in April 2013 by:  
All-Points Technology Corporation, P.C.  
3 Saddlebrook Drive  
Killingworth, CT 06141



# Project Introduction

Cellco Partnership d/b/a Verizon Wireless is pursuing a Certificate of Environmental Compatibility and Public Need (“Certificate”) from the Connecticut Siting Council (“Council”) for the construction, maintenance and operation of a wireless communications facility (“Facility”) in the southwest portion of Voluntown, Connecticut (referred to as the Palmer Pond search area). The proposed Facility would be located at one of two alternate locations: 596 Pendleton Hill Road (referred to herein as Site 1) or 53 Gallup Road (Site 2).

At the request of Verizon Wireless, All-Points Technology Corporation, P.C. (“APT”) prepared this Visibility Analysis to evaluate and compare potential views associated with a Facility at either of the Site locations.

## Site Descriptions and Setting

Site 1 (596 Pendleton Hill Road) is located on the western fringe of cultivated fields at a ground elevation of approximately 400 feet above mean sea level (“AMSL”). The proposed Facility at Site 1 would consist of a 130-foot tall steel monopole enclosed within a 50-foot by 50-foot fenced, gravel-base compound. A total of 15 directional panel antennas would be mounted at a center line elevation of 130 feet above ground level (“AGL”). The monopole has been designed to accommodate up to four commercial service providers and municipal/regional emergency services equipment. Access to the Facility would be gained via a ±1,085-foot long existing farm road that requires upgrading with gravel.

Site 2 (53 Gallup Road) is located approximately 80 feet north of Gallup Road within woodlands at a ground elevation of approximately 458 feet AMSL. The proposed Facility at Site 2 would consist of a 150-foot tall steel monopole within a similarly designed compound. A total of 15 directional panel antennas would be mounted at a center line elevation of 150 feet AGL. This monopole would also be designed to accommodate up to four commercial service providers and municipal/regional emergency services equipment. A new gravel access drive would be developed from Gallup Road to the Facility location.

The separate parcels on which both Site 1 and 2 are located are held in common ownership and are part of a large farm operation. Land use within the vicinity is primarily agricultural with rural residential development to the north and south. The area is dominated by a mix of open fields and large tracts of wooded areas.

# METHODOLOGY

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

## Preliminary Computer Modeling

Two computer modeling tools are used to calculate those areas from which at least the top of the proposed Facility is estimated to be visible: IDRISI image analysis program (developed by Clark Labs, Clark University) and ArcGIS®, developed by Environmental Systems Research Institute, Inc. Project- and Study Area-specific data were incorporated into the computer model, including the Site locations, Facility height and ground elevations, as well as the surrounding topography and existing vegetation which are two primary features that can block direct lines of sight. Information used in the model included LiDAR<sup>1</sup>-based digital elevation data and customized land use data layers developed specifically for this analysis. The LiDAR-based Digital Elevation Model (“DEM”) represents topographic information for the state of Connecticut that was derived through the spatial interpolation of airborne LiDAR-based data collected in the year 2000 and has a horizontal resolution of ten (10) feet. In addition, multiple land use data layers were created from the Natural Resources Conservation Service (through the USDA) aerial photography (1-meter resolution, flown in 2006, 2008, 2010 and 2012) using IDRISI image processing tools. The IDRISI tools implement 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, water and other distinct land use features. This information is manually cross-checked with the recent USGS topographic land characteristics to quality assure the imaging analysis.

The two candidate Site locations are separated by a distance of approximately 0.75 mile. As a result, separate Study Areas were established for this analysis measuring two miles in all directions from each of the two Site locations; both Study Areas include approximately 8,042 acres. Topography within the Study Areas is characterized by rolling hills with ground elevations that range from approximately 200 feet AMSL to nearly 520 feet AMSL. The tree canopy occupies approximately 6,660 acres of each Study Area (about 83%). In addition, the Study Areas feature a total of approximately 342 acres (Site 1) and 417 (Site 2) of surface water, respectively, and 21± linear miles of paved roads and drives. In addition to the Town of Voluntown, a portion of the neighboring municipality of Griswold is located within the western portions of the Study Areas. The southern-most extent of the Study Areas terminates at or near the North Stonington town line. The Study Area associated with Site 2 terminates at the Rhode Island border.

---

<sup>1</sup> LiDAR is 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.

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. First, only the topography data layer (DEM) was incorporated to evaluate potential visibility with no intervening vegetative screening. The initial omission of the forest cover data layer results in an excessive over-prediction, but provides an opportunity to identify and evaluate those areas with potentially direct sight lines toward the Facility.

Eliminating the tree canopy altogether as performed in the preliminary analysis exaggerates areas of visibility because it assumes unobstructed sight lines everywhere but in those locations where intervening topography rises above the height of the proposed Facility. However, using this technique not only allows for an initial identification of direct sight lines, but also to gain some insight regarding seasonal views when the leaves are not on the trees<sup>2</sup>. This preliminary mapping is especially useful during the in-field activities (described below) to further evaluate “leaf-off” scenarios. A purposely low average tree canopy height of 50 feet was incorporated into the forest data layer and added to the DEM for a second iteration of the visibility maps, thus providing a conservative assessment of intervening vegetation for use during the in-field activities to compare the outcomes of the initial computer modeling with direct observations of the balloon float.

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. Substantial portions of the Study Areas are occupied by state forest. Numerous hiking trails, some of which are part of the Connecticut Blue-blazed system, traverse the Study Areas. Based on a review of publicly-available information, State Route 49 (Pendleton Hill Road) is a designated scenic highway.

## **In-Field Activities**

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

### **Balloon Float and Field Reconnaissance**

Balloon floats and a field reconnaissance were conducted on Friday, February 15, 2013. The balloon floats consisted of raising four-foot diameter, helium-filled balloons tethered to string heights of 130 and 150 feet above ground level (“AGL”) at each of the proposed Facility Sites. Weather conditions were favorable for the in-field activities and included overcast skies and calm winds (less than 4 miles per hour). Once the balloons were 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 balloons could be seen above/through the tree mast and 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.

---

<sup>2</sup> Visibility varies seasonally with increased, albeit obstructed, views occurring during “leaf-off” conditions. Each individual Study Area includes mature vegetation with a unique composition and density of woodlands, with mast or pole timber and branching providing the majority of screening in leafless conditions. Because tree spacing, dimensions and branching patterns as well as the understory differ greatly over even small areas, creating an accurate Study Area-specific “leaf-off” tree density data layer covering a two-mile radius becomes unmanageable. Considering that a given Study Area has its own discrete forest characteristics, modeling for seasonal variations of visibility is problematic and, in our experience, even when incorporating conservative constraints into the model, the results tend to over-predict visibility in “leaf-off” conditions.

During the balloon float activities, several trees were randomly surveyed using a hand-held infrared laser range finder and Suunto clinometer to ascertain their heights. Numerous locations were selected to obtain tree canopy heights, including along roadways, wooded lots, and high- and low-lying areas to provide for the irregularities associated with different land characteristics and uses found within the Study Area. The average canopy height was developed based on measurements and comparative observations, in this case approximately 65 feet AGL. Throughout Connecticut, the tree canopy height varies from about 55 feet to in excess of 80 feet (where eastern white pine becomes a dominant component of the forest type, average tree heights may be even slightly higher). This general uniformity is most likely the result of historic state-wide clear cutting of forests for charcoal production in the late 1800s and early 1900s. Approximately 69% of Connecticut's forests are characterized as mature<sup>3</sup>.

## Photographic Documentation

During the balloon floats and field reconnaissance, APT drove the public roads within the Study Area and recorded observations, including photo-documentation, of those areas where the balloons were and were not visible. Photographs were obtained from several vantage points to document the views of a proposed Facility at each Site. The geographic coordinates of the camera's position at each photo location were logged using global positioning system ("GPS") equipment technology.

Photographs were taken with a Nikon D-3000 digital camera body and Nikon 18 to 135 millimeter ("mm") zoom lens. For all but two of the views presented herein, the lens was 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."<sup>4</sup>*

When taking photographs for these analyses, APT prefers a focal length of 50 mm; however there are times when wider views can better reflect "real world" viewing conditions by providing greater context to the scene. Photographs 3 and 4 were taken using an 18 mm focal length in order to provide a greater depth of field for presentation in this report. Two key aspects of an image can be directly affected by the specific focal length that is selected: field of view and relation of sizes between objects in the frame. An 18 mm focal length provides a wider field of view, representative of the extent the human eyes may see (including some peripheral vision), but the relation of sizes between objects at the edges of the photos can become skewed. A 50 mm focal length has a narrower field of view than the human eye but the relation of sizes between objects is represented similar to what the human eye might perceive. Regardless of the lens setting, the scale of the subject in the photograph (the balloon) and corresponding simulation (the Facility) remains proportional to its surroundings.

---

<sup>3</sup> USDA Resource Bulletin NE-160, 2004.

<sup>4</sup> Warren, Bruce. Photography, West Publishing Company, Eagan, MN, c. 1993, (page 70).

The table below summarizes the photographs presented in the attachment to this report including the photo number (as it corresponds to the photolog and visibility maps), a description of each photo location, the view orientation, the distance from where the photo was taken relative to the proposed Facility location, and the visibility characteristics. At each photo location, an attempt was made to photo-document the balloon at each of the candidate Sites to provide a comparison of the views. In most photo locations, the views toward the Sites are in opposing directions such that the foregrounds are not necessarily alike in character. Similarly, the distances to each Site location are also different.

<b>Photo No.</b>	<b>Photo Location</b>	<b>View Orientation</b>	<b>Distance to Facility</b>	<b>Visibility</b>
1	Pendleton Hill Road (Route 49)	Southeast	± 1.06-Miles	Site 2 – Year-round/Site 1 - Not Visible
2	Pendleton Hill Road (Route 49)	Southwest	± 0.12-Mile	Site 1 – Year-round
2	Pendleton Hill Road (Route 49)	Southeast	± 0.72-Mile	Site 2 – Year-round
3	Pendleton Hill Property along Narragansett Trail*	South	± 0.04-Mile	Site 1 – Year-round/Site 2 - Not Visible
4	Pendleton Hill Property along Narragansett Trail*	East	± 0.09-Mile	Site 1 – Seasonal/Site 2 - Not Visible
5	Pendleton Hill Road (Route 49)	Northwest	± 0.17-Mile	Site 1 – Year-round
5	Pendleton Hill Road (Route 49)	Southeast	± 0.61-Mile	Site 2 - Year-round
6	Gallup Road	Northwest	± 0.32-Mile	Site 1 - Seasonal
6	Gallup Road	Southeast	± 0.49-Mile	Site 2 – Year-round
7	Gallup Road	Northwest	± 0.50-Mile	Site 1 – Year-round
7	Gallup Road	Northeast	± 0.28-Mile	Site 2 – Year-round
8	Gallup Road	Northwest	± 0.63-Mile	Site 1 – Year-round
8	Gallup Road	Southeast	± 0.14-Mile	Site 2 – Year-round
9	Gallup Road	Northwest	± 0.71-Mile	Site 1 – Year-round**
10	Gallup Road	Northwest	± 0.20-Mile	Site 2 – Year-round/Site 1 – Not Visible
11	Pendleton Hill Road	Northeast	± 0.51-Mile	Site 2 – Year-round/Site 1 – Not Visible
12	Pendleton Hill Road	North	± 1.78-Miles	Site 1 – Year-round/Site 2 – Not Visible

\*Photographs taken with 18 mm focal length

\*\*Site 2 is also visible seasonally through trees from this location, but no photograph or simulation is included.

## Final Visibility Mapping

Field data and observations were incorporated into the mapping data layers, including the photo locations, areas that experienced land use changes since the 2012 aerial photo flight, and those places where the initial model was found to either under or over-predict visibility.

The revised average tree canopy height data layer (using 65 feet AGL) was merged with the DEM and added to the base ground elevations. As a final step, forested areas were extracted from areas of potential visibility, assuming that a person standing within a forest would not be able to view the Facility from beyond a certain distance due to the presence of intervening tree mast and/or understory. APT elected to use a distance of 500 feet for this analysis. Each location is dependent on the specific density and composition of the surrounding woodlands, and it is understood that some locations within this distance could provide visibility of at least portions of the Facility at any time of the year. In “leaf-on” conditions, this distance may be overly conservative as the deciduous vegetation would substantially hinder direct views in many

cases at close range. However, even in “leaf off” conditions when views expand, tree mast still serves as an impediment to direct lines of sight, even at distances less than 500 feet. For purposes of this analysis, it was reasoned that large blocks of contiguous forested land beyond 500 feet of the Facility would consist of light-impenetrable trees of a uniform height.

Once the additional data was integrated into the model, APT re-calculated the visibility of a Facility at each Site from within the Study Area to produce the final visibility maps.

## Photographic Simulations

Simulations of the proposed Facility were generated for those photographs where the balloon was visible during the in-field activities and portray scaled renderings of the Facility from these locations. Using field data, site plan information and 3-dimensional (3D) modeling software, spatially referenced models of the Study Areas, Site locations and each 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<sup>5</sup>.

A photolog map (depicting the photo locations), photo-documentation and simulations are presented in the attachment at the end of this report. The photographs of the balloon are included to provide visual reference points for the location, height and proportions of the proposed Facility relative to the scene. Photo-simulations presented in this report depict a Facility at either Site 1 or 2 from common photo locations to provide a comparison of character and scale.

As stated earlier, APT has elected to use a 50 mm focal length whenever possible; however, there are occasions when the use of a wider-angle lens setting is preferred. For presentation purposes in this report, the photographs are produced in an approximate 7” by 10.5” format. When viewing in this format size, we believe it is important to provide the largest representational image while maintaining an accurate relation of sizes between objects within the frame of the photograph. Photographs from two locations presented in this report (Views 3 and 4) were taken with an 18 mm focal length to balance preserving the integrity of the scene’s setting while depicting the subject (the Facility location) in a way similar to what an observer might see, to the greatest extent possible.

---

<sup>5</sup> As a final step, the accuracy and scale of select simulations are tested against photographs of existing Facilities with recorded camera position, focal length, photo location, and Facility location.

## Visibility Analysis Results

Results of this analysis are graphically displayed on the visibility analysis maps provided in the attachment at the end of this report. In general, potential year-round views of the proposed Facility at either location would be limited to a small geographic footprint by the combination of the surrounding topography and dense woodlands covering the Study Areas. Year-round visibility associated with Site 1 is about 100 acres less than that of Site 2. A total of 153± acres within the Study Area would have some visibility of the Facility above the tree canopy year-round (that is, during both “leaf-off” and “leaf-on” conditions) at Site 1. At Site 2, year-round visibility is predicted over approximately 267 acres. As depicted on the visibility analysis maps, the majority of year-round visibility associated with either Site location occurs over open, undeveloped agricultural fields located on the Gallup Farm properties and extending onto nearby portions of Pendleton Hill Road and Gallup Road. Year-round views of the proposed Facility at Site 1 would be achieved from three residential properties, two of which are owned by Gallup Farm family members. Year-round views of Site 2 may be achieved from four residential properties; again, two of which are in the Gallup Farm family.

Seasonally during “leaf-off” conditions, we estimate that approximately 140 additional acres have the potential to offer some views of the Facility through the trees at Site 1; a large amount of the predicted seasonal visibility associated with Site 1 occurs over open agricultural land and low-lying marsh to the south/southwest at distances of one mile and beyond. Comparatively, seasonal visibility associated with Site 2 appears to extend over approximately 60 acres, the majority of which occurs on the Gallup Farm. Similar to Site 1, some distant seasonal views may occur over agricultural fields to the south/southeast. At least one additional residential property may achieve seasonal views of portions of the Facility at Site 1, while five additional residential properties would have seasonal views of Site 2.

The table below presents an inventory of residential properties<sup>6</sup> within the Study Area that have the potential for views of at least portions of the Facility.

Location	*Approximate Number of Residential Properties With Potential Year-Round Visibility		*Approximate Number of Residential Properties With Potential Seasonal Visibility	
	Site 1	Site 2	Site 1	Site 2
Pendleton Hill Road	1	2	1	5
Gallup Road	2	2	0	0
<b>TOTAL</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>5</b>

\*Indicates potential year-round or seasonal visibility from portions of “residential” properties. For purposes of this analysis, the term “residential” property may include undeveloped or agricultural land, forested tracts with some clearing, and/or parcels with non-residential structures. Potential visibility on a residential property does not necessarily mean that views would be achieved from within residential dwellings, exterior decks, porches or patios that might be located on such properties. Further, it may be possible to view the Facility from within portions of the shaded areas indicating potential visibility, but not necessarily from all locations within those shaded areas.

<sup>6</sup> For purposes of this analysis, the term “residential property” may, in addition to parcels occupied by homes, also include agricultural land, forested tracts with some clearing, and/or parcels with uninhabited structures. Potential visibility identified on a residential property does not necessarily mean that views would be achieved from within dwellings, or on exterior decks, porches or patios that might be associated with a parcel.



Views of Site 1 would be achieved from a short section of a hiking trail that originates on Pendleton Hill and travels in an east-west direction along the northern property boundary before extending onto adjacent State forest land. Photograph 3 was taken along this trail at the edge of the corn field that abuts the Site 1 location. Photo 4 represents the western extent of visibility along this trail. Site 2 would not be visible from this trail, with the exception of its intersection with Pendleton Hill Road.

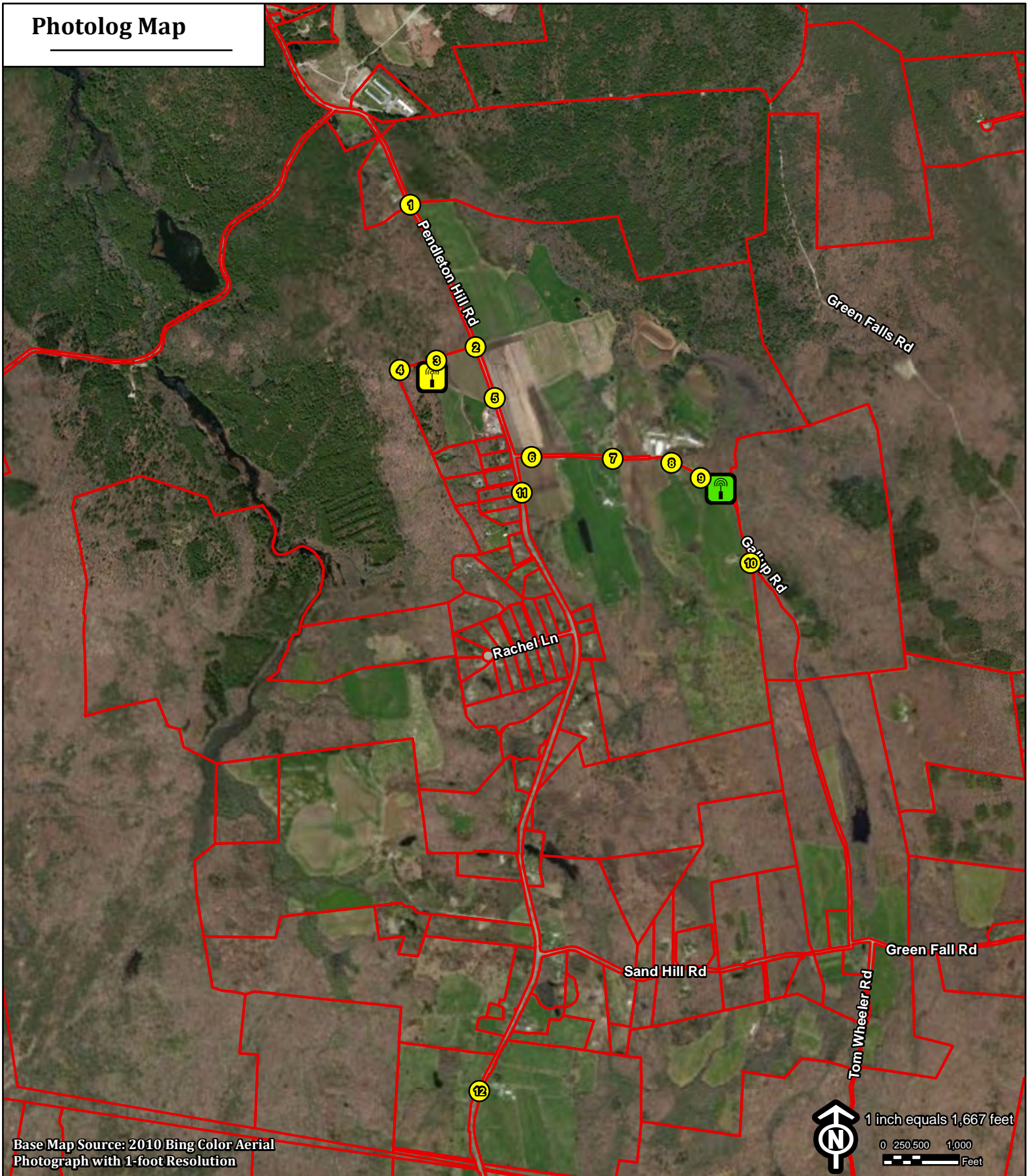
Pendleton Hill Road is a State-designated scenic highway. Year-round views of Site 1 would occur along a short stretch (less than 0.25 mile) of this road's frontage with the Site parcel over the agricultural field, within approximately 650 feet of the Facility location. Heavily obstructed seasonal views may extend north and south along the road for a similar distance. Year-round views of Site 2 along Pendleton Hill Road would extend over a longer expanse (approximately 0.75 mile) with the Site location at distances of more than 0.5 mile away. Photographs 2 and 5 provide a comparison of the character of these views.

### **Proximity to Schools and Commercial Child Day Care Centers**

No school or commercial child day care facilities are located within 250 feet of either of the Site parcels. The nearest school (Voluntown Elementary School) is located at 195 Main Street, approximately 2.7 miles northwest of Site 1 and 3.3 miles northwest of Site 2. The nearest commercial child day care center (Little Log School House) is located at 242 Bitgood road, approximately 5.7 miles northwest of Site 1 and 6.3 miles northwest of Site 2. Neither of these locations would have views of the proposed Facility at either Site.

## ATTACHMENTS

# Photolog Map







Base Map Source: 2010 Bing Color Aerial Photograph with 1-foot Resolution

**Site 1 - 596 Pendleton Hill Road**  
**Site 2 - 53 Gallup Road**  
**Voluntown, Connecticut**

**Monday, April 22, 2013**

## Legend

-  Site 1
-  Site 2
-  Photo Point (PP)
-  Connecticut Parcel

1 inch equals 1,667 feet  
0 250 500 1,000 Feet

 verizon wireless

 ALL-POINTS  
TECHNOLOGY CORPORATION



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1 SITE 2	PENDLETON HILL ROAD (ROUTE 49) SITE 1 NOT VISIBLE AT THIS LOCATION	SOUTHEAST	+/- 1.06 MILES	YEAR ROUND





**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1 SITE 2	PENDLETON HILL ROAD (ROUTE 49)	SOUTHEAST	+/- 1.06 MILES	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2 SITE 1	PENDLETON HILL ROAD (ROUTE 49)	SOUTHWEST	+/- 0.12 MILE	YEAR ROUND



**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2 SITE 1	PENDLETON HILL ROAD (ROUTE 49)	SOUTHWEST	+/- 0.12 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2 SITE 2	PENDLETON HILL ROAD (ROUTE 49)	SOUTHEAST	+/- 0.72 MILE	YEAR ROUND





**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
2 SITE 2	PENDLETON HILL ROAD (ROUTE 49)	SOUTHEAST	+/- 0.72 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3 SITE 1	VIEW FROM PENDLETON HILL ROAD PROPERTY ALONG HIKING TRAIL (18MM FOCAL LENGTH) SITE 2 NOT VISIBLE FROM THIS LOCATION	SOUTH	+/- 0.04 MILE	YEAR ROUND



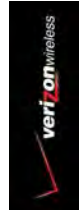
**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
3 SITE 1	VIEW FROM PENDLETON HILL ROAD PROPERTY ALONG HIKING TRAIL (18MM FOCAL LENGTH)	SOUTH	+/- 0.04 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4 SITE 1	VIEW FROM PENDLETON HILL ROAD PROPERTY ALONG HIKING TRAIL (18MM FOCAL LENGTH) SITE 2 NOT VISIBLE FROM THIS LOCATION	EAST	+/- 0.09 MILE	SEASONAL





**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
4 SITE 1	VIEW FROM PENDLETON HILL ROAD PROPERTY ALONG HIKING TRAIL (18MM FOCAL LENGTH)	EAST	+/- 0.09 MILE	SEASONAL



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5 SITE 1	PENDLETON HILL ROAD (ROUTE 49)	NORTHWEST	+/- 0.17 MILE	YEAR ROUND



**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5 SITE 1	PENDLETON HILL ROAD (ROUTE 49)	NORTHWEST	+/- 0.17 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5 SITE 2	PENDLETON HILL ROAD (ROUTE 49)	SOUTHEAST	+/- 0.61 MILE	YEAR ROUND





**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
5 SITE 2	PENDLETON HILL ROAD (ROUTE 49)	SOUTHEAST	+/- 0.61 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6 SITE 1	GALLUP ROAD	NORTHWEST	+/- 0.32 MILE	SEASONAL



**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6 SITE 1	GALLUP ROAD	NORTHWEST	+/- 0.32 MILE	SEASONAL



**DOCUMENTATION**

PHOTO  
**6**  
SITE 2

PHOTO LOCATION  
**GALLUP ROAD**

ORIENTATION  
**SOUTHEAST**

DISTANCE TO SITE  
**+/- 0.49 MILE**

VISIBILITY  
**YEAR ROUND**



**ALL-POINTS**  
TECHNOLOGY CORPORATION





**SIMULATION**

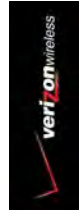
PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
6 SITE 2	GALLUP ROAD	SOUTHEAST	+/- 0.49 MILE	YEAR ROUND





**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7 SITE 1	GALLUP ROAD	NORTHWEST	+/- 0.50 MILE	YEAR ROUND





**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7 SITE 1	GALLUP ROAD	NORTHWEST	+/- 0.50 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7 SITE 2	GALLUP ROAD	NORTHEAST	+/- 0.28 MILE	YEAR ROUND





**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
7 SITE 2	GALLUP ROAD	NORTHEAST	+/- 0.28 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO  
**8**  
SITE 1

PHOTO LOCATION  
**GALLUP ROAD**

ORIENTATION  
**NORTHWEST**

DISTANCE TO SITE  
**+/- 0.63 MILE**

VISIBILITY  
**YEAR ROUND**



**SIMULATION**

PHOTO <b>8</b> SITE 1	PHOTO LOCATION <b>GALLUP ROAD</b>	ORIENTATION <b>NORTHWEST</b>	DISTANCE TO SITE <b>+/- 0.63 MILE</b>	VISIBILITY <b>YEAR ROUND</b>
-----------------------------	--------------------------------------	---------------------------------	--	---------------------------------



**DOCUMENTATION**

PHOTO  
**8**  
SITE 2

PHOTO LOCATION  
**GALLUP ROAD**

ORIENTATION  
**SOUTHEAST**

DISTANCE TO SITE  
**+/- 0.14 MILE**

VISIBILITY  
**YEAR ROUND**



**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
8 SITE 2	GALLUP ROAD	SOUTHEAST	+/- 0.14 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9 SITE 1	GALLUP ROAD SITE 2 SEASONALLY VISIBLE THROUGH TREES AT THIS LOCATION - NO PHOTO PROVIDED	NORTHWEST	+/- 0.71 MILE	YEAR ROUND



**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
9 SITE 1	GALLUP ROAD	NORTHWEST	+/- 0.71 MILE	YEAR ROUND



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10 SITE 2	GALLUP ROAD SITE 1 NOT VISIBLE AT THIS LOCATION	NORTHWEST	+/- 0.20 MILE	SEASONAL





**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10 SITE 2	GALLUP ROAD	NORTHWEST	+/- 0.20 MILE	SEASONAL



**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11 SITE 2	PENDLETON HILL ROAD (ROUTE 49) SITE 1 NOT VISIBLE AT THIS LOCATION	NORTHEAST	+/- 0.51 MILE	YEAR ROUND



**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
11 SITE 2	PENDLETON HILL ROAD (ROUTE 49)	NORTHEAST	+/- 0.51 MILE	YEAR ROUND



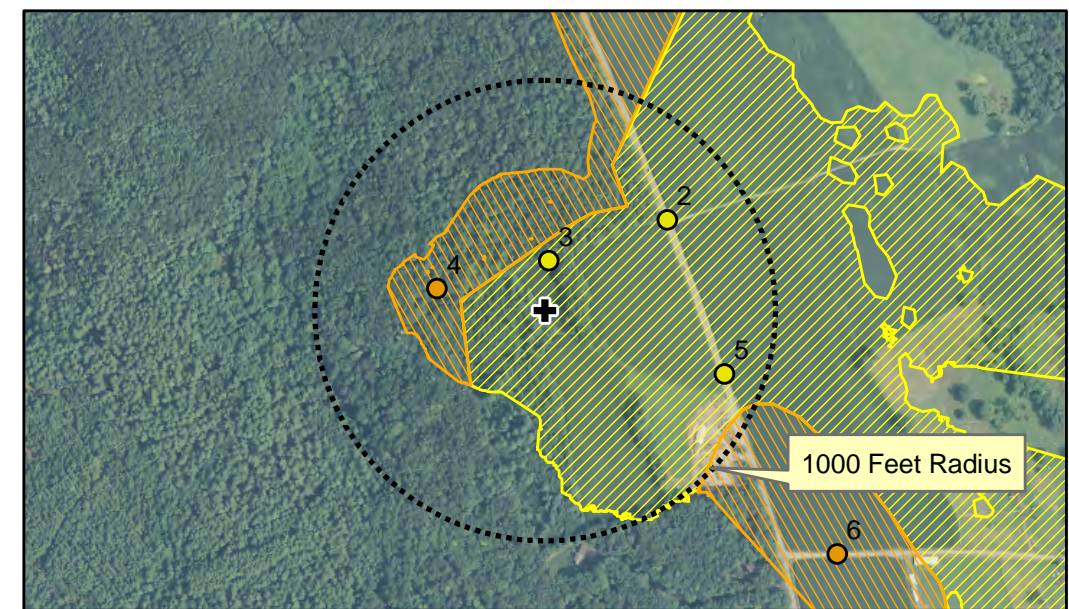
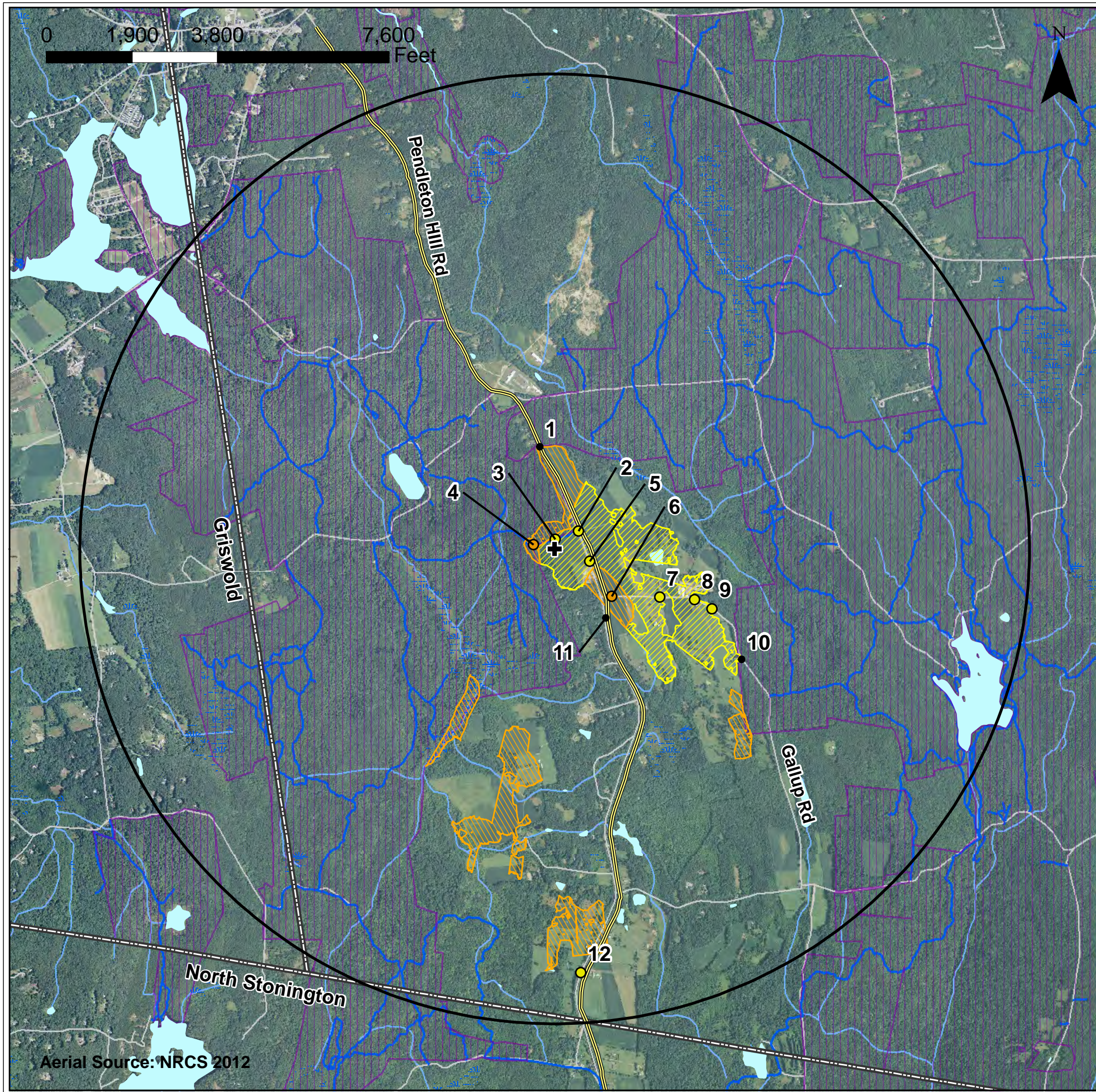
**DOCUMENTATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12 SITE 1	PENDLETON HILL ROAD (ROUTE 49) SITE 2 NOT VISIBLE AT THIS LOCATION	NORTH	+/- 1.78 MILES	YEAR ROUND



**SIMULATION**

PHOTO	PHOTO LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
12 SITE 1	PENDLETON HILL ROAD (ROUTE 49)	NORTH	+/- 1.78 MILES	YEAR ROUND



**VISIBILITY ANALYSIS-AERIAL BASE**  
Proposed Wireless Telecommunications Facility

Palmer Pond Search Area  
596 Pendleton Hill Road - Site 1  
Voluntown, Connecticut

Proposed facility height is 130 feet AGL  
Existing tree canopy height estimated as 65 feet  
Study area includes 8,042 acres of land

Map compiled 4/16/2013

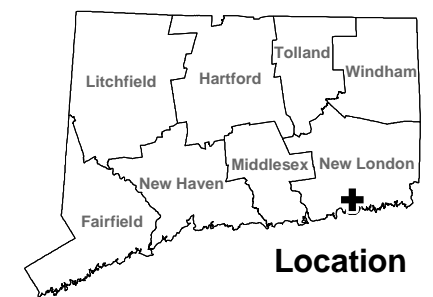
Areas of Predicted Visibility shown on this map represent areas where the proposed 130-foot tall tower at the project site may potentially be visible, based upon intervening topography, structures, and tree canopy.

*Map information has been field verified by All-Points Technology Corporation on 2/15/13*

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

**Legend**

- Proposed Tower
- Non-Visual
- Seasonal
- Year-Round
- 2-Mile Study Area
- Scenic Highways
- Predicted Seasonal Visibility
- Predicted Year-Round Visibility
- Town
- Water
- Marsh
- State Forest
- Trails

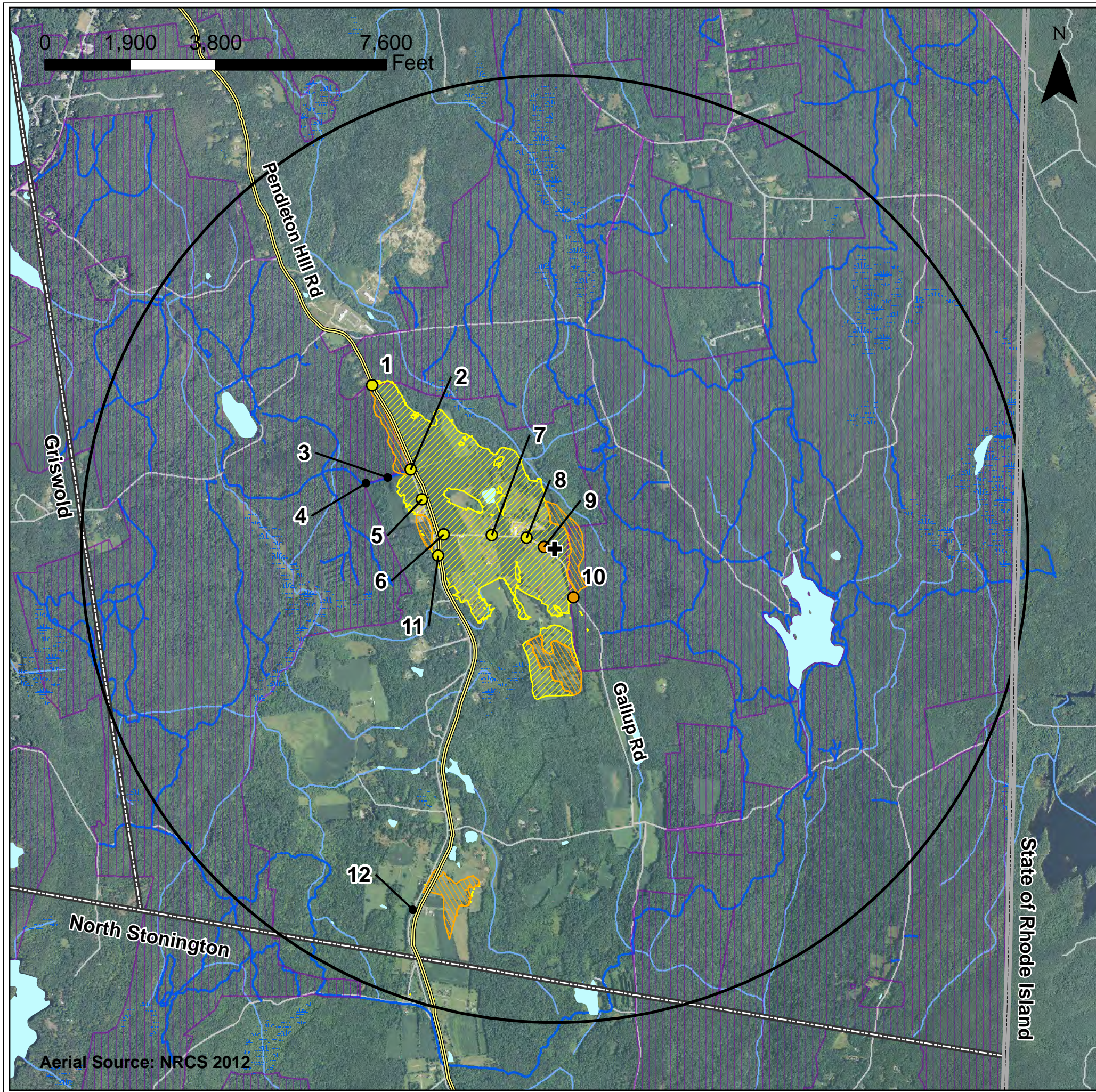


**Location**

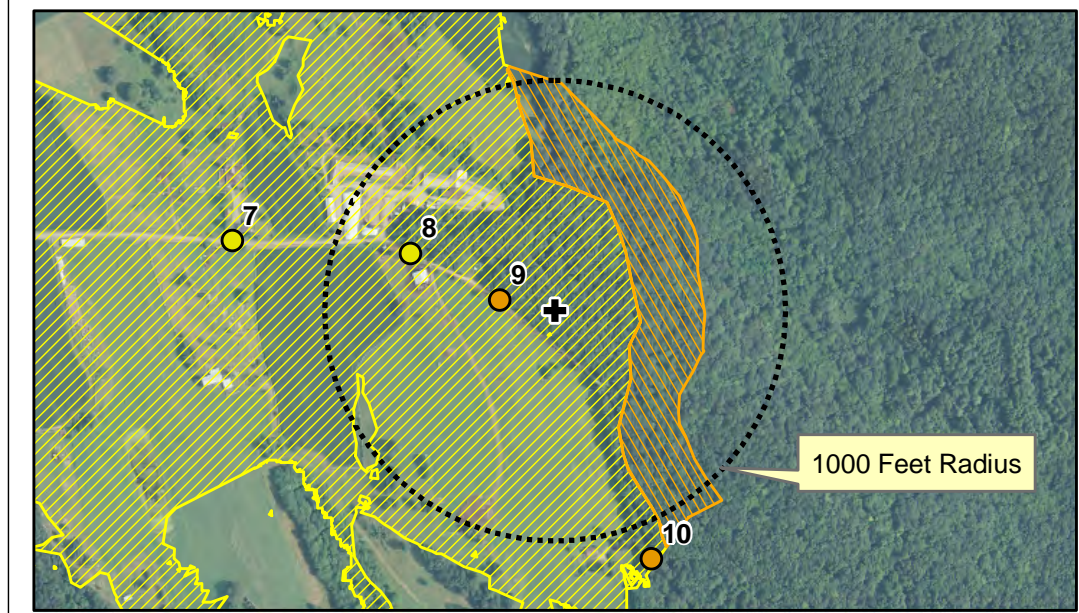
**ALL-POINTS**  
TECHNOLOGY CORPORATION  
3 Saddlebrook Drive Killingworth, CT 06419  
www.allpointstech.com



Aerial Source: NRCS 2012



0 1,900 3,800 7,600 Feet



1000 Feet Radius

**VISIBILITY ANALYSIS-AERIAL BASE**  
 Proposed Wireless Telecommunications Facility

Palmer Pond Search Area  
 53 Gallup Road - Site 2  
 Voluntown, Connecticut

Proposed facility height is 150 feet AGL  
 Existing tree canopy height estimated as 65 feet  
 Study area includes 8,042 acres of land

Map compiled 4/16/2013

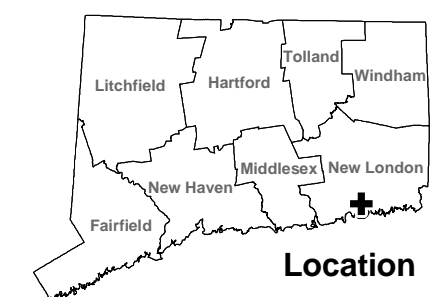
Areas of Predicted Visibility shown on this map represent areas where the proposed 150-foot tall tower at the project site may potentially be visible, based upon intervening topography, structures, and tree canopy.

*Map information has been field verified by All-Points Technology Corporation on 2/15/13*

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

**Legend**

- Proposed Tower
- Non-Visual
- Seasonal
- Year-Round
- 2-Mile Study Area
- Scenic Highways
- Predicted Seasonal Visibility
- Predicted Year-Round Visibility
- Town
- Water
- Marsh
- State Forest
- Trails

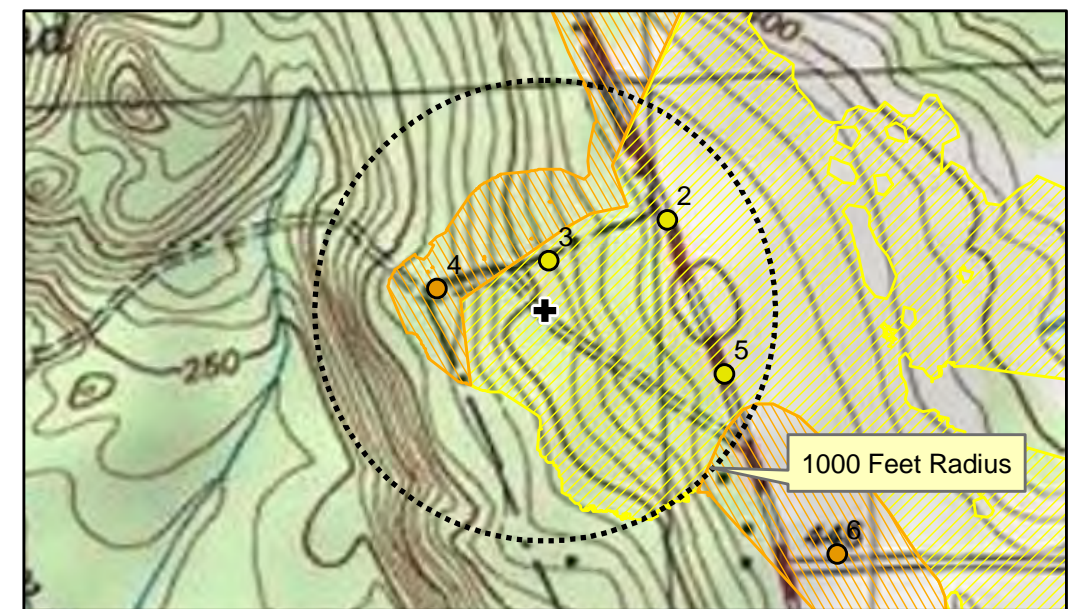
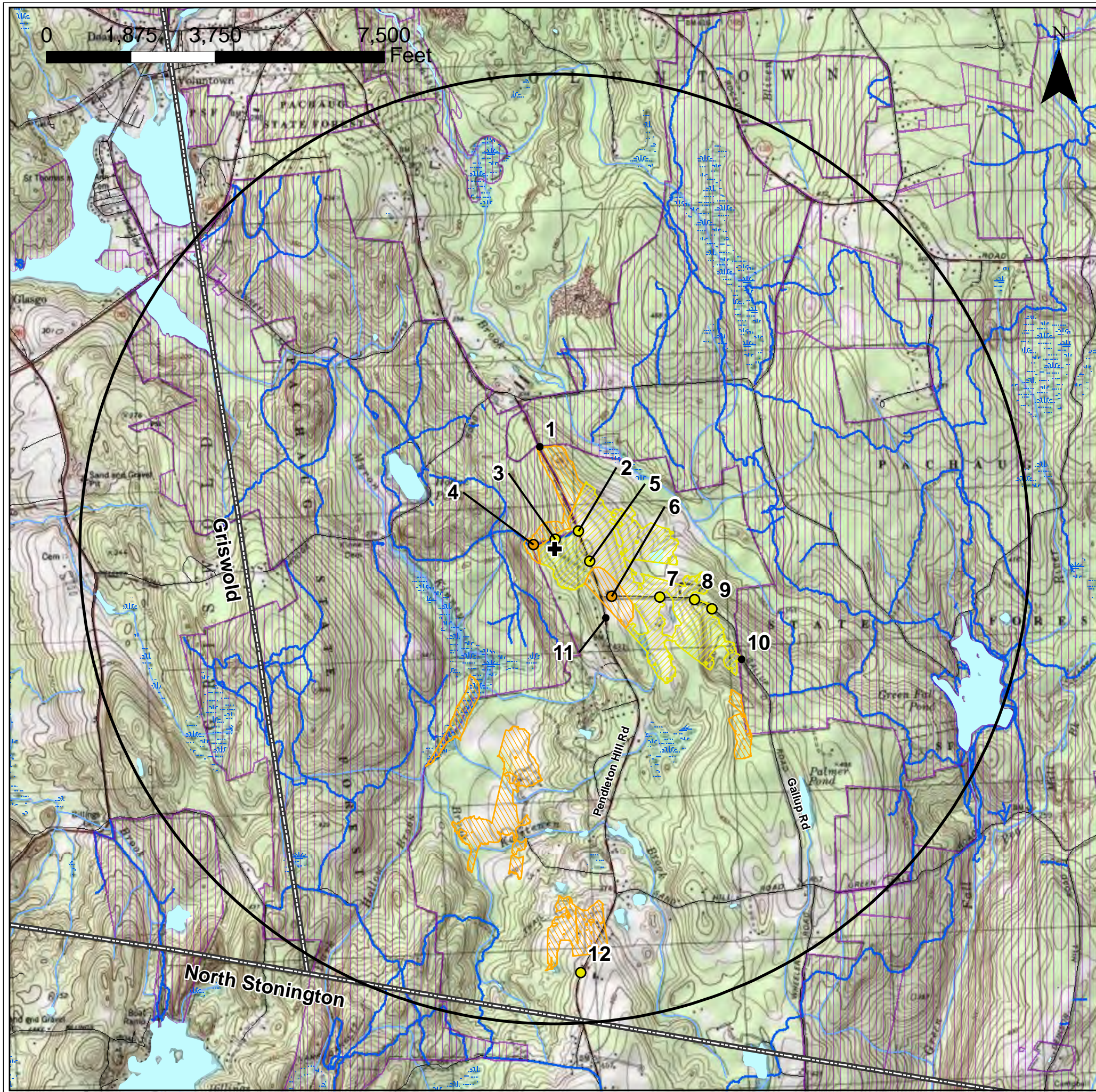


**Location**

**ALL-POINTS TECHNOLOGY CORPORATION**  
 3 Saddlebrook Drive Killingworth, CT 06419  
 www.allpointstech.com



Aerial Source: NRCS 2012



**VISIBILITY ANALYSIS-TOPO BASE**  
Proposed Wireless Telecommunications Facility

Palmer Pond Search Area  
596 Pendleton Hill Road - Site 1  
Voluntown, Connecticut

Proposed facility height is 130 feet AGL  
Existing tree canopy height estimated as 65 feet  
Study area includes 8,042 acres of land

Map compiled 4/16/2013

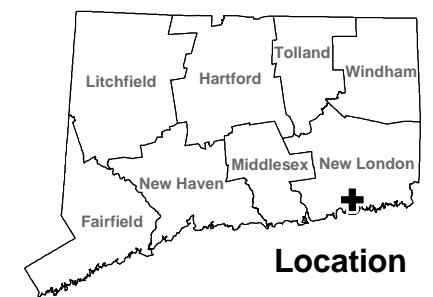
Areas of Predicted Visibility shown on this map represent areas where the proposed 130-foot tall tower at the project site may potentially be visible, based upon intervening topography, structures, and tree canopy.

*Map information has been field verified by All-Points Technology Corporation on 2/15/13*

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

**Legend**

- ✚ Proposed Tower
- Non-Visual
- Seasonal
- Year-Round
- ▭ 2-Mile Study Area
- ▨ Predicted Seasonal Visibility
- ▨ Predicted Year-Round Visibility
- ▬ Town
- ▭ Water
- ▭ Marsh
- ▭ State Forest
- ▬ Trails

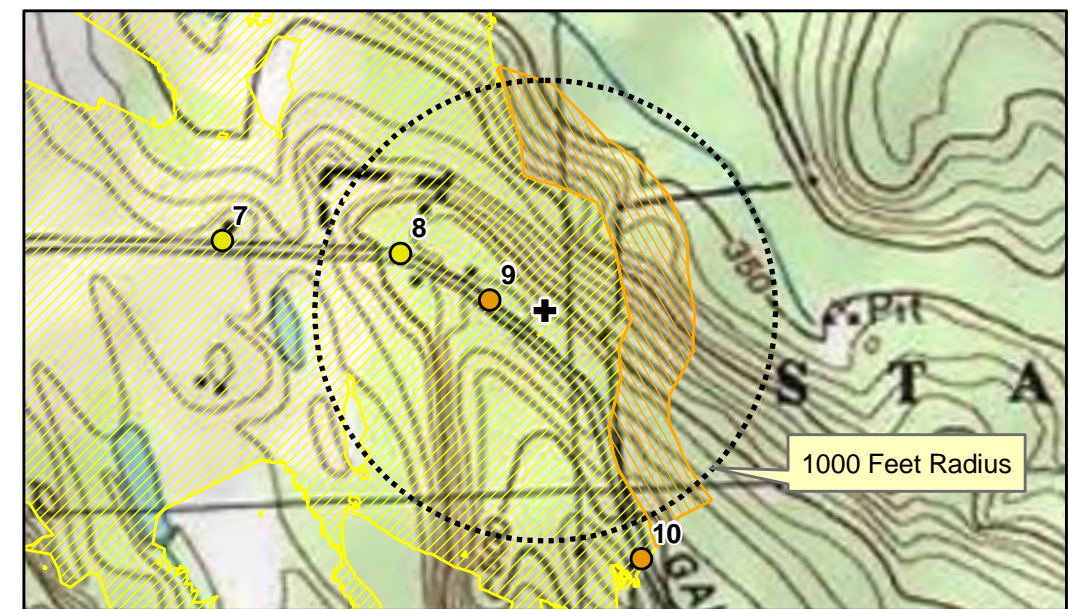
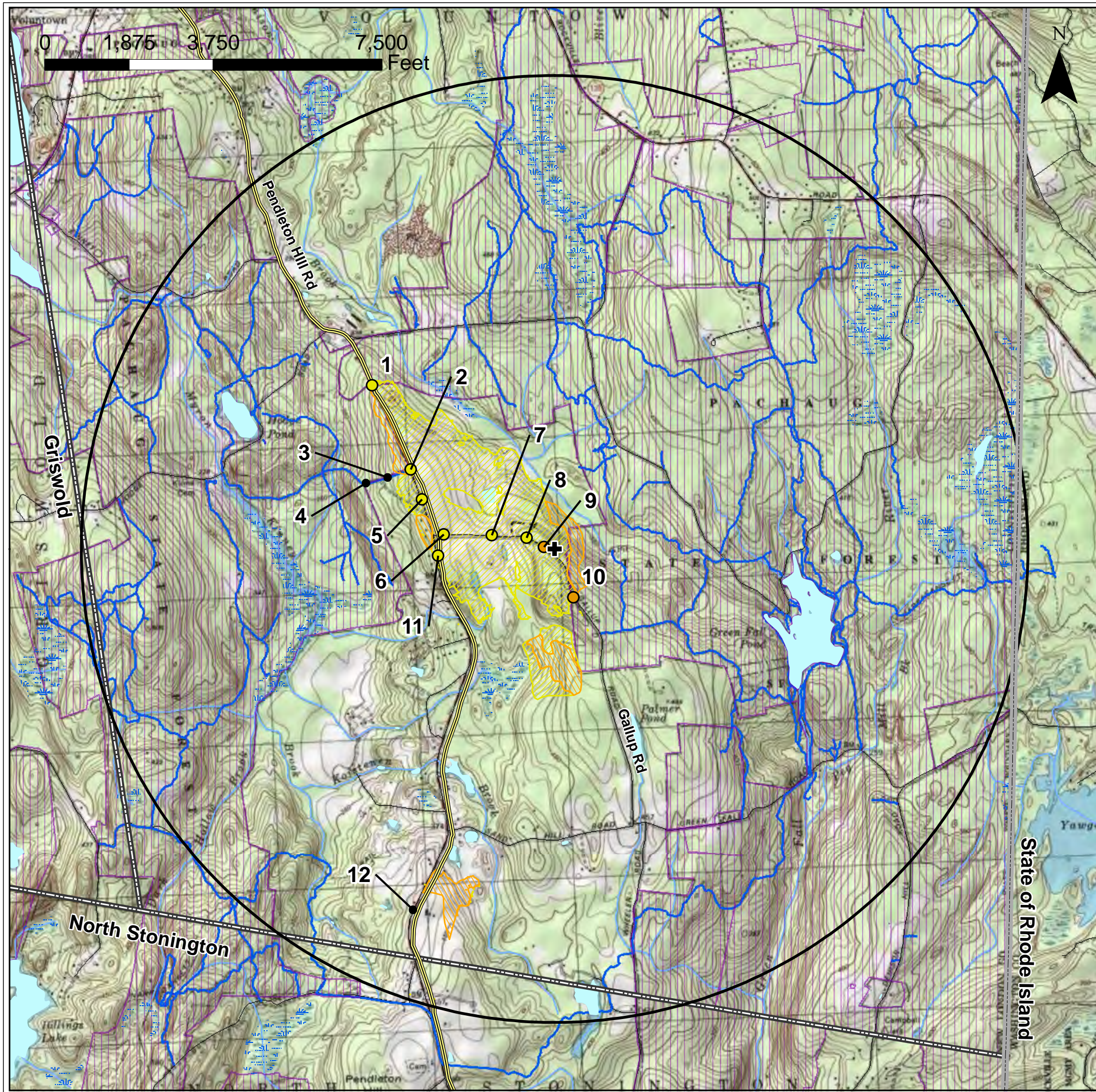


**Location**

**ALL-POINTS**  
TECHNOLOGY CORPORATION  
3 Saddlebrook Drive Killingworth, CT 06419  
www.allpointstech.com







**VISIBILITY ANALYSIS-TOPO BASE**  
 Proposed Wireless Telecommunications Facility

Palmer Pond Search Area  
 53 Gallup Road - Site 1  
 Voluntown, Connecticut

Proposed facility height is 150 feet AGL  
 Existing tree canopy height estimated as 65 feet  
 Study area includes 8,042 acres of land

Map compiled 4/16/2013

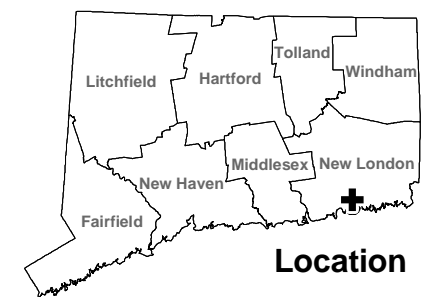
Areas of Predicted Visibility shown on this map represent areas where the proposed 150-foot tall tower at the project site may potentially be visible, based upon intervening topography, structures, and tree canopy.

*Map information has been field verified by All-Points Technology Corporation on 2/15/13*

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

**Legend**

- ✚ Proposed Tower
- Non-Visual
- Seasonal
- Year-Round
- ▭ 2-Mile Study Area
- ▨ Predicted Seasonal Visibility
- ▨ Predicted Year-Round Visibility
- ▬ Town
- ▬ Water
- ▬ Marsh
- ▬ Trails
- ▬ State Forest
- ▬ Scenic Highways



**ALL-POINTS**  
 TECHNOLOGY CORPORATION  
 3 Saddlebrook Drive Killingworth, CT 06419  
 www.allpointstech.com



# DOCUMENTATION

## SOURCES CONSULTED FOR PRELIMINARY VISIBILITY ANALYSES

### Verizon Wireless, Palmer Pond Search Area, Voluntown, CT

#### *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)

Natural Resources Conservation Service (USDA) Digital Orthophotos

\*Aerial Photography (2006, 2008, 2010 and 2012)

United States Geological Survey

\*USGS topographic quadrangle maps: Voluntown (1983)

Heritage Consultants

^State Scenic Highways (based on Department of Transportation data, updated monthly)

^National Register of Historic Places

^State Register of Historic Places

^Municipal Scenic Roads (by website, phone and/or email/fax - current)

#### *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 Book East – The Guide to the Blue-Blazed Hiking Trails of Eastern Connecticut including the Metacomet and Mattabesett Trails, 19th Edition, 2005.

#### *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.



**USFWS COMPLIANCE REVIEW**

**May 2, 2013**

**Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108**

**APT Project No.: CT1411061**

**Attn: Alexandria Carter**

**Re: Proposed Verizon Wireless  
Palmer Pond  
596 Pendleton Hill Road  
Voluntown, Connecticut**

Dear Ms. Carter,

At your request, All-Points Technology Corporation, P.C. ("APT") performed an evaluation with respect to possible federally-listed, threatened or endangered species in order to determine if the proposed telecommunications facility at the referenced property would result in a potential adverse effect to federally-listed species.

Project Summary:

**State:** Connecticut

**County:** New London

**Address:** 596 Pendleton Hill Road

**Latitude/Longitude Coordinates:** N41°32'26.865" W71°50'35.304"

**Ground Elevation:** 400.7' AMSL

**Size of Property:** ±30 acres

**Watershed:** Pachaug

This evaluation was performed in accordance with the January 7, 2013 policy statement of the United States Department of the Interior Fish and Wildlife Service (USFWS) New England Field Office. A copy of the January 7, 2013 USFWS policy statement as well as the July 31, 2008 list of federally endangered and threatened species in Connecticut (most recent update) are enclosed for reference.

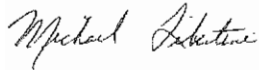
No federally-listed endangered or threatened species are known to occur in the Town of Voluntown, Connecticut (refer to the enclosed listing) and as such the proposed development would not result in an adverse effect to any federally-listed endangered or threatened species. In further support of this finding, a request for rare species review by the Connecticut Department of Energy & Environmental Protection ("CTDEEP") Natural Diversity Data Base ("NDDB") resulted in issuance of a October 1, 2010 letter stating records for a State Special Concern Species Pink Sallow moth (*Psectraglaea carnosae*) exist in the vicinity of the proposed project<sup>1</sup>; a copy of the letter is enclosed. No wetlands or watercourses are located proximate to the proposed Verizon development. The nearest resource area to the proposed Verizon development is an isolated wetland featured identified on CTDEEP Inland Wetland Soils mapping, located off-site approximately 950 feet to the northwest on Pachaug State Forest property. As a result, no wetlands would be impacted by the project. Due to CTDEEP's finding of a record for the Pink Sallow moth (*Psectraglaea carnosae*), APT completed a survey of the proposed development areas, and within 200 feet of

<sup>1</sup> NDDB review #18047

those areas, to determine if suitable habitat is present to support the Pink Sallow moth; no such habitat was identified. Report documentation of the habitat survey is currently being completed for submission to the CTDEEP. Please note that Pink Sallow moth is not a federally-listed endangered or threatened species.

Since no federally-listed endangered or threatened species are known to occur in the Voluntown and the CTDEEP did not identify any federally-listed species, no further consultation with USFWS regarding this issue is required. A January 7, 2013 letter from the USFWS indicating that no further Endangered Species Act coordination is necessary is enclosed. This federally-listed rare species review follows the 2013 procedure and guidelines provided by the USFWS New England Field Office.<sup>2</sup>

Sincerely,



Michael Libertine  
Director of Siting and Permitting

Enclosures

---

<sup>2</sup> <http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>, web site accessed April 3, 2013 and May 1, 2013.

# USFWS Policy Documents

---

- January 7, 2013 Telecommunications Policy Statement
- July 31, 2008 Inventory of Federally Listed Endangered and Threatened Species In Connecticut
- October 1, 2010 CTDEEP NDDB Letter
- January 7, 2013 no further coordination necessary letter



# 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>

January 7, 2013

### To Whom It May Concern:

The U.S. Fish and Wildlife Service's (Service) New England Field Office has determined that individual project review for certain types of activities associated with communication towers is **not required**. These comments are submitted in accordance with provisions of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Due to the rapid expansion of the telecommunication industry, we are receiving a growing number of requests for review of **existing** and **new** telecommunication facilities in relation to the presence of federally-listed or proposed, threatened or endangered species, critical habitat, wilderness areas and/or wildlife preserves. We have evaluated our review process for proposed communications towers and believe that individual correspondence with this office is not required for the following types of actions relative to **existing** facilities:

1. the re-licensing of existing telecommunication facilities;
2. audits of existing facilities associated with acquisition;
3. routine maintenance of existing tower sites, such as painting, antenna or panel replacement, upgrading of existing equipment, etc.;
4. co-location of new antenna facilities on/in existing structures;
5. repair or replacement of existing towers and/or equipment, provided such activities do not significantly increase the existing tower mass and height, or require the addition of guy wires.

In order to obviate the need to contact this office in the future for individual environmental review for **existing** communication towers or antenna facilities, please note that we are not aware of any federally-listed, threatened or endangered species that are being adversely affected by any existing communication tower or antenna facility in the following states: Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts. Furthermore, we are not aware of any **existing** telecommunication towers in federally-designated critical habitats, wilderness areas or wildlife preserves. Therefore, no further consultation with this office relative to the impact of the above referenced activities on federally-listed species is required.

January 7, 2013

Future Coordination with this Office Relative to New Telecommunication Facilities

We have determined that proposed projects are not likely to adversely affect any federally-listed or proposed species when the following steps are taken to evaluate new telecommunication facilities:

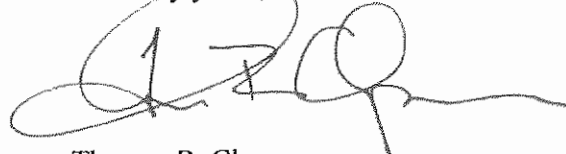
1. If the facility will be installed within or on an existing structure, such as in a church steeple or on the roof of an existing building, no further coordination with this office is necessary. Similarly, new antennas or towers in urban and other developed areas, in which no natural vegetation will be affected, do not require further review.
2. If the above criteria cannot be met, your review of our lists of threatened and endangered species locations within Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts may confirm that no federally-listed endangered or threatened species are known to occur in the town or county where the project is proposed.
3. If a listed species is present in the town or county where the project is proposed, further review of our lists of threatened and endangered species may allow you to conclude that suitable habitat for the species will not be affected. Based on past experiences, we anticipate that there will be few, if any, projects that are likely to impact piping plovers, roseate terns, bog turtles, Jesup's milk-vetch or other such species that are found on coastal beaches, riverine habitats or in wetlands because communication towers typically are not located in these habitats.

For projects that meet the above criteria, there is no need to contact this office for further project review. A copy of this letter should be retained in your file as the Service's determination that no listed species are present, or that listed species in the general area will not be affected. Due to the high workload associated with responding to many individual requests for threatened and endangered species information, we will no longer be providing response letters for activities that meet the above criteria. This correspondence and the species lists remain valid until January 1, 2014. Updated consultation letters and species lists are available on our website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Thank you for your cooperation, and please contact Mr. Brett Hillman of this office at 603-223-2541 if you need further assistance.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'T. Chapman', with a long horizontal flourish extending to the right.

Thomas R. Chapman  
Supervisor  
New England Field Office

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES  
IN CONNECTICUT**

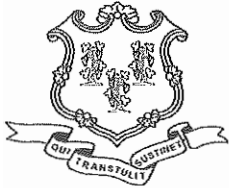
<b>COUNTY</b>	<b>SPECIES</b>	<b>FEDERAL STATUS</b>	<b>GENERAL LOCATION/HABITAT</b>	<b>TOWNS</b>
Fairfield	Piping Plover	Threatened	Coastal Beaches	Westport, Bridgeport and Stratford
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	Westport and Stratford
	Bog Turtle	Threatened	Wetlands	Ridgefield and Danbury.
Hartford	Dwarf wedgemussel	Endangered	Farmington and Podunk Rivers	South Windsor, East Granby, Simsbury, Avon and Bloomfield.
Litchfield	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Sharon.
	Bog Turtle	Threatened	Wetlands	Sharon and Salisbury.
Middlesex	Roseate Tern	Endangered	Coastal beaches, islands and the Atlantic Ocean	Westbrook
	Piping Plover	Threatened	Coastal Beaches	Clinton, Westbrook, Old Saybrook.
	Puritan Tiger Beetle	Threatened	Sandy beaches along the Connecticut River	Cromwell, Portland
New Haven	Bog Turtle	Threatened	Wetlands	Southbury
	Piping Plover	Threatened	Coastal Beaches	Milford, Madison and West Haven
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	Branford, Guilford and Madison
	Indiana Bat	Endangered	Mines, Caves	
New London	Piping Plover	Threatened	Coastal Beaches	Old Lyme, Waterford, Groton and Stonington.
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	East Lyme, New London and Waterford.
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Waterford
Tolland	None			

-Eastern cougar, gray wolf, Indiana bat, Seabeach amaranth and American burying beetle are considered extirpated in Connecticut.

-There is no federally-designated Critical Habitat in Connecticut.

7/31/2008





STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



October 1, 2010

Ms. Coreen Kelsey  
Vanasse Hangen Brustlin  
54 Tuttle Place  
Middletown, CT 06457

re: proposed telecommunication facility, Palmer Pond, 596 Pendleton Hill Road, Voluntown

Dear Ms. Kelsey:

Your request for information was forwarded to me on 9/29/10 from the Department of Environmental Protection's (DEP) Natural Diversity Data Base. They have records of state threatened moth species the Pink Sallow (*Psectraglaea carnosae*) occurring in the vicinity of this project site.

The Pink Sallow moth (*Psectraglaea carnosae*) is associated with wetland habitats. If any wetland habitats will be impacted by this project, the Wildlife Division recommends that an invertebrate biologist familiar with the habitat requirements of the Pink Sallow moth conduct surveys. A report summarizing the results of such surveys should include habitat descriptions, invertebrate species list and a statement/resume giving the biologist's qualifications. The DEP does not maintain a list of invertebrate biologists in the state. A DEP permit may be required by the biologist to conduct survey work, you should ask if your biologist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

Standard protocols for protection of wetlands should be followed and maintained during the course of the project. Additionally, all silt fencing should be removed after soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

Please be advised that the Wildlife Division has not made a field inspection of the project nor have we seen timetables for work to be done. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. If the proposed project has not been initiated within 12 months of this review, contact the NDDB for an updated review. If you have any additional questions, please feel free to contact me at [Julie.Victoria@ct.gov](mailto:Julie.Victoria@ct.gov), please reference the NDDB # at the bottom of this letter when you e-mail. Thank you for the opportunity to comment.

Sincerely,

Julie Victoria  
Wildlife Biologist  
Franklin Swamp Wildlife Management Area  
391 Route 32  
N. Franklin, CT 06254  
Phone: 860-642-7239



cc: NDDB - 18047



# 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>

January 7, 2013

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

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(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Brett Hillman of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office



**USFWS COMPLIANCE REVIEW**

**May 2, 2013**

**Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108**

**APT Project No.: CT1411061**

**Attn: Alexandria Carter**

**Re: Proposed Verizon Wireless  
Palmer Pond  
53 Gallup Road  
Voluntown, Connecticut**

Dear Ms. Carter,

At your request, All-Points Technology Corporation, P.C. ("APT") performed an evaluation with respect to possible federally-listed, threatened or endangered species in order to determine if the proposed telecommunications facility at the referenced property would result in a potential adverse effect to federally-listed species.

**Project Summary:**

**State:** Connecticut

**County:** New London

**Address:** 53 Gallup Road, Voluntown, CT

**Latitude/Longitude Coordinates:** N41°32'12.425" W71°49'45.223"

**Ground Elevation:** 456' AMSL

**Size of Property:** ±261 acres

**Watershed:** Pachaug

This evaluation was performed in accordance with the January 7, 2013 policy statement of the United States Department of the Interior Fish and Wildlife Service (USFWS) New England Field Office. A copy of the January 7, 2013 USFWS policy statement as well as the July 31, 2008 list of federally endangered and threatened species in Connecticut (most recent update) are enclosed for reference.

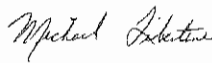
No federally-listed endangered or threatened species are known to occur in the Town of Voluntown, Connecticut (refer to the enclosed listing) and as such the proposed development would not result in an adverse effect to any federally-listed endangered or threatened species. In further support of this finding, a request for rare species review by the Connecticut Department of Energy & Environmental Protection ("CTDEEP") Natural Diversity Data Base ("NDDB") resulted in issuance of a October 1, 2010 letter stating records for a State Special Concern Species Pink Sallow moth (*Psectraglaea carnasa*) exist in the vicinity of the proposed project<sup>1</sup>; a copy of the letter is enclosed (please note that the property address on CTDEEP correspondence is incorrect, but does relate to the subject property). Two wetland areas were identified and delineated in proximity to the proposed development location. These wetlands consist primarily of a forested hillside seep that drains in to a potential vernal pool and a separate adjacent hillside seep system that flows to the north. The closest delineated wetland boundary to the proposed Facility is approximately 160 feet to the north. No direct impacts to wetlands is

<sup>1</sup> NDDB review #18046

anticipated with the proposed construction activities provided sedimentation and erosion controls are designed, installed and maintained during construction in accordance with the *2002 Connecticut Guidelines For Soil Erosion and Sediment Control*. Due to CTDEEP's finding of a record for the Pink Sallow moth (*Psectraglaea carnosae*), APT completed a survey of the proposed development areas, and within 200 feet of those areas, to determine if suitable habitat is present to support the Pink Sallow moth; no such habitat was identified. Report documentation of the habitat survey is currently being completed for submission to the CTDEEP. Please note that Pink Sallow moth is not a federally-listed endangered or threatened species.

Since no federally-listed endangered or threatened species are known to occur in the Voluntown and the CTDEEP did not identify any federally-listed species, no further consultation with USFWS regarding this issue is required. A January 7, 2013 letter from the USFWS indicating that no further Endangered Species Act coordination is necessary is enclosed. This federally-listed rare species review follows the 2013 procedure and guidelines provided by the USFWS New England Field Office.<sup>2</sup>

Sincerely,



Michael Libertine  
Director of Siting and Permitting

---

<sup>2</sup> <http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>, web site accessed April 3, 2013 and May 1, 2013.

# USFWS Policy Documents

---

- January 7, 2013 Telecommunications Policy Statement
- July 31, 2008 Inventory of Federally Listed Endangered and Threatened Species In Connecticut
- October 1, 2010 CTDEEP NDDDB Letter
- January 7, 2013 no further coordination necessary letter

# USFWS Policy Documents

---

- January 7, 2013 Telecommunications Policy Statement
- July 31, 2008 Inventory of Federally Listed Endangered and Threatened Species In Connecticut
- October 1, 2010 CTDEEP NDDDB Letter
- January 7, 2013 no further coordination necessary letter



# 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>

January 7, 2013

### To Whom It May Concern:

The U.S. Fish and Wildlife Service's (Service) New England Field Office has determined that individual project review for certain types of activities associated with communication towers is **not required**. These comments are submitted in accordance with provisions of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Due to the rapid expansion of the telecommunication industry, we are receiving a growing number of requests for review of **existing** and **new** telecommunication facilities in relation to the presence of federally-listed or proposed, threatened or endangered species, critical habitat, wilderness areas and/or wildlife preserves. We have evaluated our review process for proposed communications towers and believe that individual correspondence with this office is not required for the following types of actions relative to **existing** facilities:

1. the re-licensing of existing telecommunication facilities;
2. audits of existing facilities associated with acquisition;
3. routine maintenance of existing tower sites, such as painting, antenna or panel replacement, upgrading of existing equipment, etc.;
4. co-location of new antenna facilities on/in existing structures;
5. repair or replacement of existing towers and/or equipment, provided such activities do not significantly increase the existing tower mass and height, or require the addition of guy wires.

In order to obviate the need to contact this office in the future for individual environmental review for **existing** communication towers or antenna facilities, please note that we are not aware of any federally-listed, threatened or endangered species that are being adversely affected by any existing communication tower or antenna facility in the following states: Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts. Furthermore, we are not aware of any **existing** telecommunication towers in federally-designated critical habitats, wilderness areas or wildlife preserves. Therefore, no further consultation with this office relative to the impact of the above referenced activities on federally-listed species is required.

January 7, 2013

2

Future Coordination with this Office Relative to New Telecommunication Facilities

We have determined that proposed projects are not likely to adversely affect any federally-listed or proposed species when the following steps are taken to evaluate new telecommunication facilities:

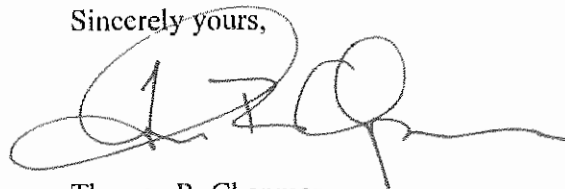
1. If the facility will be installed within or on an existing structure, such as in a church steeple or on the roof of an existing building, no further coordination with this office is necessary. Similarly, new antennas or towers in urban and other developed areas, in which no natural vegetation will be affected, do not require further review.
2. If the above criteria cannot be met, your review of our lists of threatened and endangered species locations within Vermont, New Hampshire, Rhode Island, Connecticut and Massachusetts may confirm that no federally-listed endangered or threatened species are known to occur in the town or county where the project is proposed.
3. If a listed species is present in the town or county where the project is proposed, further review of our lists of threatened and endangered species may allow you to conclude that suitable habitat for the species will not be affected. Based on past experiences, we anticipate that there will be few, if any, projects that are likely to impact piping plovers, roseate terns, bog turtles, Jesup's milk-vetch or other such species that are found on coastal beaches, riverine habitats or in wetlands because communication towers typically are not located in these habitats.

For projects that meet the above criteria, there is no need to contact this office for further project review. A copy of this letter should be retained in your file as the Service's determination that no listed species are present, or that listed species in the general area will not be affected. Due to the high workload associated with responding to many individual requests for threatened and endangered species information, we will no longer be providing response letters for activities that meet the above criteria. This correspondence and the species lists remain valid until January 1, 2014. Updated consultation letters and species lists are available on our website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

Thank you for your cooperation, and please contact Mr. Brett Hillman of this office at 603-223-2541 if you need further assistance.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'T. Chapman', written over a circular stamp or mark.

Thomas R. Chapman  
Supervisor  
New England Field Office

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES  
IN CONNECTICUT**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Fairfield	Piping Plover	Threatened	Coastal Beaches	Westport, Bridgeport and Stratford
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	Westport and Stratford
	Bog Turtle	Threatened	Wetlands	Ridgefield and Danbury.
Hartford	Dwarf wedgemussel	Endangered	Farmington and Podunk Rivers	South Windsor, East Granby, Simsbury, Avon and Bloomfield.
Litchfield	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Sharon.
	Bog Turtle	Threatened	Wetlands	Sharon and Salisbury.
Middlesex	Roseate Tern	Endangered	Coastal beaches, islands and the Atlantic Ocean	Westbrook
	Piping Plover	Threatened	Coastal Beaches	Clinton, Westbrook, Old Saybrook.
	Puritan Tiger Beetle	Threatened	Sandy beaches along the Connecticut River	Cromwell, Portland
New Haven	Bog Turtle	Threatened	Wetlands	Southbury
	Piping Plover	Threatened	Coastal Beaches	Milford, Madison and West Haven
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	Branford, Guilford and Madison
	Indiana Bat	Endangered	Mines, Caves	
New London	Piping Plover	Threatened	Coastal Beaches	Old Lyme, Waterford, Groton and Stonington.
	Roseate Tern	Endangered	Coastal beaches, Islands and the Atlantic Ocean	East Lyme, New London and Waterford.
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Waterford
Tolland	None			

-Eastern cougar, gray wolf, Indiana bat, Seabeach amaranth and American burying beetle are considered extirpated in Connecticut.

-There is no federally-designated Critical Habitat in Connecticut.

7/31/2008





STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



October 1, 2010

Ms. Coreen Kelsey  
Vanasse Hangen Brustlin  
54 Tuttle Place  
Middletown, CT 06457

re: proposed telecommunication facility, Palmer Pond, Gallup Farm, 35 Gallup Road, Voluntown

Dear Ms. Kelsey:

Your request for information was forwarded to me on 9/29/10 from the Department of Environmental Protection's (DEP) Natural Diversity Data Base. They have records of state threatened moth species the Pink Sallow (*Psectraglaea carnosa*) occurring in the vicinity of this project site.

The Pink Sallow moth (*Psectraglaea carnosa*) is associated with wetland habitats. If any wetland habitats will be impacted by this project, the Wildlife Division recommends that an invertebrate biologist familiar with the habitat requirements of the Pink Sallow moth conduct surveys. A report summarizing the results of such surveys should include habitat descriptions, invertebrate species list and a statement/resume giving the biologist' qualifications. The DEP does not maintain a list of invertebrate biologists in the state. A DEP permit may be required by the biologist to conduct survey work, you should ask if your biologist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

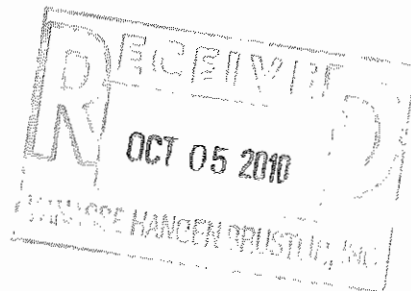
Standard protocols for protection of wetlands should be followed and maintained during the course of the project. Additionally, all silt fencing should be removed after soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

Please be advised that the Wildlife Division has not made a field inspection of the project nor have we seen timetables for work to be done. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. If the proposed project has not been initiated within 12 months of this review, contact the NDDB for an updated review. If you have any additional questions, please feel free to contact me at [Julie.Victoria@ct.gov](mailto:Julie.Victoria@ct.gov), please reference the NDDB # at the bottom of this letter when you e-mail. Thank you for the opportunity to comment.

Sincerely,

Julie Victoria  
Wildlife Biologist  
Franklin Swamp Wildlife Management Area  
391 Route 32  
N. Franklin, CT 06254  
Phone: 860-642-7239

cc: NDDB - 18046





# 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>

January 7, 2013

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

(<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>)

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(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Mr. Brett Hillman of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office



## NDDB COMPLIANCE REVIEW

May 2, 2013

SITE 1

Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108

APT Project No.: CT1411061

Attn: Alexandria Carter

Re: Proposed Verizon Wireless  
Palmer Pond  
596 Pendleton Hill Road  
Voluntown, Connecticut

Dear Ms. Carter,

In September 2010, a request for Natural Diversity Data Base ("NDDB") State Listed Species Review was made to the Connecticut Department of Energy & Environmental Protection ("CTDEEP") for an evaluation regarding possible state-listed, threatened, endangered or special concern species to determine if a proposed telecommunications facility at the referenced property would result in a potential conflict.

NDDB staff responded in an October 1, 2010 letter that records exist for a State Special Concern Species, Pink Sallow moth (*Psectraglaea carnososa*), in the vicinity of the proposed project<sup>1</sup>; a copy of the letter is enclosed (please note the property address is incorrectly listed on the CTDEEP correspondence). The CTDEEP letter states that this species is associated with wetland habitats. Published literature regarding the Pink Sallow moth<sup>2</sup> indicates its preference for sandy-soiled, pitch pine or scrub oak barrens, with the presence of low-growing heaths. Based on CTDEEP's recommendation, APT completed a survey of the proposed development areas, and within 200 feet of those areas ("Study Area"), to determine if suitable habitat is present to support the Pink Sallow moth. No such habitat was identified within the Study Area. The nearest wetland is located 950± feet northwest of the proposed project. As a result of this 950± feet separating-distance, no direct or indirect impacts to wetland resources are anticipated by development activities. No pine barren or scrub oak dominant habitat was identified in the Subject Area. Report documentation of the habitat survey is currently being completed for submission to the CTDEEP.

It is APT's opinion that no adverse impact on Pink Sallow moth (*Psectraglaea carnososa*) habitat would occur as a result of the proposed project. Furthermore, we anticipate that CTDEEP will agree with this conclusion upon review of the field survey report.

Sincerely,

A handwritten signature in blue ink that reads "Michael Libertine".

Michael Libertine  
Director of Siting and Permitting

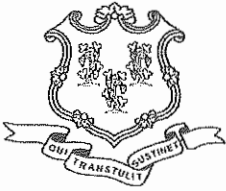
---

<sup>1</sup> NDDB review #18047

<sup>2</sup> APT reviewed information from the NY Natural Heritage Program and the Massachusetts Natural Heritage Endangered Species Program regarding Pink Sallow moth (*Psectraglaea carnososa*). Fact sheets attached.

## Attachments

---



STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



October 1, 2010

Ms. Coreen Kelsey  
Vanasse Hangen Brustlin  
54 Tuttle Place  
Middletown, CT 06457

re: proposed telecommunication facility, Palmer Pond, 596 Pendleton Hill Road, Voluntown

Dear Ms. Kelsey:

Your request for information was forwarded to me on 9/29/10 from the Department of Environmental Protection's (DEP) Natural Diversity Data Base. They have records of state threatened moth species the Pink Sallow (*Psectraglaea carnosa*) occurring in the vicinity of this project site.

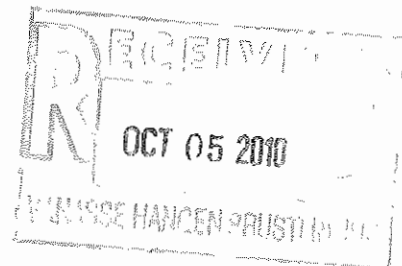
The Pink Sallow moth (*Psectraglaea carnosa*) is associated with wetland habitats. If any wetland habitats will be impacted by this project, the Wildlife Division recommends that an invertebrate biologist familiar with the habitat requirements of the Pink Sallow moth conduct surveys. A report summarizing the results of such surveys should include habitat descriptions, invertebrate species list and a statement/resume giving the biologist's qualifications. The DEP does not maintain a list of invertebrate biologists in the state. A DEP permit may be required by the biologist to conduct survey work, you should ask if your biologist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

Standard protocols for protection of wetlands should be followed and maintained during the course of the project. Additionally, all silt fencing should be removed after soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

Please be advised that the Wildlife Division has not made a field inspection of the project nor have we seen timetables for work to be done. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. If the proposed project has not been initiated within 12 months of this review, contact the NDDB for an updated review. If you have any additional questions, please feel free to contact me at [Julie.Victoria@ct.gov](mailto:Julie.Victoria@ct.gov), please reference the NDDB # at the bottom of this letter when you e-mail. Thank you for the opportunity to comment.

Sincerely,

Julie Victoria  
Wildlife Biologist  
Franklin Swamp Wildlife Management Area  
391 Route 32  
N. Franklin, CT 06254  
Phone: 860-642-7239



cc: NDDB - 18047

# Pink Sallow



Pink Sallow



Photo credits: Hugh D. McGuinness

**Scientific Name** *Psectraglaea carnos*  
(Grote, 1877)

**Family Name** Noctuidae  
Owlet Moths

## Did you know?

The color of the pink sallow matches the fall foliage of blueberry and other heath shrubs upon which it commonly rests.

## Summary

**Protection** Not listed in New York State, not listed federally.

This level of state protection means: The species is not listed or protected by New York State.

**Rarity** G3, S2

A global rarity rank of G3 means: Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.

A state rarity rank of S2 means: Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably make it very vulnerable in New York State.

## Conservation Status in New York

Within New York State, three populations of the pink sallow are known to occur on Long Island. The species is probably more widespread on Long Island, but it may no longer occur elsewhere in New York.

## Short-term Trends

The three documented populations on Long Island are more or less protected. Aside from fluctuations due to fire or lack of fire, the abundance of the species has probably not changed significantly in recent decades.

## Long-term Trends

There is much uncertainty about the original extent of the range of the pink sallow in New York State, but the species may no longer occur in the mainland. The origin of the Poughkeepsie specimen is unknown, and it is not known whether any populations occur now in that area. Like much of the barrens fauna, the species no longer occurs at Albany. It might have disappeared from the Albany area before 1900.

# Conservation and Management

## Threats

Threats include destruction of habitat due to development, loss of habitat due to natural succession if fires are prevented in fire-maintained habitats, and complete burns of occupied habitats during seasons when vulnerable life stages (e.g., eggs, larvae, or adults) exist above ground and would be obliterated by a complete burn (i.e., from October through June, and perhaps longer northward). Some suitable habitats can persist for 50 years or more without fires, but others (such as the formerly occupied habitats at Albany) would probably become unsuitable within 30 years or less without fires.

## Conservation Strategies and Management Practices

Maintaining suitable habitat is the main management need. The best time for fires in fire-maintained habitats is when the pink sallow exists as prepupal larvae underground, from July- August. Entire habitats should not be burned at once. Habitats should be burned in patches, always with some unburned areas left as refugia for the species (Wagner et al. 2003).

## Research Needs

Research is needed to better understand the habitat needs of the pink sallow and the impact of fire on the species.

## Habitat

Typical habitats are large pine barrens, including dwarf pine areas, on sandy or acidic rocky substrates. In other states, populations can occur in scrub oak thickets with little or no pine. These habitats can include airport approach zones. An abundance of low heaths such as blueberries seems to be the most consistent feature. The pine canopy is typically sparse (less than 50%). Most habitats rangewide appear to be more than 1000 acres, and the species is absent from many pine barrens that appear to provide suitable habitat. Moths captured in other habitats are generally strays, and several strays have been documented from places in adjacent states with several to many trap years of effort.

## Associated Ecological Communities

### Dwarf Pine Plains

A woodland community dominated by dwarf individuals of pitch pine and scrub oak that occurs on nearly level outwash sand and gravel plains in eastern Long Island. The soils are infertile, coarse textured sands that are excessively well-drained.

### Maritime Heathland

A dwarf shrubland community that occurs on rolling outwash plains and moraine of the glaciated portion of the Atlantic coastal plain, near the ocean and within the influence of onshore winds and salt spray.

### Pitch Pine-oak-heath Woodland

A pine barrens community that occurs on well-drained, infertile, sandy soils. The structure of this community is intermediate between a shrub-savanna and a woodland. Pitch pine and white oak are the most abundant trees.

## Associated Species

Herodias Or Pine Barrens Underwing (*Catocala herodias gerhardi*)

Jair Underwing (*Catocala jair*)

A Noctuid Moth (*Chaetagnaea cerata*)

Barrens Chaetagnaea (*Chaetagnaea tremula*)

The Buckmoth (*Hemileuca maia*)

## Identification Comments

### Identifying Characteristics

The pink sallow is a moderately large moth, with a wingspan of approximately 38-45 mm. It usually has bright pink forewings and almost white hind wings. The antennae of males are pectinate (feathery). The species is usually unmistakable. See the illustrations in Rockburne and LaFonatinae (1976) and Handfield (1999). Many individuals are brighter, and some are duller. A few have the pink greatly reduced and are then a dull dark olive color. Even so, there is probably always some pink, and the white hind wings and male antennae should be distinctive. The larvae are reddish brown with no obvious pattern. They are probably at least superficially indistinguishable from *Eucirroedia pampina*.

### Characteristics Most Useful for Identification

Characteristics most useful for identification include size, pink forewings, feathered antennae (of males), and autumn flight period.

### Best Life Stage for Identifying This Species

The adult is the best life stage for identification. Currently, no other stage can be positively identified.



## Behavior

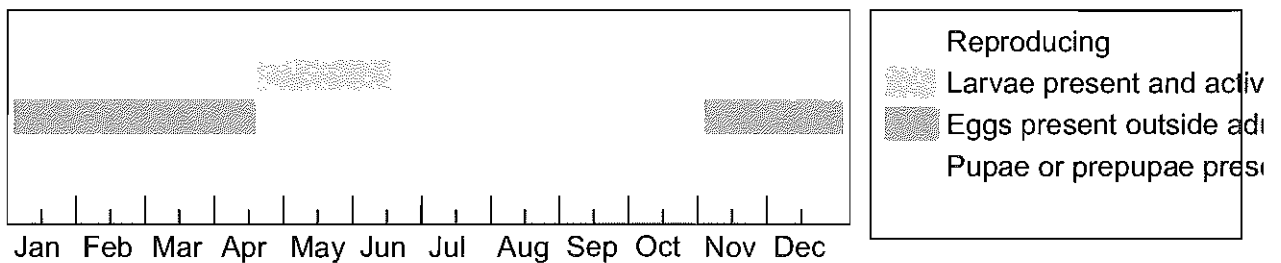
Occasionally, adults can be found resting during the day on heath shrubs or scrub oaks. Sometimes they flush on hot days. They come to blacklights and other lights but rarely to bait. They might fly only briefly on a given night, and their flight time may vary from night to night, possibly due to temperature.

## Diet

Larvae apparently feed on new growth, flowers, and developing fruits of blueberry, scrub oak, and other shrubs in their barrens habitats.

## The Best Time to See

The best time to see the pink sallow is during its flight season. Adults fly mostly in October on Long Island, although a few might emerge in late September or persist into November. The summer is spent as prepupal larvae in the soil, but it is not known how deep the larvae burrow. The phenology given should apply to the southern part of the state. If the species occurs in northern New York, eggs would hatch sometime in May, and larvae would be present until late June or early July. Adults might appear before September 15.



The time of year you would expect to find Pink Sallow in New York.

## Taxonomy

Kingdom Animalia

└ Phylum Mandibulates (Mandibulata)

└ Class Insects (Insecta)

└ Order Butterflies, Skippers, and Moths (Lepidoptera)

└ Family Noctuidae (Owlet Moths)

## Additional Resources

### Links

#### Owlet Caterpillars of Eastern North America

<http://www.eeb.uconn.edu/people/dwagner/USDA%20Noctuid%20Guide%20Most%20Current%20June%202009.pdf>

#### BugGuide

<http://bugguide.net/node/view/171311>

#### Moth Photographers Group

<http://mothphotographersgroup.msstate.edu/species.php?hodges=9951>

**Butterflies and Moths of North America**

<http://www.butterfliesandmoths.org/species/Psectraglaea-carnosa>

**Google Images**

<http://images.google.com/images?q=PSECTRAGLAEA+CARNOSA>

**NatureServe Explorer**

<http://natureserve.org/explorer/servlet/NatureServe?searchName=PSECTRAGLAEA+CARNOSA>

**References**

- Crumb, S. E. 1956. The larvae of the Phalaenidae [=Noctuidae]. U.S.D.A. Tech. Bull. No. 1135. 356 pp.
- Forbes, William T. M. 1954. Lepidoptera of New York and neighboring states part III. Cornell University Experiment Station Memoir 329.
- Handfield, Louis, 1999. Le Guide des Papillons du Quebec, Scientific Version. Broquet Inc, Boucherville, Quebec, Canada, 155pp + plates.
- Keys, Jr.,J.; Carpenter, C.; Hooks, S.; Koenig, F.; McNab, W.H.; Russell, W.;Smith, M.L. 1995. Ecological units of the eastern United States - first approximation (cd-rom), Atlanta, GA: U.S. Department of Agriculture, Forest Service. GIS coverage in ARCINFO format, selected imagery, and map unit tables.
- McCabe, Timothy L. 1990. Report to the Natural Heritage Program: Results of the 1990 field survey for lepidoptera (especially noctuidae). New York Natural Heritage Program, New York State Department of Environmental Conservation. Latham, NY. 38 pp. plus s
- NatureServe. 2005. NatureServe Central Databases. Arlington, Virginia. USA
- NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Data last updated August 2010)
- North American Moth Photographers Group at the Mississippi Entomological Museum. No date. Mississippi State University, Mississippi.  
<http://mothphotographersgroup.msstate.edu/MainMenu.shtml>
- Opler, Paul A., Kelly Lotts, and Thomas Naberhaus, coordinators. 2010. Butterflies and Moths of North America. Bozeman, MT: Big Sky Institute. (accessed May 2010).
- Rockburne, Eric W. and J. Donald LaFontaine. 1976. The Cutworm Moths of Ontario and Quebec. Research Branch, Canada Department of Agriculture. Publication 1593. 164 PP.
- Wagner, D. L., D. F. Schweitzer, J. B. Sullivan, and R. C. Reardon. 2008. Owllet Caterpillars of Eastern North America (Lepidoptera: Noctuidae)
- Wagner, David L., Nelson, Michael W., and Schweitzer, Dale F. 2003. Shrubland Lepidoptera of southern New England and southeastern New York: ecology, conservation, and management. Forest Ecology and Management 185: 95-112.

---

**New York Natural Heritage Program**

625 Broadway, 5th Floor,  
Albany, NY 12233-4757  
Phone: (518) 402-8935  
[acris@nynhp.org](mailto:acris@nynhp.org)

This project is made possible with funding from:

- New York State Department of Environmental Conservation Hudson River Estuary Program
- Division of Lands & Forests, Department of Environmental Conservation
- New York State Office of Parks, Recreation and Historic Preservation

Information for this guide was last updated on Mar 19, 2013

This guide was authored by Dale Schweitzer and Andrea Chaloux



# Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife  
Route 135, Westborough, MA 01581  
tel: (508) 389-6360; fax: (508) 389-7891  
[www.nhesp.org](http://www.nhesp.org)

## Pink Sallow Moth *Psectraglaea carnosa*

State Status: **Special Concern**  
Federal Status: None

**Description:** The Pink Sallow Moth has bright, reddish-pink forewings, solid in color except for faint yellow outlines of the reniform spot, orbicular spot, and postmedian line; the hind wings are cream-colored, shaded with pink. Wingspan is 34-38 mm.

**Habitat:** The Pink Sallow Moth inhabits sandplain pitch pine/scrub oak barrens and heathlands; it is associated with ericaceous vegetation.

**Life History:** Adult moths fly in late September and October. Eggs overwinter, hatching in the spring. Larvae feed from spring through early summer, pupating by July and diapausing until the fall. The larval host plant(s) used by this species in nature have not been conclusively documented, but lowbush blueberries (*Vaccinium*) are probable.

**Range:** The Pink Sallow Moth is endemic to northeastern North America, ranging from southern Maine west through southern Quebec and Ontario to Michigan and Wisconsin, and south to northeastern Pennsylvania and southern New Jersey. Many historic populations have disappeared, and it is now rare and spottily distributed throughout this range. In Massachusetts this species occurs mainly on the southeast coastal plain, with a few additional inland populations.

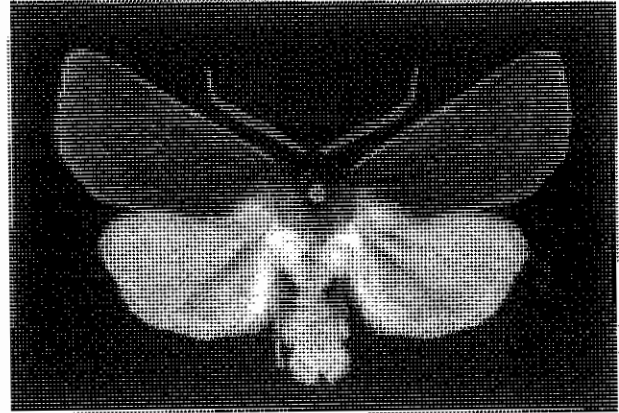


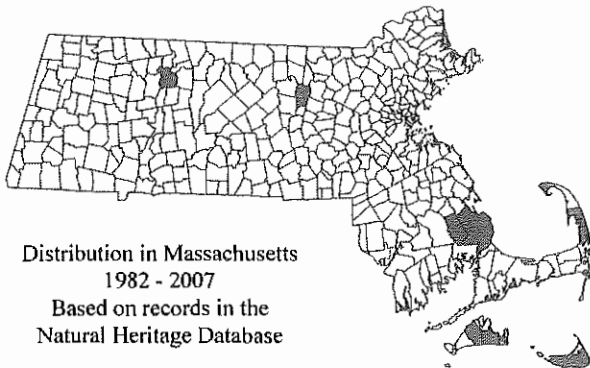
Photo by M.W. Nelson

### Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
									■	■	

### Threats

- Habitat loss
- Fire suppression
- Invasion by exotic plants
- Introduced generalist parasitoids
- Insecticide spraying
- Off-road vehicles
- Light pollution



Updated June 2007  
M.W. Nelson



# Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife  
Route 135, Westborough, MA 01581  
tel: (508) 389-6360; fax: (508) 389-7891  
[www.nhesp.org](http://www.nhesp.org)

## Pink Sallow Moth *Psectraglaea carnosa*

State Status: **Special Concern**  
Federal Status: None

**Description:** The Pink Sallow Moth has bright, reddish-pink forewings, solid in color except for faint yellow outlines of the reniform spot, orbicular spot, and postmedian line; the hind wings are cream-colored, shaded with pink. Wingspan is 34-38 mm.

**Habitat:** The Pink Sallow Moth inhabits sandplain pitch pine/scrub oak barrens and heathlands; it is associated with ericaceous vegetation.

**Life History:** Adult moths fly in late September and October. Eggs overwinter, hatching in the spring. Larvae feed from spring through early summer, pupating by July and diapausing until the fall. The larval host plant(s) used by this species in nature have not been conclusively documented, but lowbush blueberries (*Vaccinium*) are probable.

**Range:** The Pink Sallow Moth is endemic to northeastern North America, ranging from southern Maine west through southern Quebec and Ontario to Michigan and Wisconsin, and south to northeastern Pennsylvania and southern New Jersey. Many historic populations have disappeared, and it is now rare and spottily distributed throughout this range. In Massachusetts this species occurs mainly on the southeast coastal plain, with a few additional inland populations.

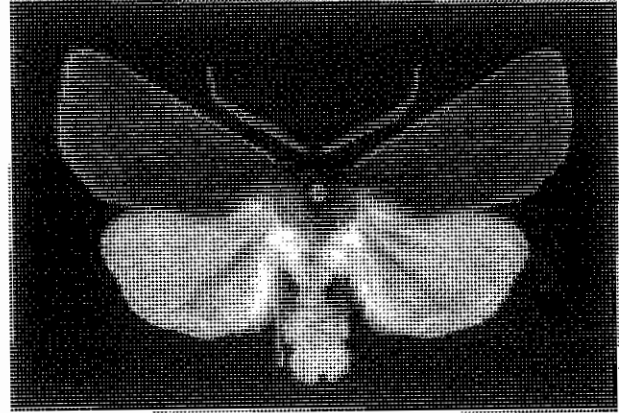


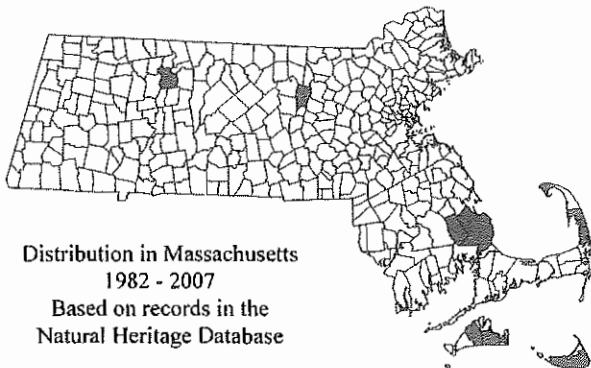
Photo by M.W. Nelson

### Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

### Threats

- Habitat loss
- Fire suppression
- Invasion by exotic plants
- Introduced generalist parasitoids
- Insecticide spraying
- Off-road vehicles
- Light pollution



Updated June 2007  
M.W. Nelson



**NDDB COMPLIANCE REVIEW**

**May 2, 2013**

**Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108**

**APT Project No.: CT1411061**

**Attn: Alexandria Carter**

**Re: Proposed Verizon Wireless  
Palmer Pond  
53 Gallup Road  
Voluntown, Connecticut**

Dear Ms. Carter,

In September 2010, a request for Natural Diversity Data Base ("NDDB") State Listed Species Review was made to the Connecticut Department of Energy & Environmental Protection ("CTDEEP") for an evaluation regarding possible state-listed, threatened, endangered or special concern species to determine if a proposed telecommunications facility at the referenced property would result in a potential conflict.

NDDB staff responded in an October 1, 2010 letter that records exist for a State Special Concern Species Pink Sallow moth (*Psectraglaea carnosa*) in the vicinity of the proposed project<sup>1</sup>; a copy of the letter is enclosed (please note the property address is incorrectly listed on the CTDEEP correspondence). The CTDEEP letter states that this species is associated with wetland habitats. Published literature regarding the Pink Sallow moth<sup>2</sup> indicates its preference for sandy-soiled, pitch pine or scrub oak barrens, with the presence of low-growing heaths. Based on CTDEEP's recommendation, APT completed a survey of the proposed development areas, and within 200 feet of those areas ("Study Area"), to determine if suitable habitat is present to support the Pink Sallow moth. No such habitat was identified within the Study Area. The nearest wetland is located 160± feet to the northeast of the proposed project. As a result of this separating-distance, no direct or indirect impacts to wetland resources are anticipated by development activities. No pine barren or scrub oak dominant habitat was identified in the Subject Area. Report documentation of the habitat survey is currently being completed for submission to the CTDEEP.

It is APT's opinion that no adverse impact on Pink Sallow moth (*Psectraglaea carnosa*) habitat would occur as a result of the proposed project. Furthermore, we anticipate that CTDEEP will agree with this conclusion upon review of the field survey report.

Sincerely,

**Michael Libertine  
Director of Siting and Permitting**

<sup>1</sup> NDDB review #18046

<sup>2</sup> APT reviewed information from the NY Natural Heritage Program and the Massachusetts Natural Heritage Endangered Species Program regarding Pink Sallow moth (*Psectraglaea carnosa*). Fact sheets attached.

# Attachments

---



STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



October 1, 2010

Ms. Coreen Kelsey  
Vanasse Hangen Brustlin  
54 Tuttle Place  
Middletown, CT 06457

re: proposed telecommunication facility, Palmer Pond, Gallup Farm, 35 Gallup Road, Voluntown

Dear Ms. Kelsey:

Your request for information was forwarded to me on 9/29/10 from the Department of Environmental Protection's (DEP) Natural Diversity Data Base. They have records of state threatened moth species the Pink Sallow (*Psectraglaea carnosa*) occurring in the vicinity of this project site.

The Pink Sallow moth (*Psectraglaea carnosa*) is associated with wetland habitats. If any wetland habitats will be impacted by this project, the Wildlife Division recommends that an invertebrate biologist familiar with the habitat requirements of the Pink Sallow moth conduct surveys. A report summarizing the results of such surveys should include habitat descriptions, invertebrate species list and a statement/resume giving the biologist' qualifications. The DEP does not maintain a list of invertebrate biologists in the state. A DEP permit may be required by the biologist to conduct survey work, you should ask if your biologist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

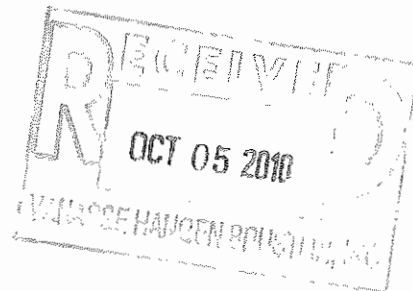
Standard protocols for protection of wetlands should be followed and maintained during the course of the project. Additionally, all silt fencing should be removed after soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

Please be advised that the Wildlife Division has not made a field inspection of the project nor have we seen timetables for work to be done. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. If the proposed project has not been initiated within 12 months of this review, contact the NDDDB for an updated review. If you have any additional questions, please feel free to contact me at [Julie.Victoria@ct.gov](mailto:Julie.Victoria@ct.gov), please reference the NDDDB # at the bottom of this letter when you e-mail. Thank you for the opportunity to comment.

Sincerely,

Julie Victoria  
Wildlife Biologist  
Franklin Swamp Wildlife Management Area  
391 Route 32  
N. Franklin, CT 06254  
Phone: 860-642-7239

cc: NDDDB - 18046





# Pink Sallow



Pink Sallow



Photo credits: Hugh D. McGuinness

**Scientific Name** *Psectraglaea carnos*  
(Grote, 1877)

**Family Name** Noctuidae  
Owlet Moths

## Did you know?

The color of the pink sallow matches the fall foliage of blueberry and other heath shrubs upon which it commonly rests.

## Summary

**Protection** Not listed in New York State, not listed federally.

This level of state protection means: The species is not listed or protected by New York State.

**Rarity** G3, S2

A global rarity rank of G3 means: Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.

A state rarity rank of S2 means: Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably make it very vulnerable in New York State.

## Conservation Status in New York

Within New York State, three populations of the pink sallow are known to occur on Long Island. The species is probably more widespread on Long Island, but it may no longer occur elsewhere in New York.

## Short-term Trends

The three documented populations on Long Island are more or less protected. Aside from fluctuations due to fire or lack of fire, the abundance of the species has probably not changed significantly in recent decades.

## Long-term Trends

There is much uncertainty about the original extent of the range of the pink sallow in New York State, but the species may no longer occur in the mainland. The origin of the Poughkeepsie specimen is unknown, and it is not known whether any populations occur now in that area. Like much of the barrens fauna, the species no longer occurs at Albany. It might have disappeared from the Albany area before 1900.

# Conservation and Management

## Threats

Threats include destruction of habitat due to development, loss of habitat due to natural succession if fires are prevented in fire-maintained habitats, and complete burns of occupied habitats during seasons when vulnerable life stages (e.g., eggs, larvae, or adults) exist above ground and would be obliterated by a complete burn (i.e., from October through June, and perhaps longer northward). Some suitable habitats can persist for 50 years or more without fires, but others (such as the formerly occupied habitats at Albany) would probably become unsuitable within 30 years or less without fires.

## Conservation Strategies and Management Practices

Maintaining suitable habitat is the main management need. The best time for fires in fire-maintained habitats is when the pink sallow exists as prepupal larvae underground, from July- August. Entire habitats should not be burned at once. Habitats should be burned in patches, always with some unburned areas left as refugia for the species (Wagner et al. 2003).

## Research Needs

Research is needed to better understand the habitat needs of the pink sallow and the impact of fire on the species.

## Habitat

Typical habitats are large pine barrens, including dwarf pine areas, on sandy or acidic rocky substrates. In other states, populations can occur in scrub oak thickets with little or no pine. These habitats can include airport approach zones. An abundance of low heaths such as blueberries seems to be the most consistent feature. The pine canopy is typically sparse (less than 50%). Most habitats rangewide appear to be more than 1000 acres, and the species is absent from many pine barrens that appear to provide suitable habitat. Moths captured in other habitats are generally strays, and several strays have been documented from places in adjacent states with several to many trap years of effort.

## Associated Ecological Communities

### Dwarf Pine Plains

A woodland community dominated by dwarf individuals of pitch pine and scrub oak that occurs on nearly level outwash sand and gravel plains in eastern Long Island. The soils are infertile, coarse textured sands that are excessively well-drained.

### Maritime Heathland

A dwarf shrubland community that occurs on rolling outwash plains and moraine of the glaciated portion of the Atlantic coastal plain, near the ocean and within the influence of onshore winds and salt spray.

### Pitch Pine-oak-heath Woodland

A pine barrens community that occurs on well-drained, infertile, sandy soils. The structure of this community is intermediate between a shrub-savanna and a woodland. Pitch pine and white oak are the most abundant trees.

## Associated Species

Herodias Or Pine Barrens Underwing (*Catocala herodias gerhardi*)

Jair Underwing (*Catocala jair*)

A Noctuid Moth (*Chaetagnaea cerata*)

Barrens Chaetagnaea (*Chaetagnaea tremula*)

The Buckmoth (*Hemileuca maia*)

## Identification Comments

### Identifying Characteristics

The pink sallow is a moderately large moth, with a wingspan of approximately 38-45 mm. It usually has bright pink forewings and almost white hind wings. The antennae of males are pectinate (feathery). The species is usually unmistakable. See the illustrations in Rockburne and LaFonatinae (1976) and Handfield (1999). Many individuals are brighter, and some are duller. A few have the pink greatly reduced and are then a dull dark olive color. Even so, there is probably always some pink, and the white hind wings and male antennae should be distinctive. The larvae are reddish brown with no obvious pattern. They are probably at least superficially indistinguishable from *Eucirroedia pampina*.

### Characteristics Most Useful for Identification

Characteristics most useful for identification include size, pink forewings, feathered antennae (of males), and autumn flight period.

### Best Life Stage for Identifying This Species

The adult is the best life stage for identification. Currently, no other stage can be positively identified.

## Behavior

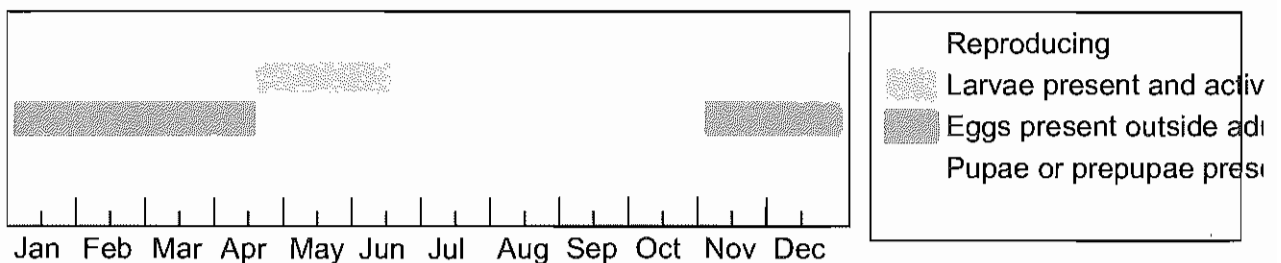
Occasionally, adults can be found resting during the day on heath shrubs or scrub oaks. Sometimes they flush on hot days. They come to blacklights and other lights but rarely to bait. They might fly only briefly on a given night, and their flight time may vary from night to night, possibly due to temperature.

## Diet

Larvae apparently feed on new growth, flowers, and developing fruits of blueberry, scrub oak, and other shrubs in their barrens habitats.

## The Best Time to See

The best time to see the pink sallow is during its flight season. Adults fly mostly in October on Long Island, although a few might emerge in late September or persist into November. The summer is spent as prepupal larvae in the soil, but it is not known how deep the larvae burrow. The phenology given should apply to the southern part of the state. If the species occurs in northern New York, eggs would hatch sometime in May, and larvae would be present until late June or early July. Adults might appear before September 15.



The time of year you would expect to find Pink Sallow in New York.

## Taxonomy

Kingdom Animalia

└ Phylum Mandibulates (Mandibulata)

└ Class Insects (Insecta)

└ Order Butterflies, Skippers, and Moths (Lepidoptera)

└ Family Noctuidae (Owlet Moths)

## Additional Resources

### Links

#### Owlet Caterpillars of Eastern North America

<http://www.eeb.uconn.edu/people/dwagner/USDA%20Noctuid%20Guide%20Most%20Current%20June%202009.pdf>

#### BugGuide

<http://bugguide.net/node/view/171311>

#### Moth Photographers Group

<http://mothphotographersgroup.msstate.edu/species.php?hodges=9951>

**Butterflies and Moths of North America**

<http://www.butterfliesandmoths.org/species/Psectraglaea-carnosa>

**Google Images**

<http://images.google.com/images?q=PSECTRAGLAEA+CARNOSA>

**NatureServe Explorer**

<http://natureserve.org/explorer/servlet/NatureServe?searchName=PSECTRAGLAEA+CARNOSA>

**References**

- Crumb, S. E. 1956. The larvae of the Phalaenidae [=Noctuidae]. U.S.D.A. Tech. Bull. No. 1135. 356 pp.
- Forbes, William T. M. 1954. Lepidoptera of New York and neighboring states part III. Cornell University Experiment Station Memoir 329.
- Handfield, Louis, 1999. Le Guide des Papillons du Quebec, Scientific Version. Broquet Inc, Boucherville, Quebec, Canada, 155pp + plates.
- Keys, Jr.,J.; Carpenter, C.; Hooks, S.; Koenig, F.; McNab, W.H.; Russell, W.;Smith, M.L. 1995. Ecological units of the eastern United States - first approximation (cd-rom), Atlanta, GA: U.S. Department of Agriculture, Forest Service. GIS coverage in ARCINFO format, selected imagery, and map unit tables.
- McCabe, Timothy L. 1990. Report to the Natural Heritage Program: Results of the 1990 field survey for lepidoptera (especially noctuidae). New York Natural Heritage Program, New York State Department of Environmental Conservation. Latham, NY. 38 pp. plus s
- NatureServe. 2005. NatureServe Central Databases. Arlington, Virginia. USA
- NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Data last updated August 2010)
- North American Moth Photographers Group at the Mississippi Entomological Museum. No date. Mississippi State University, Mississippi.  
<http://mothphotographersgroup.msstate.edu/MainMenu.shtml>
- Opler, Paul A., Kelly Lotts, and Thomas Naberhaus, coordinators. 2010. Butterflies and Moths of North America. Bozeman, MT: Big Sky Institute. (accessed May 2010).
- Rockburne, Eric W. and J. Donald LaFontaine. 1976. The Cutworm Moths of Ontario and Quebec. Research Branch, Canada Department of Agriculture. Publication 1593. 164 PP.
- Wagner, D. L., D. F. Schweitzer, J. B. Sullivan, and R. C. Reardon. 2008. Owllet Caterpillars of Eastern North America (Lepidoptera: Noctuidae)
- Wagner, David L., Nelson, Michael W., and Schweitzer, Dale F. 2003. Shrubland Lepidoptera of southern New England and southeastern New York: ecology, conservation, and management. Forest Ecology and Management 185: 95-112.

---

**New York Natural Heritage Program**  
625 Broadway, 5th Floor,  
Albany, NY 12233-4757  
Phone: (518) 402-8935  
[acris@nynhp.org](mailto:acris@nynhp.org)

This project is made possible with funding from:  
- New York State Department of Environmental Conservation Hudson River Estuary Program  
- Division of Lands & Forests, Department of Environmental Conservation  
- New York State Office of Parks, Recreation and Historic Preservation

Information for this guide was last updated on Mar 19, 2013

This guide was authored by Dale Schweitzer and Andrea Chaloux



# Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife  
Route 135, Westborough, MA 01581  
tel: (508) 389-6360; fax: (508) 389-7891  
[www.nhesp.org](http://www.nhesp.org)

## Pink Sallow Moth

*Psectraglaea carnosa*

State Status: **Special Concern**

Federal Status: None

**Description:** The Pink Sallow Moth has bright, reddish-pink forewings, solid in color except for faint yellow outlines of the reniform spot, orbicular spot, and postmedian line; the hind wings are cream-colored, shaded with pink. Wingspan is 34-38 mm.

**Habitat:** The Pink Sallow Moth inhabits sandplain pitch pine/scrub oak barrens and heathlands; it is associated with ericaceous vegetation.

**Life History:** Adult moths fly in late September and October. Eggs overwinter, hatching in the spring. Larvae feed from spring through early summer, pupating by July and diapausing until the fall. The larval host plant(s) used by this species in nature have not been conclusively documented, but lowbush blueberries (*Vaccinium*) are probable.

**Range:** The Pink Sallow Moth is endemic to northeastern North America, ranging from southern Maine west through southern Quebec and Ontario to Michigan and Wisconsin, and south to northeastern Pennsylvania and southern New Jersey. Many historic populations have disappeared, and it is now rare and spottily distributed throughout this range. In Massachusetts this species occurs mainly on the southeast coastal plain, with a few additional inland populations.

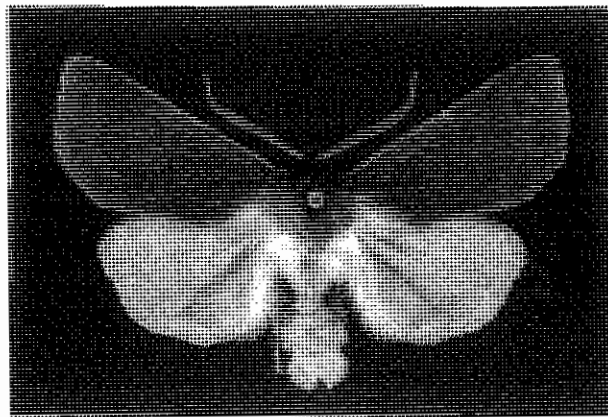


Photo by M.W. Nelson

### Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

### Threats

- Habitat loss
- Fire suppression
- Invasion by exotic plants
- Introduced generalist parasitoids
- Insecticide spraying
- Off-road vehicles
- Light pollution



Updated June 2007  
M.W. Nelson



# Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife  
Route 135, Westborough, MA 01581  
tel: (508) 389-6360; fax: (508) 389-7891  
[www.nhesp.org](http://www.nhesp.org)

## Pink Sallow Moth *Psectraglaea carnosa*

State Status: **Special Concern**  
Federal Status: None

**Description:** The Pink Sallow Moth has bright, reddish-pink forewings, solid in color except for faint yellow outlines of the reniform spot, orbicular spot, and postmedian line; the hind wings are cream-colored, shaded with pink. Wingspan is 34-38 mm.

**Habitat:** The Pink Sallow Moth inhabits sandplain pitch pine/scrub oak barrens and heathlands; it is associated with ericaceous vegetation.

**Life History:** Adult moths fly in late September and October. Eggs overwinter, hatching in the spring. Larvae feed from spring through early summer, pupating by July and diapausing until the fall. The larval host plant(s) used by this species in nature have not been conclusively documented, but lowbush blueberries (*Vaccinium*) are probable.

**Range:** The Pink Sallow Moth is endemic to northeastern North America, ranging from southern Maine west through southern Quebec and Ontario to Michigan and Wisconsin, and south to northeastern Pennsylvania and southern New Jersey. Many historic populations have disappeared, and it is now rare and spottily distributed throughout this range. In Massachusetts this species occurs mainly on the southeast coastal plain, with a few additional inland populations.

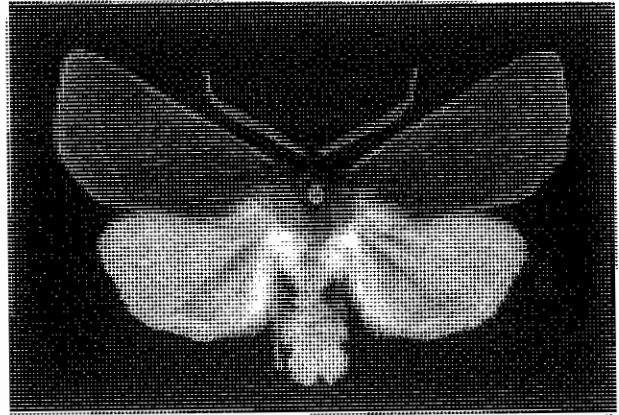


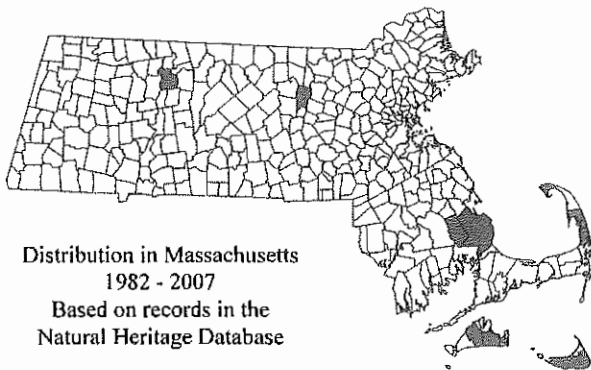
Photo by M.W. Nelson

### Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
									■	■	

### Threats

- Habitat loss
- Fire suppression
- Invasion by exotic plants
- Introduced generalist parasitoids
- Insecticide spraying
- Off-road vehicles
- Light pollution



Updated June 2007  
M.W. Nelson





# Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife  
Route 135, Westborough, MA 01581  
tel: (508) 389-6360; fax: (508) 389-7891  
[www.nhesp.org](http://www.nhesp.org)

## Pink Sallow Moth *Psectraglaea carnosa*

State Status: **Special Concern**  
Federal Status: None

**Description:** The Pink Sallow Moth has bright, reddish-pink forewings, solid in color except for faint yellow outlines of the reniform spot, orbicular spot, and postmedian line; the hind wings are cream-colored, shaded with pink. Wingspan is 34-38 mm.

**Habitat:** The Pink Sallow Moth inhabits sandplain pitch pine/scrub oak barrens and heathlands; it is associated with ericaceous vegetation.

**Life History:** Adult moths fly in late September and October. Eggs overwinter, hatching in the spring. Larvae feed from spring through early summer, pupating by July and diapausing until the fall. The larval host plant(s) used by this species in nature have not been conclusively documented, but lowbush blueberries (*Vaccinium*) are probable.

**Range:** The Pink Sallow Moth is endemic to northeastern North America, ranging from southern Maine west through southern Quebec and Ontario to Michigan and Wisconsin, and south to northeastern Pennsylvania and southern New Jersey. Many historic populations have disappeared, and it is now rare and spottily distributed throughout this range. In Massachusetts this species occurs mainly on the southeast coastal plain, with a few additional inland populations.

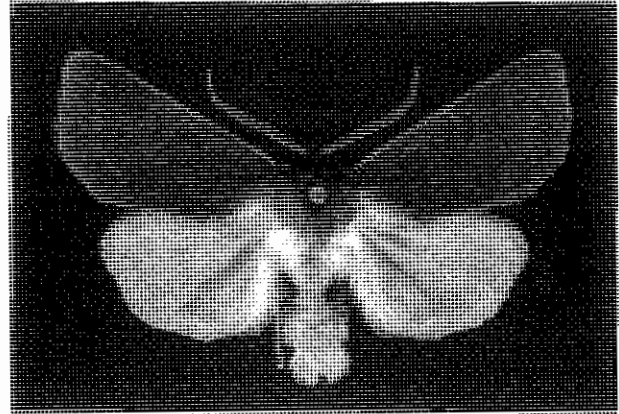


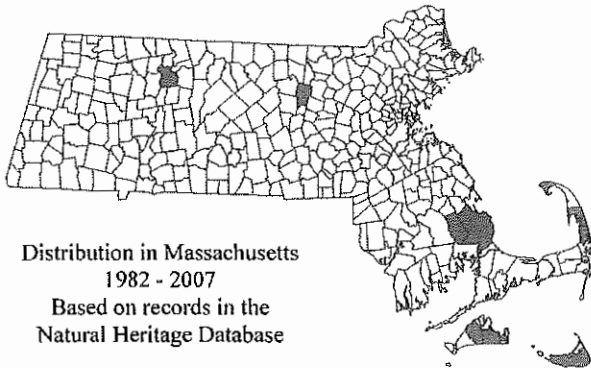
Photo by M.W. Nelson

### Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

### Threats

- Habitat loss
- Fire suppression
- Invasion by exotic plants
- Introduced generalist parasitoids
- Insecticide spraying
- Off-road vehicles
- Light pollution



Updated June 2007  
M.W. Nelson



# Natural Heritage & Endangered Species Program

Massachusetts Division of Fisheries & Wildlife  
Route 135, Westborough, MA 01581  
tel: (508) 389-6360; fax: (508) 389-7891  
[www.nhesp.org](http://www.nhesp.org)

## Pink Sallow Moth *Psectraglaea carnosa*

State Status: **Special Concern**  
Federal Status: None

**Description:** The Pink Sallow Moth has bright, reddish-pink forewings, solid in color except for faint yellow outlines of the reniform spot, orbicular spot, and postmedian line; the hind wings are cream-colored, shaded with pink. Wingspan is 34-38 mm.

**Habitat:** The Pink Sallow Moth inhabits sandplain pitch pine/scrub oak barrens and heathlands; it is associated with ericaceous vegetation.

**Life History:** Adult moths fly in late September and October. Eggs overwinter, hatching in the spring. Larvae feed from spring through early summer, pupating by July and diapausing until the fall. The larval host plant(s) used by this species in nature have not been conclusively documented, but lowbush blueberries (*Vaccinium*) are probable.

**Range:** The Pink Sallow Moth is endemic to northeastern North America, ranging from southern Maine west through southern Quebec and Ontario to Michigan and Wisconsin, and south to northeastern Pennsylvania and southern New Jersey. Many historic populations have disappeared, and it is now rare and spottily distributed throughout this range. In Massachusetts this species occurs mainly on the southeast coastal plain, with a few additional inland populations.

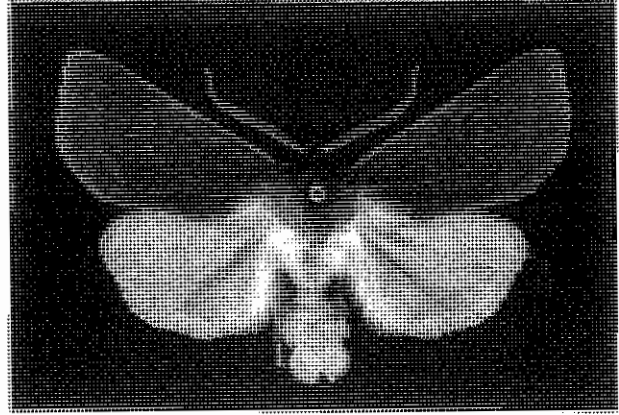


Photo by M.W. Nelson

### Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

### Threats

- Habitat loss
- Fire suppression
- Invasion by exotic plants
- Introduced generalist parasitoids
- Insecticide spraying
- Off-road vehicles
- Light pollution



Updated June 2007  
M.W. Nelson



## WETLAND INSPECTION REPORT

**April 9, 2013**

**Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108**

**APT Project No.: CT1411060**

**Attn: Alexandria Carter**

**Re: Wetland Inspection  
Proposed Verizon Wireless  
Palmer Pond Facility  
596 Pendleton Hill Road  
Voluntown, Connecticut**

Dear Ms. Carter,

At your request, Dean Gustafson, a Connecticut registered professional soil scientist with All-Points Technology Corp., P.C. ("APT") conducted an inspection of the above-referenced property on February 26, 2013 to determine the presence or absence of wetlands and watercourses. Specifically, the area of wetland investigation consisted of areas within a minimum of 200 feet of the proposed development ("Study Area"), located at 596 Pendleton Hill Road in Voluntown, Connecticut ("Subject Property"). APT understands that Verizon is proposing to construct a new telecommunications facility ("Facility") which will consist of a tower within a 50-foot by 50-foot fenced-enclosed compound area. Verizon Wireless antennas will be attached to the monopole tower with a 12-foot by 24-foot equipment shelter installed at its base. The proposed 12-foot wide gravel access drive will initiate from an existing farm road off Pendleton Hill Road that serves the agricultural property. The wetland investigation utilized delineation methodology consistent with both the Connecticut Inland Wetlands and Watercourses Act (IWWA) and the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012).

No wetlands or watercourses were identified within the Study Area. The nearest regulated area to the proposed Verizon development is an isolated wetland featured identified on CT DEEP Inland Wetland Soils mapping, located approximately 950 feet to the northwest of the proposed Facility on Pachaug State Forest property. Please refer to the enclosed Wetland Investigation Map for the approximate location of the identified resource area. General weather conditions encountered during the above-referenced inspection include high 30 ° F temperatures with generally cloudy skies and 0-3 inches of snow and 0-3 inches of ground frost.

### **Regulation of Wetlands:**

Wetlands and watercourses are regulated by local, state and federal regulations, with each regulatory agency differing slightly in their definition and regulatory authority of resource areas, as further discussed below. The proposed Facility is under the exclusive jurisdiction of the State of Connecticut Siting Council and therefore exempt from local regulation, although local wetland regulations are considered by the Siting Council. Wetlands

### **ALL-POINTS TECHNOLOGY CORPORATION, P.C.**

3 SADDLEBROOK DRIVE · KILLINGWORTH, CT 06419 · PHONE 860-663-1697 · FAX 860-663-0935

P.O. BOX 504 · 116 GRANDVIEW ROAD · CONWAY, NH 03818 · PHONE 603-496-5853 · FAX 603-447-2124

identified on the Site are considered Waters of the United States and therefore any activity that would result in direct impact would be subject to jurisdiction by the U.S. Army Corps of Engineers ("ACOE") New England District.

**Town of Voluntown:** The Town of Voluntown regulates activities within wetlands and watercourses and within 100 feet of wetlands and watercourses through administration of the Connecticut Inland Wetlands and Watercourses Act (IWWA).

**State of Connecticut:** **Freshwater Wetlands:** The IWWA requires the regulation of activities affecting or having the potential to affect wetlands under Sec. 22a-36 through 22a-45 of the Connecticut General Statutes. The IWWA is administered through local municipalities. The IWWA defines wetlands as areas of poorly drained, very poorly drained, floodplain, and alluvial soils, as delineated by a soil scientist. Watercourses are defined as bogs, swamps, or marshes, as well as lakes, ponds, rivers, streams, etc., whether natural or man-made, permanent or intermittent. Intermittent watercourse determinations are based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus; (2) the presence of standing or flowing water for duration longer than a particular storm incident; and (3) the presence of hydrophytic vegetation.

**ACOE:** The U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act. Waters of the United States are navigable waters, tributaries to navigable waters, wetlands adjacent to those waters, and/or isolated wetlands that have a demonstrated interstate commerce connection. The ACOE Wetlands Delineation Manual defines wetlands as "[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters is unlawful unless the work has been approved by the ACOE.

### **Soil Description:**

Soil types encountered during field investigation of the Study Area were generally consistent with digitally available soil survey information obtained from the Natural Resources Conservation Service. No wetland soils were identified in the Study Area. The non-wetland soils field-identified within the Study Area are classified as Charlton-Chatfield complex, Paxton and Montauk fine sandy loam, and Woodbridge fine sandy loam. Detailed descriptions of soil types are provided below.

#### **Upland Soils:**

The **Charlton** series is a very deep, well drained loamy soil formed in friable till. They are nearly level to very steep soils on till plains and hills. Depth to bedrock and the seasonal high water table is commonly more than 6 feet.

The **Chatfield** series consists of moderately deep, well drained, and somewhat excessively drained soils formed in till. They are nearly level to very steep soils on glaciated plains, hills, and ridges. Slope ranges from 0 to 70 percent. Crystalline bedrock is at depths of 20 to 40 inches. The soils formed in a moderately thick mantle of glacial till overlying granite, gneiss, or schist bedrock. Rock outcrops are rare to common and are limited to the more resistant bedrock.

The **Montauk** series consists of very deep, well drained soils formed in glacial till derived primarily from granitic materials. These soils are on upland till plains and moraines. Slope ranges from 0 to 35 percent. The landscape in some areas has many closed depressions, some of which are filled by perennial ponds or wet spots. The soils formed in thick moderately coarse or medium textured glacial till mantles underlain by firm sandy till. Some areas have very stony or extremely stony surfaces. The potential for runoff is low to high. Permeability is moderate or moderately rapid in the solum and slow or moderately slow in the substratum.

The **Paxton** series consists of well drained loamy soils formed in subglacial till. The soils are very deep to bedrock and moderately deep to a densic contact (known locally as hardpan). They are nearly level to steep soils on till plains, hills, and drumlins. The depth to the densic contact and material is commonly 20 to 40 inches but the range includes 18 to 40 inches. Depth to bedrock is commonly more than 6 feet. Rock fragments range from 5 to 35 percent by volume.

The **Woodbridge** series consists of moderately well drained loamy soils formed in compact, subglacial till. They are very deep to bedrock. They are nearly level to moderately steep soils on till plains, hills, and drumlins. Depth to the compact layer (hardpan) is 18 to 40 inches. Depth to bedrock is commonly more than 6 feet. Woodbridge soils have a seasonal high water table on top of the compact layer (18-40") from fall through late spring.

**Conclusion:**

There will be no activity (including any utility work, earth disturbance, etc.) in wetlands or watercourses or within 200 feet of any wetland or watercourse; the nearest wetland or watercourse area is over 900 feet away. As a result, the proposed Verizon development will not result in an adverse impact to wetland or watercourse resources.

If you have any questions regarding the above-referenced information, please feel free to contact me at (860) 984-9515.

Sincerely,  
All-Points Technology Corporation, P.C.



Dean Gustafson  
Professional Soil Scientist

Enclosure

---

# Wetlands Inspection Map

# Wetlands Inspection Map



Base Map Source: 2010 Bing Color  
Orthoimagery with 1-ft Resolution

- Legend**
- Proposed Tower Location
  - Proposed Access
  - Subject Property
  - Connecticut Parcel
  - CT DEEP Inland Wetland Soils

**Proposed Verizon Telecommunications Facility**  
**596 Pendleton Hill Road**  
**Voluntown, CT 06384**

**Tuesday, April 09, 2013**





**WETLANDS DELINEATION REPORT**

April 9, 2013

Ms. Alexandria Carter  
Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108

APT Project No.: CT1411060

Re: **Wetlands Delineation Report**  
**53 Gallup Road**  
**Voluntown, Connecticut**

Dear Ms. Carter,

All-Points Technology Corporation, P.C. ("APT") understands that a wireless telecommunications facility ("Facility") is proposed by Verizon Wireless at 53 Gallup Road in Voluntown, Connecticut ("site" or "subject property"). At your request, Dean Gustafson, a Connecticut registered Professional Soil Scientist conducted an inspection of the Subject Property on February 26, 2013 to determine the presence or absence of wetlands and watercourses. The delineation methodologies followed were consistent with both the Connecticut Inland Wetlands and Watercourses Act (IWWA) and the *Corps of Engineers Wetland Delineation Manual (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012)*. The results of this wetland investigation are provided below.

**Site and Project Description:**

The Subject Property consists of an approximately 261.6-acre agricultural property occupied by a number of barns, out-buildings, livestock pens, pastures, open fields and forest. The area proposed for the wireless communications Facility lies in the eastern extent of the subject property and is currently undeveloped, consisting primarily of upland forest and hillside seep wetland systems. The surrounding land-use consists of residential development to the west, additional agricultural activities to the south and west, and large tracts of forested land to the north and east (Pachaug State Forest).

Two wetland areas were identified and delineated in proximity to the proposed Facility. These wetlands consist primarily of a forested hillside seep that drains in to a potential vernal pool and a separate adjacent hillside seep system that flows to the north. The closest delineated wetland boundary to the proposed Facility is approximately 160 feet to the north. Please refer to the enclosed Wetlands Delineation Map for the approximate location of the identified wetland resource areas. Wetlands were marked with pink and blue plastic flagging tape numbered with the following sequence: WF 1-01 to 1-18 and WF 2-01 to 2-05. General weather conditions encountered during the above-referenced inspection include high 30 °F temperatures with generally cloudy skies. Weather conditions preceding the above-referenced inspection date resulted in ground conditions of 0-3 inches of snow accumulation and 0-3 inches of ground frost throughout the inspection.

**ALL-POINTS TECHNOLOGY CORPORATION, P.C.**

3 SADDLEBROOK DRIVE · KILLINGWORTH, CT 06419 · PHONE 860-663-1697 · FAX 860-663-0935

P.O. BOX 504 · 116 GRANDVIEW ROAD · CONWAY, NH 03818 · PHONE 603-496-5853 · FAX 603-447-2124



### **Regulation of Wetlands:**

Wetlands and watercourses are regulated by local, state and federal regulations, with each regulatory agency differing slightly in their definition and regulatory authority of resource areas, as further discussed below. The proposed Facility is under the exclusive jurisdiction of the State of Connecticut Siting Council and therefore exempt from local regulation, although local wetland regulations are considered by the Siting Council. Wetlands identified on the Site are considered Waters of the United States and therefore any activity that would result in direct impact would be subject to jurisdiction by the U.S. Army Corps of Engineers ("ACOE") New England District.

**Town of Voluntown:** The Town of Voluntown regulates activities within wetlands and watercourses and within 100 feet of wetlands and watercourses through administration of the Connecticut Inland Wetlands and Watercourses Act (IWWA).

**State of Connecticut:** **Freshwater Wetlands:** The IWWA requires the regulation of activities affecting or having the potential to affect wetlands under Sec. 22a-36 through 22a-45 of the Connecticut General Statutes. The IWWA is administered through local municipalities. The IWWA defines wetlands as areas of poorly drained, very poorly drained, floodplain, and alluvial soils, as delineated by a soil scientist. Watercourses are defined as bogs, swamps, or marshes, as well as lakes, ponds, rivers, streams, etc., whether natural or man-made, permanent or intermittent. Intermittent watercourse determinations are based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus; (2) the presence of standing or flowing water for a duration longer than a particular storm incident; and (3) the presence of hydrophytic vegetation.

**ACOE:** The U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act. Waters of the United States are navigable waters, tributaries to navigable waters, wetlands adjacent to those waters, and/or isolated wetlands that have a demonstrated interstate commerce connection. The ACOE Wetlands Delineation Manual defines wetlands as "[t]hose areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters is unlawful unless the work has been approved by the ACOE.

## **Soil Description:**

Soil types encountered throughout the site were generally consistent with digitally available soil survey information obtained from the Natural Resources Conservation Service (NRCS)<sup>1</sup>. The exception is the lack of mapped wetland soils on the site by NRCS, which was field identified as Ridgebury, Leicester, and Whitman soils. The non-wetland soils were examined along the wetland boundary and more distant upland areas during the delineation, including the Facility location. They are dominated by Charlton-Chatfield complex and Hollis-Chatfield-Rock outcrop complex. Detailed descriptions of wetland and upland soil types are provided below.

### **Wetland Soils:**

The **Leicester** series consists of very deep, poorly drained loamy soils formed in friable till. They are nearly level or gently sloping soils in drainageways and low-lying positions on hills. Depth to bedrock is commonly more than 6 feet. Rock fragments range from 5 to 35 percent by volume to a depth of 40 inches and up to 50 percent below 40 inches. Leicester soils have a water table at or near the surface much of the year.

The **Ridgebury** series consists of very deep, somewhat poorly and poorly drained soils formed in glacial till derived mainly from granite, gneiss and schist. They are nearly level to gently sloping soils in low areas in uplands. This series includes phases that are poorly drained and the wetter part of somewhat poorly drained. A perched, fluctuating water table above the dense till saturates the solum to or near the surface for 7 to 9 months of the year.

The **Whitman** series consists of very deep, very poorly drained soils formed in glacial till derived mainly from granite, gneiss, and schist. They are nearly level or gently sloping soils in depressions and drainageways on uplands. Depth to dense till is 12 to 30 inches. Some pedons have organic horizons overlying the A horizon. They are fibric hemic or sapric material, and are up to 5 inches thick. Whitman soils are found on nearly level and gently sloping soils in depressions and in drainage ways of glacial uplands. Slopes are typically 0 to 2 percent but range up to 8 percent where wetness is due to seepage water. This soil is very poorly drained. A perched water table, or excess seepage water, is at or near the surface for about 9 months of the year.

### **Upland Soils:**

The **Charlton** series is a very deep, well drained loamy soil formed in friable till. They are nearly level to very steep soils on till plains and hills. Depth to bedrock and the seasonal high water table is commonly more than 6 feet.

The **Chatfield** series consists of moderately deep, well drained, and somewhat excessively drained soils formed in till. They are nearly level to very steep soils on glaciated plains, hills, and ridges. Slope ranges from 0 to 70 percent. Crystalline bedrock is at depths of 20 to 40 inches. The soils formed in a moderately thick mantle of glacial till overlying granite, gneiss, or schist bedrock. Rock outcrops are rare to common and are limited to the more resistant bedrock.

The **Hollis** series consists of shallow, well drained and somewhat excessively drained soils formed in a thin mantle of glacial till derived mainly from gneiss, schist, and granite. They are nearly level to very steep upland soils on bedrock controlled hills and ridges. Depth to hard bedrock ranges from 10 to 20 inches. Bedrock outcrops vary from few to many.

---

<sup>1</sup> NRCS Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/>, accessed on March 8, 2013.

**Wetlands Discussion:**

**Wetland 1 Classification Summary:**

Wetland 1 <sup>2</sup>	System	Subsystem	Class	Subclass	Water Regime	Special Identifier
NW 1-01 - 1-10	Palustrine		Forested	Deciduous	Fluctuating	
<b>Watercourse Type</b> (none)	Perennial <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Tidal <input type="checkbox"/>	<b>Special Aquatic Habitat</b> (Potential Vernal Pool Habitat)	Vernal Pool <input checked="" type="checkbox"/>	Other <input type="checkbox"/>

**Wetland 1 Description:**

Wetland 1 is an isolated forested wetland located north-northeast of the proposed telecommunications facility. During the time of inspection inundation to a depth of approximately 18 inches was observed within a depression area of Wetland 1 (identified as Limits of Potential Vernal Pool on enclosed Wetlands Delineation Map). Due to time of year, obligate vernal pool species were not identified using the pool for breeding habitat. A narrow hillside seep located to the south-southeast provides some flow into the potential vernal pool. This wetland system is located within ablation glacial till controlled by shallow bedrock.

**Wetland 1 Dominant Vegetation:**

Dominant Wetland Species Common Name ( <i>Latin Name</i> )	Dominant Adjacent Upland Species Common Name ( <i>Latin Name</i> )
Red Maple ( <i>Acer rubrum</i> )	Eastern White Pine ( <i>Pinus strobus</i> )
Green Ash ( <i>Fraxinus pennsylvanica</i> )	Red Oak ( <i>Quercus rubra</i> )
	American Hornbeam ( <i>Carpinus caroliniana</i> )
	Red Maple ( <i>Acer rubrum</i> )
	Black Oak ( <i>Quercus velutina</i> )
	White Oak ( <i>Quercus alba</i> )
	Shagbark Hickory ( <i>Carya ovata</i> )
	Sugar Maple ( <i>Acer saccharum</i> )
	American Basswood ( <i>Tilia americana</i> )

**Wetland 2 Classification Summary:**

Wetland 2	System	Subsystem	Class	Subclass	Water Regime	Special Identifier
NW 2-01 - 2-05	Palustrine		Forested	Deciduous	Fluctuating	Forest
<b>Watercourse Type</b> (none)	Perennial <input type="checkbox"/>	Intermittent <input type="checkbox"/>	Tidal <input type="checkbox"/>	<b>Special Aquatic Habitat</b> (none)	Vernal Pool <input type="checkbox"/>	Other <input type="checkbox"/>

<sup>2</sup> Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm - contents>.

**Wetland 2 Description:**

Wetland 2 is narrow hillside seep located in a pasture currently housing a number of cows. This seep generally forms in the southeast corner of the cow pasture and drains downslope to the north.

**Wetland 2 Dominant Vegetation:**

<b>Dominant Wetland Species</b> Common Name ( <i>Latin Name</i> )	<b>Dominant Adjacent Upland Species</b> Common Name ( <i>Latin Name</i> )
Red Maple ( <i>Acer rubrum</i> )	Eastern White Pine ( <i>Pinus strobus</i> )
Red Oak ( <i>Quercus rubra</i> )	Red Oak ( <i>Quercus rubra</i> )
Green Ash ( <i>Fraxinus pennsylvanica</i> )	American Hornbeam ( <i>Carpinus caroliniana</i> )
Common Spicebush ( <i>Lindera benzoin</i> )	Red Maple ( <i>Acer rubrum</i> )
American Hornbeam ( <i>Carpinus caroliniana</i> )	Black Oak ( <i>Quercus velutina</i> )
Northern Arrow-wood ( <i>Viburnum recognitum</i> )	White Oak ( <i>Quercus alba</i> )
	Shagbark Hickory ( <i>Carya ovata</i> )
	Sugar Maple ( <i>Acer saccharum</i> )

**Summary:**


No likely adverse impact to wetlands is associated with the proposed development due to the approximate 160-foot separating distance. No temporary impacts to wetlands associated with the proposed construction activities are anticipated provided sedimentation and erosion controls are designed, installed and maintained during construction in accordance with the 2002 Connecticut Guidelines For Soil Erosion and Sediment Control.

Additionally, due to the time of year this wetland investigation was performed, the potential vernal pool resource identified was not confirmed to contain obligate vernal pool species. It is recommended that a follow up investigation of the potential vernal pool be conducted mid-April to early May to confirm the presence or absence of obligate vernal pool species. Depending upon the results of this investigation, additional protective measures may be recommended during construction to avoid potential impact to vernal pool species.

If you have any questions regarding the above-referenced information, please feel free to contact me at (860) 984-9515 or at dgustafson@allpointstech.com.

Sincerely,

All-Points Technology Corporation, P.C.



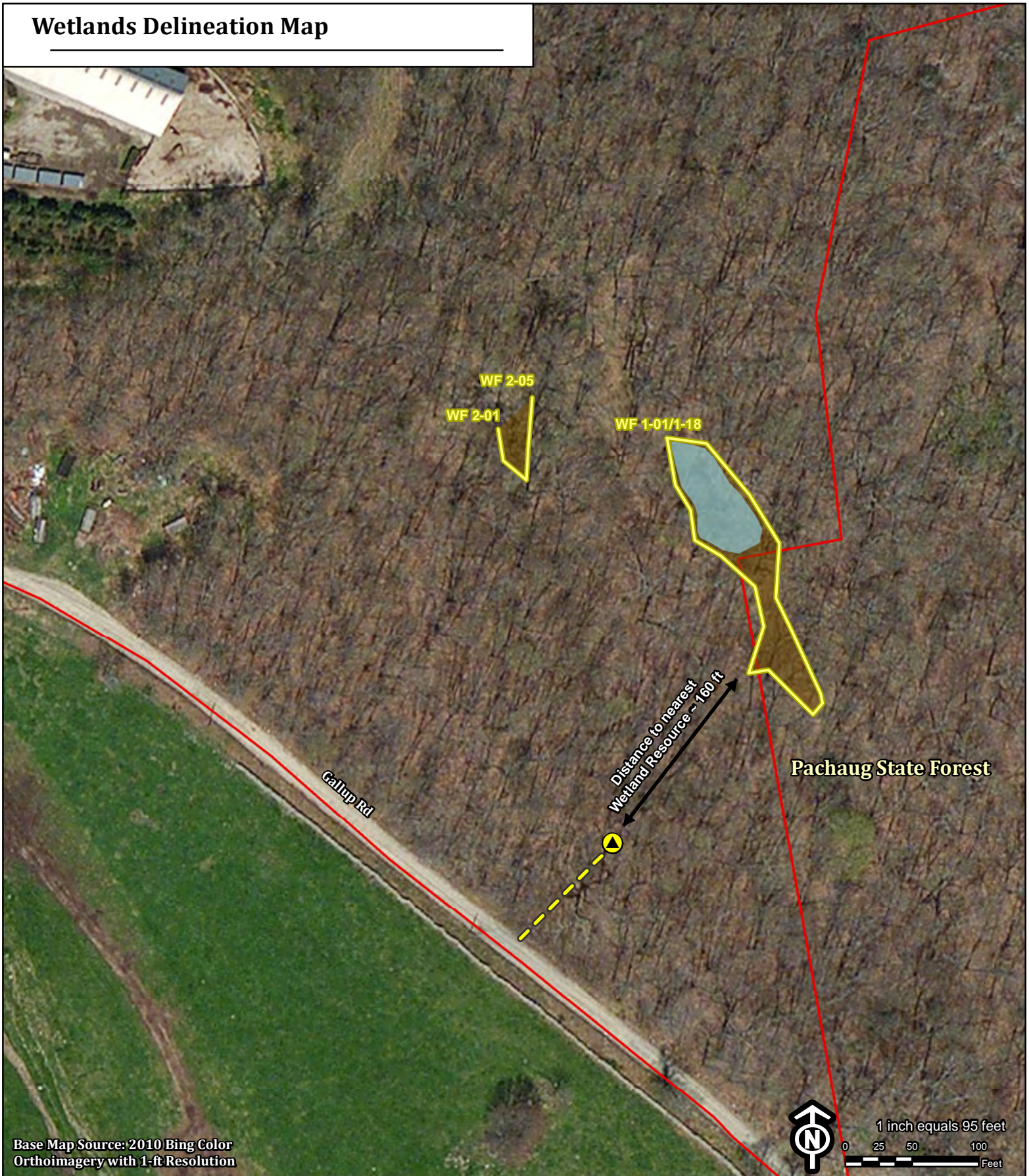
Dean Gustafson  
Professional Soil Scientist

Enclosure

---

# Wetlands Delineation Map

# Wetlands Delineation Map



Base Map Source: 2010 Bing Color  
Orthoimagery with 1-ft Resolution

- Legend**
- Proposed Tower Location
  - Proposed Access
  - APT Delineated Wetland Boundary
  - Approximate Wetland Area
  - Limits of Potential Vernal Pool
  - Connecticut Parcel

**Proposed Verizon Telecommunications Facility**  
**53 Gallup Road**  
**Voluntown, CT 06384**

**Tuesday, April 09, 2013**



# Flood Zone Map



Base Map Source: 2010 Bing Color Aerial Photograph with 1-foot Resolution

1 inch equals 833 feet  
0 125 250 500 Feet

## Legend

-  Site 1
-  Site 2
-  100 Year Flood Zone
-  500 Year Flood Zone
-  Floodway in Zone AE
-  Other Flood Areas

**Site 1 - 596 Pendleton Hill Road**  
**Site 2 - 53 Gallup Road**  
**Voluntown, Connecticut**

**Monday, April 22, 2013**

 **verizon**wireless

 **ALL-POINTS**  
TECHNOLOGY CORPORATION



MAP SCALE 1" = 500'



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0261G

**FIRM**  
FLOOD INSURANCE RATE MAP  
NEW LONDON COUNTY,  
CONNECTICUT  
ALL JURISDICTIONS

PANEL 261 OF 554  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

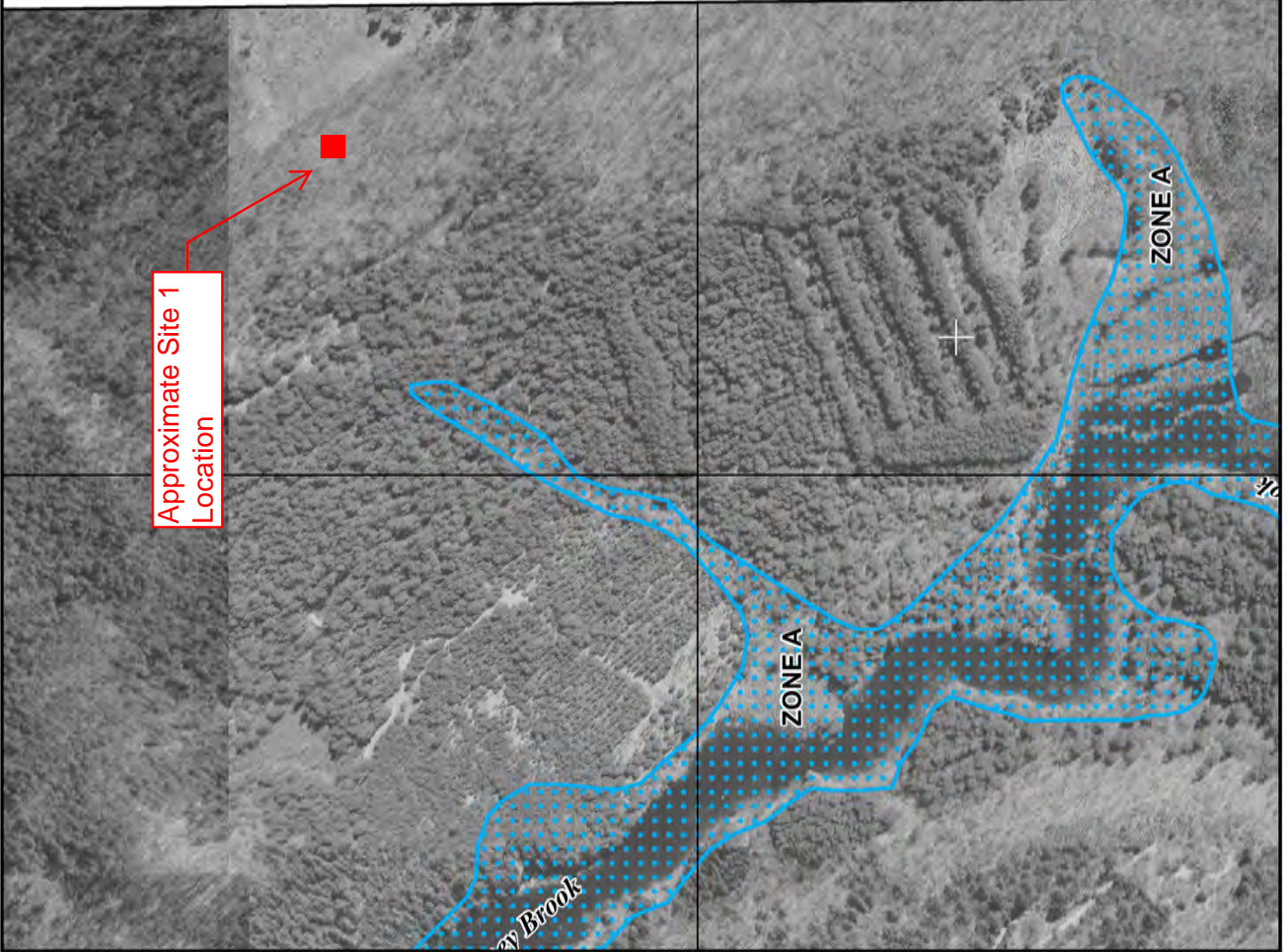
CONTAINS:  
COMMUNITY NUMBER PANEL SUFFIX  
GRISWOLD, TOWN OF 090173 0261 G  
VOLUNTTOWN, TOWN OF 090143 0261 G

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.

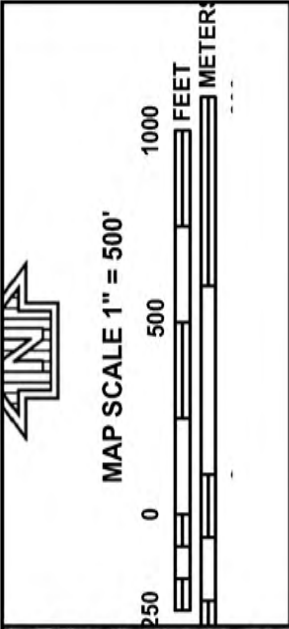


MAP NUMBER  
09011C0261G  
EFFECTIVE DATE  
JULY 18, 2011  
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)







**NATIONAL FLOOD INSURANCE PROGRAM**

**NFIP**

PANEL 0262G

**FIRM**

FLOOD INSURANCE RATE MAP

NEW LONDON COUNTY,  
CONNECTICUT

ALL JURISDICTIONS

PANEL 262 OF 554

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER 090143

VOLUNTOWN, TOWN OF

PANEL SUFFIX G

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 09011C0262G

EFFECTIVE DATE JULY 18, 2011

Federal Emergency Management Agency



This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

## TOWAIR Determination Results

### \*\*\* NOTICE \*\*\*

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

#### DETERMINATION Results

**Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.**

#### Your Specifications

##### NAD83 Coordinates

Latitude	41-32-26.9 north
Longitude	071-50-35.3 west

##### Measurements (Meters)

Overall Structure Height (AGL)	46.6
Support Structure Height (AGL)	45.7
Site Elevation (AMSL)	122.1

##### Structure Type

MTOWER - Monopole

#### Tower Construction Notifications

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

CLOSE WINDOW

## TOWAIR Determination Results

### \*\*\* NOTICE \*\*\*

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

#### DETERMINATION Results

**Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.**

#### Your Specifications

##### NAD83 Coordinates

Latitude	41-32-12.4 north
Longitude	071-49-45.2 west

##### Measurements (Meters)

Overall Structure Height (AGL)	46.6
Support Structure Height (AGL)	45.7
Site Elevation (AMSL)	139

##### Structure Type

MTOWER - Monopole

#### Tower Construction Notifications

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

CLOSE WINDOW

SITE NAME: Palmer Pond (Pendleton), CT  
SITE NUMBER: 2009383603  
ATTY/DATE: Saunders/2010

OPTION AND LAND LEASE AGREEMENT

This Agreement made this 25<sup>th</sup> day of October, 2010, between Benjamin Gallup and Byron D. Gallup, both with an address of 53 Gallup Road, Voluntown, Connecticut 06384, collectively hereinafter designated LESSOR and Celco Partnership d/b/a Verizon Wireless, with its principal offices located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

LESSOR is the owner of that certain real property located at 596 Pendleton Hill Road, in the Town of Voluntown, County of New London and State of Connecticut, as shown on the Tax Map No. 14 of the Town of Voluntown as Block 3/1, Lot 596 and being further described in Deed Book 39 at Page 255 as recorded in the Office of the Voluntown Town Clerk (the entirety of LESSOR's property is referred to hereinafter as the "Property"). LESSEE desires to obtain an option to lease a portion of said Property, being described as a 100' by 100' parcel containing 10,000 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a twenty (20') foot wide right-of-way extending from the nearest public right-of-way, Pendleton Hill Road, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof.

NOW THEREFORE, in consideration of the sum of :

to be paid by LESSEE to the LESSOR, the LESSOR hereby grants to LESSEE the right and option to lease said Premises, for the term and in accordance with the covenants and conditions set forth herein. The foregoing payment shall be made by LESSEE within forty five (45) days of execution of this Agreement or of receipt by LESSEE from LESSOR of the Rental Documentation, as defined in and in accordance with Paragraph 3 of the Agreement below, whichever occurs later. The providing by LESSOR of Rental Documentation to LESSEE shall be a prerequisite for the payment of the foregoing amount or any other option or rental payment, if applicable, by LESSEE, and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any payment(s) until Rental Documentation has been supplied to LESSEE.

The option may be exercised at any time on or prior to twelve (12) months after the date of this Agreement. If the option has not been so exercised, it shall be automatically extended for two additional periods of twelve (12) months each, unless LESSEE gives written notice to the LESSOR of the intent not to extend prior to the end of the then current option period. If the option is extended, LESSEE shall make an additional payment of

to LESSOR within thirty (30) days of the option being extended, provided LESSOR has supplied to LESSEE the Rental Documentation, as defined in and in accordance

with Paragraph 3 of the Agreement below. The time during which the option may be exercised may be further extended by mutual agreement in writing. If during said option period, or during the term of the lease, if the option is exercised, the LESSOR decides to subdivide, sell or change the status of the Property or his property contiguous thereto he shall immediately notify LESSEE in writing so that LESSEE can take steps necessary to protect LESSEE's interest in the Premises.

This option may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal; to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition or other business reorganization; or to any entity which acquires or receives an interest in the majority of communication towers of the LESSEE in the market defined by the Federal Communications Commission in which the Property is located. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder.

Should LESSEE fail to exercise this option or any extension thereof within the time herein limited, all rights and privileges granted hereunder shall be deemed completely surrendered, this option terminated, and LESSOR shall retain all money paid for the option, and no additional money shall be payable by either Party to the other.

LESSOR shall cooperate with LESSEE in its effort to obtain all certificates, permits and other approvals that may be required by any Federal, State or Local authorities which will permit LESSEE use of the Premises. LESSOR shall take no action which would adversely affect the status of the Property with respect to the proposed use by LESSEE.

The LESSOR shall permit LESSEE, during the option period, free ingress and egress to the Premises to conduct such surveys, inspections, structural strength analysis, subsurface soil tests, and other activities of a similar nature as LESSEE may deem necessary, at the sole cost of LESSEE. LESSEE agrees to restore the Property to substantially the same condition it was in prior to LESSEE's entry onto the Property.

LESSOR agrees to execute a Memorandum of this Option to Lease Agreement which LESSEE may record with the appropriate Recording Officer. The date set forth in the Memorandum of Option to Lease is for recording purposes only and bears no reference to commencement of either term or rent payments.

Notice of the exercise of the option shall be given by LESSEE to the LESSOR in writing by certified mail, return receipt requested. Notice shall be deemed effective on the date it is posted and thereupon the following agreement shall take effect:

## LAND LEASE AGREEMENT

This Agreement, made this \_\_\_\_\_ day of \_\_\_\_\_, 2010, between Benjamin Gallup and Byron D. Gallup, both with an address of 53 Gallup Road, Voluntown, Connecticut 06384, hereinafter collectively designated LESSOR and Cellco Partnership d/b/a Verizon Wireless, with its principal office located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

1. PREMISES. LESSOR hereby leases to LESSEE a portion of that certain parcel of property (the entirety of LESSOR's property is referred to hereinafter as the Property), located at 596 Pendleton Hill Road in the Town of Voluntown, County of New London and State of Connecticut, and being described as a 100' by 100' parcel containing 10,000 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a twenty (20') foot wide right-of-way extending from the nearest public right-of-way, Pendleton Hill Road, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof. The Property is also shown on the Tax Map No. 14 of the Town of Voluntown as Block 3/1, Lot 596 and is further described in Deed Book 39 at Page 255 as recorded in the Office of the Voluntown Town Clerk.

To the extent feasible and subject to approval by the public utility, all utilities shall be routed underground. In the event any public utility is unable to use the Rights of Way, the LESSOR hereby agrees to grant an additional right-of-way either to the LESSEE or to the public utility at no cost to the LESSEE.

2. SURVEY. LESSOR also hereby grants to LESSEE the right to survey the Property and the Premises, and said survey shall then become Exhibit "B" which shall be attached hereto and made a part hereof, and shall control in the event of boundary and access discrepancies between it and Exhibit "A". Cost for such work shall be borne by the LESSEE.

3. TERM; RENTAL. This Agreement shall be effective as of the date of execution by both Parties, provided, however, the initial term shall be for five (5) years and shall commence on the Commencement Date (as hereinafter defined) at which time rental payments shall commence and be due at a total annual rental of \_\_\_\_\_ Dollars \_\_\_\_\_ to be paid in equal monthly installments on the first day of the month, in advance, to LESSOR or to such other person, firm or place as LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date by notice given in accordance with Paragraph 23 below. Upon agreement of the Parties, LESSEE may pay

rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE. The Commencement Date shall be the first day of the month in which notice of the exercise of the option, as set forth above, is effective. However, LESSOR and LESSEE acknowledge and agree that initial rental payment(s) shall not actually be sent by LESSEE until thirty (30) days after the exercise of the option is effective.

Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE.

LESSOR hereby agrees to provide to LESSEE certain documentation (the "Rental Documentation") evidencing LESSOR's interest in, and right to receive payments under, this Agreement, including without limitation: (i) documentation, acceptable to LESSEE in LESSEE's reasonable discretion, evidencing LESSOR's good and sufficient title to and/or interest in the Property and right to receive rental payments and other benefits hereunder; (ii) a complete and fully executed Internal Revenue Service Form W-9, or equivalent, in a form acceptable to LESSEE, for any party to whom rental payments are to be made pursuant to this Agreement; and (iii) other documentation requested by LESSEE in LESSEE's reasonable discretion. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. The Rental Documentation shall be provided to LESSEE in accordance with the provisions of and at the address given in Paragraph 23. Delivery of Rental Documentation to LESSEE shall be a prerequisite for the payment of any rent by LESSEE and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments until Rental Documentation has been supplied to LESSEE as provided herein.

Within fifteen (15) days of obtaining an interest in the Property or this Agreement, any assignee(s) or transferee(s) of LESSOR shall provide to LESSEE Rental Documentation in the manner set forth in the preceding paragraph. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, any assignee(s) or transferee(s) of LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. Delivery of Rental Documentation to LESSEE by any assignee(s) or transferee(s) of LESSOR shall be a prerequisite for the payment of any rent by LESSEE to such party and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments to any assignee(s) or transferee(s) of LESSOR until Rental Documentation has been supplied to LESSEE as provided herein.

4. EXTENSIONS. This Agreement shall automatically be extended for four (4) additional five (5) year terms unless LESSEE terminates it at the end of the then current term by giving LESSOR written notice of the intent to terminate at least six (6) months prior to the end of the then current term.

5. ANNUAL INCREASES. The annual rental for each year of each term after the first year of the initial term shall increase by \_\_\_\_\_ of the annual rental payment with respect to the immediately preceding year.

6. ADDITIONAL EXTENSIONS. If at the end of the fourth (4th) five (5) year extension term this Agreement has not been terminated by either Party by giving to the other written notice of an intention to terminate it at least three (3) months prior to the end of such term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of five (5) years and for five (5) year terms thereafter until terminated by either Party by giving to the other written notice of its intention to so terminate at least three (3) months prior to the end of such term. Annual rental for each such additional five (5) year term shall be equal to the annual rental payable with respect to the immediately preceding five (5) year term. The initial term and all extensions shall be collectively referred to herein as the "Term".

7. TAXES. LESSEE shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property which LESSOR demonstrates is the result of LESSEE's use of the Premises and/or the installation, maintenance, and operation of the LESSEE's improvements, and any sales tax imposed on the rent (except to the extent that LESSEE is or may become exempt from the payment of sales tax in the jurisdiction in which the Property is located), including any increase in real estate taxes at the Property which LESSOR demonstrates arises from the LESSEE's improvements and/or LESSEE's use of the Premises. LESSOR and LESSEE shall each be responsible for the payment of any taxes, levies, assessments and other charges imposed including franchise and similar taxes imposed upon the business conducted by LESSOR or LESSEE at the Property. Notwithstanding the foregoing, LESSEE shall not have the obligation to pay any tax, assessment, or charge that LESSEE is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed provided that no lien attaches to the Property. Nothing in this Paragraph shall be construed as making LESSEE liable for any portion of LESSOR's income taxes in connection with any Property or otherwise. Except as set forth in this Paragraph, LESSOR shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property and shall do so prior to the imposition of any lien on the Property.

LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by LESSEE, there is a reduction, credit or repayment received by the LESSOR for any taxes previously paid by LESSEE, LESSOR agrees to promptly reimburse to LESSEE the amount of said reduction, credit or repayment. In the event that LESSEE does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, LESSOR will pursue such dispute at LESSEE's sole cost and expense upon written request of LESSEE.



8. USE; GOVERNMENTAL APPROVALS. LESSEE shall use the Premises for the purpose of constructing, maintaining, repairing and operating a communications facility and uses incidental thereto. A security fence consisting of chain link construction or similar but comparable construction shall be placed around the perimeter of the Premises (not including the access easement). All improvements, equipment, antennas and conduits shall be at LESSEE's expense and their installation shall be at the discretion and option of LESSEE. LESSEE shall have the right to replace, repair, add or otherwise modify its utilities, equipment, antennas and/or conduits or any portion thereof and the frequencies over which the equipment operates, whether the equipment, antennas, conduits or frequencies are specified or not on any exhibit attached hereto, during the Term. It is understood and agreed that LESSEE's ability to use the Premises is contingent upon its obtaining after the execution date of this Agreement all of the certificates, permits and other approvals (collectively the "Governmental Approvals") that may be required by any Federal, State or Local authorities as well as satisfactory soil boring tests which will permit LESSEE use of the Premises as set forth above. LESSOR shall cooperate with LESSEE in its effort to obtain such approvals and shall take no action which would adversely affect the status of the Property with respect to the proposed use thereof by LESSEE. In the event that (i) any of such applications for such Governmental Approvals should be finally rejected; (ii) any Governmental Approval issued to LESSEE is canceled, expires, lapses, or is otherwise withdrawn or terminated by governmental authority; (iii) LESSEE determines that such Governmental Approvals may not be obtained in a timely manner; (iv) LESSEE determines that any soil boring tests are unsatisfactory; (v) LESSEE determines that the Premises is no longer technically compatible for its use, or (vi) LESSEE, in its sole discretion, determines that the use the Premises is obsolete or unnecessary, LESSEE shall have the right to terminate this Agreement. Notice of LESSEE's exercise of its right to terminate shall be given to LESSOR in writing by certified mail, return receipt requested, and shall be effective upon the mailing of such notice by LESSEE, or upon such later date as designated by LESSEE. All rentals paid to said termination date shall be retained by LESSOR. Upon such termination, this Agreement shall be of no further force or effect except to the extent of the representations, warranties and indemnities made by each Party to the other hereunder. Otherwise, the LESSEE shall have no further obligations for the payment of rent to LESSOR.

9. INDEMNIFICATION. Subject to Paragraph 10 below, each Party shall indemnify and hold the other harmless against any claim of liability or loss from personal injury or property damage resulting from or arising out of the negligence or willful misconduct of the indemnifying Party, its employees, contractors or agents, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of the other Party, or its employees, contractors or agents.

10. INSURANCE.

a. The Parties hereby waive and release any and all rights of action for negligence against the other which may hereafter arise on account of damage to the Premises or to the Property, resulting from any fire, or other casualty of the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the Parties, or either of them. These waivers and releases shall apply between the Parties and they shall also apply to any claims under or through

either Party as a result of any asserted right of subrogation. All such policies of insurance obtained by either Party concerning the Premises or the Property shall waive the insurer's right of subrogation against the other Party.

b. LESSOR and LESSEE each agree that at its own cost and expense, each will maintain commercial general liability insurance with limits not less than \$1,000,000 for injury to or death of one or more persons in any one occurrence and \$500,000 for damage or destruction to property in any one occurrence. LESSOR and LESSEE each agree that it will include the other Party as an additional insured.

11. LIMITATION OF LIABILITY. Except for indemnification pursuant to paragraphs 9 and 29, neither Party shall be liable to the other, or any of their respective agents, representatives, employees for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability or otherwise.

12. ANNUAL TERMINATION. Notwithstanding anything to the contrary contained herein, provided LESSEE is not in default hereunder beyond applicable notice and cure periods, LESSEE shall have the right to terminate this Agreement upon the annual anniversary of the Commencement Date provided that three (3) months prior notice is given to LESSOR.

13. INTERFERENCE. LESSEE agrees to install equipment of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to any equipment of LESSOR or other lessees of the Property which existed on the Property prior to the date this Agreement is executed by the Parties. In the event any after-installed LESSEE's equipment causes such interference, and after LESSOR has notified LESSEE in writing of such interference, LESSEE will take all commercially reasonable steps necessary to correct and eliminate the interference, including but not limited to, at LESSEE's option, powering down such equipment and later powering up such equipment for intermittent testing. In no event will LESSOR be entitled to terminate this Agreement or relocate the equipment as long as LESSEE is making a good faith effort to remedy the interference issue. LESSOR agrees that LESSOR and/or any other tenants of the Property who currently have or in the future take possession of the Property will be permitted to install only such equipment that is of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to the then existing equipment of LESSEE. The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph and therefore, either Party shall have the right to equitable remedies, such as, without limitation, injunctive relief and specific performance.

14. REMOVAL AT END OF TERM. LESSEE shall, upon expiration of the Term, or within ninety (90) days after any earlier termination of the Agreement, remove its building(s), antenna structure(s) (except footings), equipment, conduits, fixtures and all personal property and restore the Premises to its original condition, reasonable wear and tear and casualty damage excepted. LESSOR agrees and acknowledges that all of the equipment, conduits, fixtures and personal property of LESSEE shall remain the personal property of LESSEE and LESSEE shall

have the right to remove the same at any time during the Term, whether or not said items are considered fixtures and attachments to real property under applicable Laws (as defined in Paragraph 33 below). If such time for removal causes LESSEE to remain on the Premises after termination of this Agreement, LESSEE shall pay rent at the then existing monthly rate or on the existing monthly pro-rata basis if based upon a longer payment term, until such time as the removal of the building, antenna structure, fixtures and all personal property are completed. If LESSEE shall fail to remove all such equipment within one hundred and twenty (120) days after the expiration of the Term, LESSOR may do so, at LESSEE's sole cost and expense.

15. HOLDOVER. LESSEE has no right to retain possession of the Premises or any part thereof beyond the expiration of that removal period set forth in Paragraph 14 herein, unless the Parties are negotiating a new lease or lease extension in good faith. In the event that the Parties are not in the process of negotiating a new lease or lease extension in good faith, LESSEE holds over in violation of Paragraph 14 and this Paragraph 15, then the rent then in effect payable from and after the time of the expiration or earlier removal period set forth in Paragraph 14 shall be equal to the rent applicable during the month immediately preceding such expiration or earlier termination.

16. RIGHT OF FIRST REFUSAL. If LESSOR elects, during the Term (i) to divide and sell or otherwise transfer that portion of the Property occupied by LESSEE, or (ii) grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, for the purpose of operating and maintaining communications facilities or the management thereof, with or without an assignment of this Agreement to such third party, LESSEE shall have the right of first refusal to meet any bona fide offer of sale or transfer on the same terms and conditions of such offer. If LESSEE fails to meet such bona fide offer within thirty (30) days after written notice thereof from LESSOR, LESSOR may sell or grant the easement or interest in that portion of the Property to such third person in accordance with the terms and conditions of such third party offer.

If LESSOR elects, during the Term, to sell or otherwise transfer all or any portion of the Property that includes LESSEE's tower compound, then LESSEE shall have the right of first offer to purchase from LESSOR a dividable parcel that includes the tower compound, at its fair market value as determined by an appraisal performed by a certified appraiser satisfactory to both LESSOR and LESSEE. LESSEE shall have forty-five (45) days after such notice thereof from LESSOR to submit an offer to LESSOR. If such offer is rejected, then LESSOR may sell the Property or portion thereof to any third party.

For purposes of this Paragraph, any transfer, bequest or devise of LESSOR's interest in the Property as a result of the death of LESSOR, whether by will or intestate succession, or any conveyance to LESSOR's family members by direct conveyance or by conveyance to a trust for the benefit of family members shall not be considered a sale of the Property for which LESSEE has any right of first refusal.

17. RIGHTS UPON SALE. Should LESSOR, at any time during the Term decide (i) to sell or transfer all or any part of the Property to a purchaser other than LESSEE, or (ii) to grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, such sale or grant of an easement or interest therein shall be under and subject to this Agreement and any such purchaser or transferee shall recognize LESSEE's rights hereunder under the terms of this Agreement. To the extent that LESSOR grants to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE for the purpose of operating and maintaining communications facilities or the management thereof and in conjunction therewith, assigns this Agreement to said third party, LESSOR shall not be released from its obligations to LESSEE under this Agreement, and LESSEE shall have the right to look to LESSOR and the third party for the full performance of this Agreement.

18. QUIET ENJOYMENT. LESSOR covenants that LESSEE, on paying the rent and performing the covenants herein, shall peaceably and quietly have, hold and enjoy the Premises.

19. TITLE. LESSOR represents and warrants to LESSEE as of the execution date of this Agreement, and covenants during the Term that LESSOR is seized of good and sufficient title and interest to the Property and has full authority to enter into and execute this Agreement. LESSOR further covenants during the Term that there are no liens, judgments or impediments of title on the Property, or affecting LESSOR's title to the same and that there are no covenants, easements or restrictions which prevent or adversely affect the use or occupancy of the Premises by LESSEE as set forth above.

20. INTEGRATION. It is agreed and understood that this Agreement contains all agreements, promises and understandings between LESSOR and LESSEE and that no verbal or oral agreements, promises or understandings shall be binding upon either LESSOR or LESSEE in any dispute, controversy or proceeding at law, and any addition, variation or modification to this Agreement shall be void and ineffective unless made in writing signed by the Parties. In the event any provision of the Agreement is found to be invalid or unenforceable, such finding shall not affect the validity and enforceability of the remaining provisions of this Agreement. The failure of either Party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights under the Agreement shall not waive such rights and such Party shall have the right to enforce such rights at any time and take such action as may be lawful and authorized under this Agreement, in law or in equity.

21. GOVERNING LAW. This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the Laws of the State in which the Property is located.

22. ASSIGNMENT. This Agreement may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal or to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property

is located by reason of a merger, acquisition or other business reorganization. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder. LESSEE may sublet the Premises within its sole discretion, upon notice to LESSOR. Any sublease that is entered into by LESSEE shall be subject to the provisions of this Agreement and shall be binding upon the successors, assigns, heirs and legal representatives of the respective Parties hereto.

23. NOTICES. All notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested or by commercial courier, provided the courier's regular business is delivery service and provided further that it guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or any other address that the Party to be notified may have designated to the sender by like notice):

LESSOR: Benjamin Gallup  
Byron D. Gallup  
53 Gallup Road  
Voluntown, Connecticut 06384

LESSEE: Celco Partnership  
d/b/a Verizon Wireless  
180 Washington Valley Road  
Bedminster, New Jersey 07921  
Attention: Network Real Estate

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

24. SUCCESSORS. This Agreement shall extend to and bind the heirs, personal representative, successors and assigns of the Parties hereto.

25. SUBORDINATION AND NON-DISTURBANCE. LESSOR shall obtain not later than fifteen (15) days following the execution of this Agreement, a Non-Disturbance Agreement, as defined below, from its existing mortgage(s), ground lessors and master lessors, if any, of the Property. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust or other security interest (a "Mortgage") by LESSOR which from time to time may encumber all or part of the Property or right-of-way; provided, however, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement for LESSEE's benefit in the form reasonably satisfactory to LESSEE, and containing the terms described below (the "Non-Disturbance Agreement"), and shall recognize LESSEE's right to remain in occupancy of and have access to the Premises as long as LESSEE is not in default of this Agreement beyond applicable notice and

cure periods. The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest or any purchaser of Lender's or its successor's interest (a "Purchaser") acquires an ownership interest in the Property, Lender or such successor-in-interest or Purchaser will (1) honor all of the terms of the Agreement, (2) fulfill LESSOR's obligations under the Agreement, and (3) promptly cure all of the then-existing LESSOR defaults under the Agreement. Such Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any) and on all successors and assigns of Lender and/or its participants and on all Purchasers. In return for such Non-Disturbance Agreement, LESSEE will execute an agreement for Lender's benefit in which LESSEE (1) confirms that the Agreement is subordinate to the Mortgage or other real property interest in favor of Lender, (2) agrees to attorn to Lender if Lender becomes the owner of the Property and (3) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. In the event LESSOR defaults in the payment and/or other performance of any mortgage or other real property interest encumbering the Property, LESSEE, may, at its sole option and without obligation, cure or correct LESSOR's default and upon doing so, LESSEE shall be subrogated to any and all rights, titles, liens and equities of the holders of such mortgage or other real property interest and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct such defaults.

26. RECORDING. LESSOR agrees to execute a Memorandum of this Agreement which LESSEE may record with the appropriate recording officer. The date set forth in the Memorandum of Lease is for recording purposes only and bears no reference to commencement of either the Term or rent payments.

27. DEFAULT.

a. In the event there is a breach by LESSEE with respect to any of the provisions of this Agreement or its obligations under it, including the payment of rent, LESSOR shall give LESSEE written notice of such breach. After receipt of such written notice, LESSEE shall have fifteen (15) days in which to cure any monetary breach and thirty (30) days in which to cure any non-monetary breach, provided LESSEE shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSEE commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSOR may not maintain any action or effect any remedies for default against LESSEE unless and until LESSEE has failed to cure the breach within the time periods provided in this Paragraph.

b. In the event there is a breach by LESSOR with respect to any of the provisions of this Agreement or its obligations under it, LESSEE shall give LESSOR written notice of such breach. After receipt of such written notice, LESSOR shall have thirty (30) days in which to cure any such breach, provided LESSOR shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSOR commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSEE may not

maintain any action or effect any remedies for default against LESSOR unless and until LESSOR has failed to cure the breach within the time periods provided in this Paragraph. Notwithstanding the foregoing to the contrary, it shall be a default under this Agreement if LESSOR fails, within five (5) days after receipt of written notice of such breach, to perform an obligation required to be performed by LESSOR if the failure to perform such an obligation interferes with LESSEE's ability to conduct its business on the Property; provided, however, that if the nature of LESSOR's obligation is such that more than five (5) days after such notice is reasonably required for its performance, then it shall not be a default under this Agreement if performance is commenced within such five (5) day period and thereafter diligently pursued to completion.

28. REMEDIES. Upon a default, the non-defaulting Party may at its option (but without obligation to do so), perform the defaulting Party's duty or obligation on the defaulting Party's behalf, including but not limited to the obtaining of reasonably required insurance policies. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefor. In the event of a default by either Party with respect to a material provision of this Agreement, without limiting the non-defaulting Party in the exercise of any right or remedy which the non-defaulting Party may have by reason of such default, the non-defaulting Party may terminate the Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Premises are located; provided, however, LESSOR shall use reasonable efforts to mitigate its damages in connection with a default by LESSEE. If LESSEE so performs any of LESSOR's obligations hereunder, the full amount of the reasonable and actual cost and expense incurred by LESSEE shall immediately be owing by LESSOR to LESSEE, and LESSOR shall pay to LESSEE upon demand the full undisputed amount thereof with interest thereon from the date of payment at the greater of (i) ten percent (10%) per annum, or (ii) the highest rate permitted by applicable Laws. Notwithstanding the foregoing, if LESSOR does not pay LESSEE the full undisputed amount within thirty (30) days of its receipt of an invoice setting forth the amount due from LESSOR, LESSEE may offset the full undisputed amount, including all accrued interest, due against all fees due and owing to LESSOR until the full undisputed amount, including all accrued interest, is fully reimbursed to LESSEE.

29. ENVIRONMENTAL.

a. LESSOR will be responsible for all obligations of compliance with any and all environmental and industrial hygiene laws, including any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene conditions or concerns as may now or at any time hereafter be in effect, that are or were in any way related to activity now conducted in, on, or in any way related to the Property, unless such conditions or concerns are caused by the specific activities of LESSEE in the Premises.

b. LESSOR shall hold LESSEE harmless and indemnify LESSEE from and assume all duties, responsibility and liability at LESSOR's sole cost and expense, for all duties, responsibilities, and liability (for payment of penalties, sanctions, forfeitures, losses, costs, or damages) and for responding to any action, notice, claim, order, summons, citation, directive,

litigation, investigation or proceeding which is in any way related to: a) failure to comply with any environmental or industrial hygiene law, including without limitation any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene concerns or conditions as may now or at any time hereafter be in effect, unless such non-compliance results from conditions caused by LESSEE; and b) any environmental or industrial hygiene conditions arising out of or in any way related to the condition of the Property or activities conducted thereon, unless such environmental conditions are caused by LESSEE.

c. LESSEE shall hold LESSOR harmless and indemnify LESSOR from and assume all duties, responsibility and liability at LESSEE's sole cost and expense, for all duties, responsibilities, and liability (for payment of penalties, sanctions, forfeitures, losses, costs, or damages) and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding which is in any way related to: a) failure to comply with any environmental or industrial hygiene law, including without limitation any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene concerns or conditions as may now or at any time hereafter be in effect, unless such compliance results from conditions caused by LESSOR; and b) any environmental or industrial hygiene conditions arising out of or in any way related to the condition of the Property or activities conducted thereon unless such environmental conditions are caused by LESSOR.

30. CASUALTY. In the event of damage by fire or other casualty to the Premises that cannot reasonably be expected to be repaired within forty-five (45) days following same or, if the Property is damaged by fire or other casualty so that such damage may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, then LESSEE may, at any time following such fire or other casualty, provided LESSOR has not completed the restoration required to permit LESSEE to resume its operation at the Premises, terminate this Agreement upon fifteen (15) days prior written notice to LESSOR. Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment, as of such termination date, with respect to payments due to the other under this Agreement. Notwithstanding the foregoing, the rent shall abate during the period of repair following such fire or other casualty in proportion to the degree to which LESSEE's use of the Premises is impaired.

31. CONDEMNATION. In the event of any condemnation of all or any portion of the Property, this Agreement shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever occurs first. If as a result of a partial condemnation of the Premises or Property, LESSEE, in LESSEE's sole discretion, is unable to use the Premises for the purposes intended hereunder, or if such condemnation may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, LESSEE may, at LESSEE's option, to be exercised in writing within fifteen (15) days after LESSOR shall have given LESSEE written notice of such taking (or in the absence of such notice, within fifteen (15) days after the condemning authority shall have taken possession) terminate this Agreement as of



the date the condemning authority takes such possession. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to the equipment, conduits, fixtures, its relocation costs and its damages and losses (but not for the loss of its leasehold interest). Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment as of such termination date with respect to payments due to the other under this Agreement. If LESSEE does not terminate this Agreement in accordance with the foregoing, this Agreement shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the same proportion as the rentable area of the Premises taken bears to the total rentable area of the Premises. In the event that this Agreement is not terminated by reason of such condemnation, LESSOR shall promptly repair any damage to the Premises caused by such condemning authority.

32. SUBMISSION OF AGREEMENT/PARTIAL INVALIDITY/AUTHORITY. The submission of this Agreement for examination does not constitute an offer to lease the Premises and this Agreement becomes effective only upon the full execution of this Agreement by the Parties. If any provision herein is invalid, it shall be considered deleted from this Agreement and shall not invalidate the remaining provisions of this Agreement. Each of the Parties hereto warrants to the other that the person or persons executing this Agreement on behalf of such Party has the full right, power and authority to enter into and execute this Agreement on such Party's behalf and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Agreement.

33. APPLICABLE LAWS. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, rules, regulations, ordinances, directives, covenants, easements, zoning and land use regulations, and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with Disabilities Act and laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with (a) all Laws relating solely to LESSEE's specific and unique nature of use of the Premises (other than general office use); and (b) all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises.


34. SURVIVAL. The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement. Additionally, any provisions of this Agreement which require performance subsequent to the termination or expiration of this Agreement shall also survive such termination or expiration.

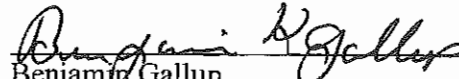
35. CAPTIONS. The captions contained in this Agreement are inserted for convenience only and are not intended to be part of the Agreement. They shall not affect or be utilized in the construction or interpretation of the Agreement.


36. SUBLEASING. LESSEE shall have the right, within its sole discretion, to sublet any portion of the Premises, provided that LESSOR shall be paid 10% of any rental payments paid by any sublessee(s), payable at the time rental payments are paid by any sublessee(s) to LESSEE. Such payments shall be made by such sublessee(s) directly to LESSOR.

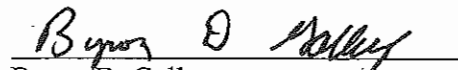
IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

LESSOR:

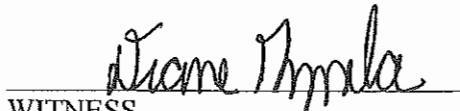
  
WITNESS


  
Benjamin Gallup

  
WITNESS

  
Byron D. Gallup

LESSEE: Cellco Partnership  
d/b/a Verizon Wireless

  
WITNESS

By:   
David R. Heverling  
Its: Area Vice President Network  
10 25 10

596 Pendleton Hill Road  
Voluntown, Connecticut

A certain piece or parcel of land, located in the Town of Voluntown, County of New London and State of Connecticut, together with the buildings and improvements thereon, and being more particularly bounded and described as follows:

A certain parcel of land located on the westerly side of Connecticut Route #49, also known as Pendleton Hill Road, being more particularly bounded and described as follows:

NORTHERLY and  
WESTERLY:

By land of the State of Connecticut;

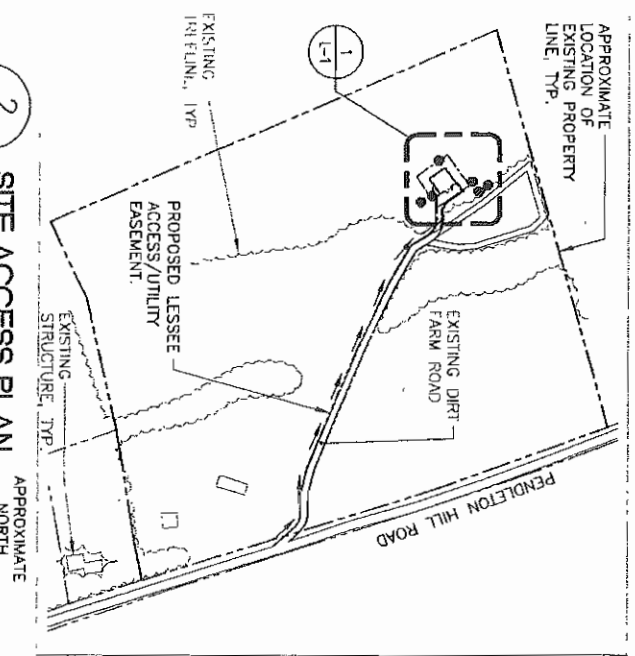
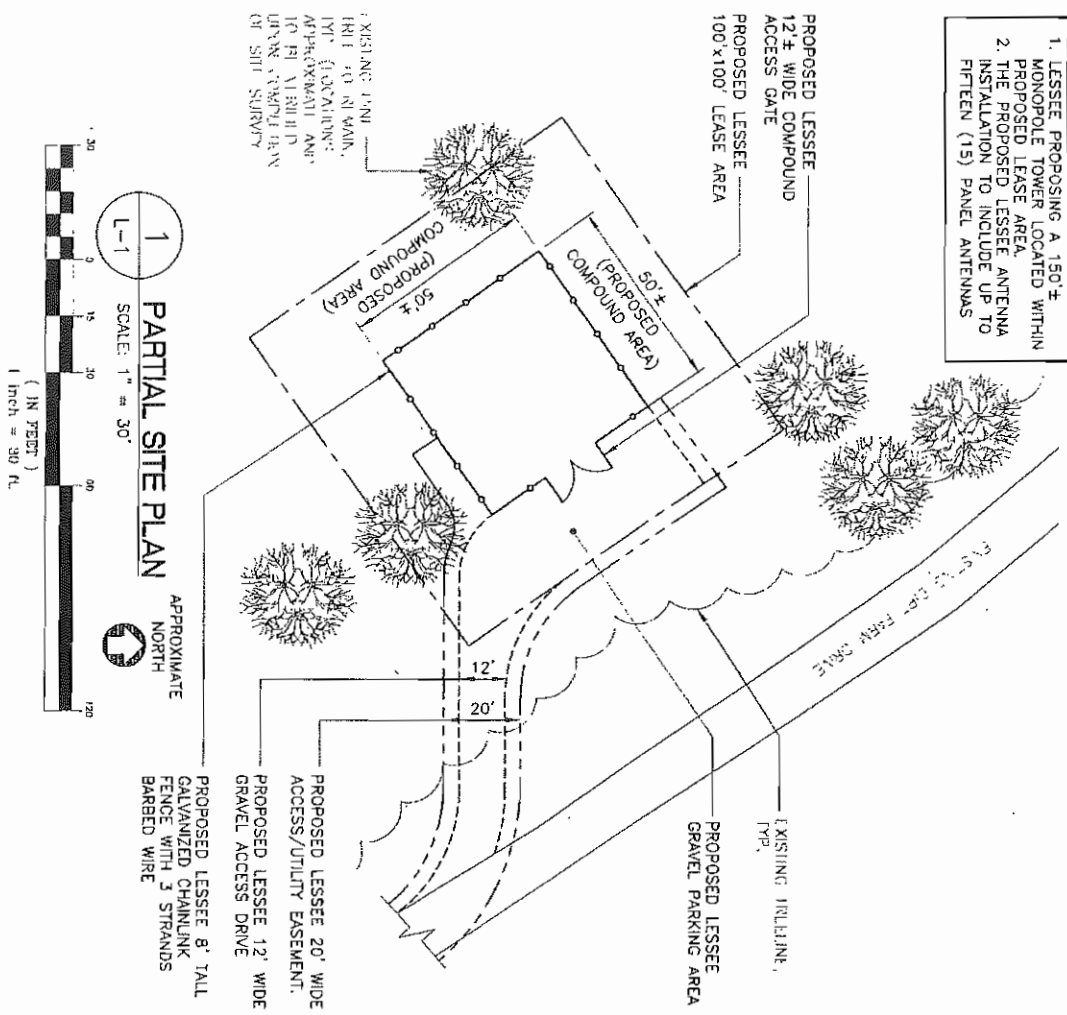
EASTERLY:

By Connecticut Highway Route #49, also known as Pendleton Hill Road;

SOUTHERLY:

By lands now or formerly of Toivo Matson.

- TOWER NOTES:**
1. LESSEE PROPOSING A 150'± MONOPOLE TOWER LOCATED WITHIN PROPOSED LEASE AREA.
  2. THE PROPOSED LESSEE ANTENNA INSTALLATION TO INCLUDE UP TO FIFTEEN (15) PANEL ANTENNAS



**LEASE EXHIBIT**

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

**SITE COORDINATES:**  
(TAKEN FROM HANDHELD GPS)  
LAT: 41°-32'-27"  
LONG: 71°-50'-35"

**GROUND ELEVATION:** 415' ± A.M.S.L.  
(REFERENCED FROM TOPO MAP)

**LEGEND:**  
SITE ACCESS ALONG EXISTING DRIVE

<p>PROJECT NO. L-1</p>	<p>Cesco Partnership d/b/a Verizon Wireless</p> <p><b>PALMER POND</b></p> <p>596 PENDLETON HILL ROAD VOLUNTOWN, CT 06384</p>	<p><b>CEN TEK</b> engineering Centered on Solutions™ www.CentekEng.com</p> <p>(203) 498-0550 (203) 498-6587 Fax 63-2 North Brookland Road, Beacon, CT 06045</p>	<p>PROFESSIONAL ENGINEER SEAL</p>	<table border="1"> <tr> <th>REVISION</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REVISION	DATE	BY	DESCRIPTION																
	REVISION	DATE	BY	DESCRIPTION																				
<p>DATE: 06/29/10 DRAWN BY: [Signature] CHECKED BY: [Signature]</p>	<p>RECORDING BY: [Signature] DATE: [Signature]</p>																							

SITE NAME: Palmer Pond (Gallup), CT  
SITE NUMBER: 2009383603  
ATTY/DATE: Saunders/2010

### OPTION AND LAND LEASE AGREEMENT

This Agreement made this 25<sup>th</sup> day of October, 2010, between Benjamin Gallup and Byron D. Gallup, both with an address of 53 Gallup Road, Voluntown, Connecticut 06384, collectively hereinafter designated LESSOR and Celco Partnership d/b/a Verizon Wireless, with its principal offices located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

LESSOR is the owner of that certain real property located at 53 Gallup Road in the Town of Voluntown, County of New London and State of Connecticut, as shown on the Tax Map No. 14 of the Town of Voluntown as Block 4, Lot 53 and being further described in Deed Book 39 at Page 255 as recorded in the Office of the Voluntown Town Clerk (the entirety of LESSOR's property is referred to hereinafter as the "Property"). LESSEE desires to obtain an option to lease a portion of said Property, being described as a 100' by 100' parcel containing 10,000 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a twenty (20') foot wide right-of-way extending from the nearest public right-of-way, Gallup Road, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof.

NOW THEREFORE, in consideration of the sum of \_\_\_\_\_ to be paid by LESSEE to the LESSOR, the LESSOR hereby grants to LESSEE the right and option to lease said Premises, for the term and in accordance with the covenants and conditions set forth herein. The foregoing payment shall be made by LESSEE within forty five (45) days of execution of this Agreement or of receipt by LESSEE from LESSOR of the Rental Documentation, as defined in and in accordance with Paragraph 3 of the Agreement below, whichever occurs later. The providing by LESSOR of Rental Documentation to LESSEE shall be a prerequisite for the payment of the foregoing amount or any other option or rental payment, if applicable, by LESSEE, and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any payment(s) until Rental Documentation has been supplied to LESSEE.

The option may be exercised at any time on or prior to twelve (12) months after the date of this Agreement. If the option has not been so exercised, it shall be automatically extended for two additional periods of twelve (12) months each, unless LESSEE gives written notice to the LESSOR of the intent not to extend prior to the end of the then current option period. If the option is extended, LESSEE shall make an additional payment of \_\_\_\_\_ Dollars to LESSOR within thirty (30) days of the option being extended, provided LESSOR has supplied to LESSEE the Rental Documentation, as defined in and in accordance with Paragraph 3 of the Agreement below. The time during which the option may be exercised

may be further extended by mutual agreement in writing. If during said option period, or during the term of the lease, if the option is exercised, the LESSOR decides to subdivide, sell or change the status of the Property or his property contiguous thereto he shall immediately notify LESSEE in writing so that LESSEE can take steps necessary to protect LESSEE's interest in the Premises.

This option may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal; to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition or other business reorganization; or to any entity which acquires or receives an interest in the majority of communication towers of the LESSEE in the market defined by the Federal Communications Commission in which the Property is located. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder.

Should LESSEE fail to exercise this option or any extension thereof within the time herein limited, all rights and privileges granted hereunder shall be deemed completely surrendered, this option terminated, and LESSOR shall retain all money paid for the option, and no additional money shall be payable by either Party to the other.

LESSOR shall cooperate with LESSEE in its effort to obtain all certificates, permits and other approvals that may be required by any Federal, State or Local authorities which will permit LESSEE use of the Premises. LESSOR shall take no action which would adversely affect the status of the Property with respect to the proposed use by LESSEE.

The LESSOR shall permit LESSEE, during the option period, free ingress and egress to the Premises to conduct such surveys, inspections, structural strength analysis, subsurface soil tests, and other activities of a similar nature as LESSEE may deem necessary, at the sole cost of LESSEE. LESSEE agrees to restore the Property to substantially the same condition it was in prior to LESSEE's entry onto the Property.

LESSOR agrees to execute a Memorandum of this Option to Lease Agreement which LESSEE may record with the appropriate Recording Officer. The date set forth in the Memorandum of Option to Lease is for recording purposes only and bears no reference to commencement of either term or rent payments.

Notice of the exercise of the option shall be given by LESSEE to the LESSOR in writing by certified mail, return receipt requested. Notice shall be deemed effective on the date it is posted and thereupon the following agreement shall take effect:

## LAND LEASE AGREEMENT

This Agreement, made this \_\_\_\_\_ day of \_\_\_\_\_, 2010, between Benjamin Gallup and Byron D. Gallup, both with an address of 53 Gallup Road, Voluntown, Connecticut 06384, hereinafter collectively designated LESSOR and Cellco Partnership d/b/a Verizon Wireless, with its principal office located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

1. PREMISES. LESSOR hereby leases to LESSEE a portion of that certain parcel of property (the entirety of LESSOR's property is referred to hereinafter as the Property), located at 53 Gallup Road in the Town of Voluntown, County of New London and State of Connecticut, and being described as a 100' by 100' parcel containing 10,000 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a twenty (20') foot wide right-of-way extending from the nearest public right-of-way, Gallup Road, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof. The Property is also shown on the Tax Map No. 14 of the Town of Voluntown as Block 4, Lot 53 and is further described in Deed Book 39 at Page 255 as recorded in the Office of the Voluntown Town Clerk.

To the extent feasible and subject to approval by the public utility, all utilities shall be routed underground. In the event any public utility is unable to use the Rights of Way, the LESSOR hereby agrees to grant an additional right-of-way either to the LESSEE or to the public utility at no cost to the LESSEE.

2. SURVEY. LESSOR also hereby grants to LESSEE the right to survey the Property and the Premises, and said survey shall then become Exhibit "B" which shall be attached hereto and made a part hereof, and shall control in the event of boundary and access discrepancies between it and Exhibit "A". Cost for such work shall be borne by the LESSEE.

3. TERM; RENTAL. This Agreement shall be effective as of the date of execution by both Parties, provided, however, the initial term shall be for five (5) years and shall commence on the Commencement Date (as hereinafter defined) at which time rental payments shall commence and be due at a total annual rental of \_\_\_\_\_ Dollars to be paid in equal monthly installments on the first day of the month, in advance, to LESSOR or to such other person, firm or place as LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date by notice given in accordance with Paragraph 23 below. Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE. The Commencement Date shall be the first day of the month in which notice of the exercise of the option, as set forth above, is

effective. However, LESSOR and LESSEE acknowledge and agree that initial rental payment(s) shall not actually be sent by LESSEE until thirty (30) days after the exercise of the option is effective.

Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE.

LESSOR hereby agrees to provide to LESSEE certain documentation (the "Rental Documentation") evidencing LESSOR's interest in, and right to receive payments under, this Agreement, including without limitation: (i) documentation, acceptable to LESSEE in LESSEE's reasonable discretion, evidencing LESSOR's good and sufficient title to and/or interest in the Property and right to receive rental payments and other benefits hereunder; (ii) a complete and fully executed Internal Revenue Service Form W-9, or equivalent, in a form acceptable to LESSEE, for any party to whom rental payments are to be made pursuant to this Agreement; and (iii) other documentation requested by LESSEE in LESSEE's reasonable discretion. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. The Rental Documentation shall be provided to LESSEE in accordance with the provisions of and at the address given in Paragraph 23. Delivery of Rental Documentation to LESSEE shall be a prerequisite for the payment of any rent by LESSEE and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments until Rental Documentation has been supplied to LESSEE as provided herein.

Within fifteen (15) days of obtaining an interest in the Property or this Agreement, any assignee(s) or transferee(s) of LESSOR shall provide to LESSEE Rental Documentation in the manner set forth in the preceding paragraph. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, any assignee(s) or transferee(s) of LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. Delivery of Rental Documentation to LESSEE by any assignee(s) or transferee(s) of LESSOR shall be a prerequisite for the payment of any rent by LESSEE to such party and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments to any assignee(s) or transferee(s) of LESSOR until Rental Documentation has been supplied to LESSEE as provided herein.

4. EXTENSIONS. This Agreement shall automatically be extended for four (4) additional five (5) year terms unless LESSEE terminates it at the end of the then current term by giving LESSOR written notice of the intent to terminate at least six (6) months prior to the end of the then current term.

5. ANNUAL INCREASES. The annual rental for each year of each term after the first year of the initial term shall increase by \_\_\_\_\_ of the annual rental payment with respect to the immediately preceding year.



6. ADDITIONAL EXTENSIONS. If at the end of the fourth (4th) five (5) year extension term this Agreement has not been terminated by either Party by giving to the other written notice of an intention to terminate it at least three (3) months prior to the end of such term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of five (5) years and for five (5) year terms thereafter until terminated by either Party by giving to the other written notice of its intention to so terminate at least three (3) months prior to the end of such term. Annual rental for each such additional five (5) year term shall be equal to the annual rental payable with respect to the immediately preceding five (5) year term. The initial term and all extensions shall be collectively referred to herein as the "Term".

7. TAXES. LESSEE shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property which LESSOR demonstrates is the result of LESSEE's use of the Premises and/or the installation, maintenance, and operation of the LESSEE's improvements, and any sales tax imposed on the rent (except to the extent that LESSEE is or may become exempt from the payment of sales tax in the jurisdiction in which the Property is located), including any increase in real estate taxes at the Property which LESSOR demonstrates arises from the LESSEE's improvements and/or LESSEE's use of the Premises. LESSOR and LESSEE shall each be responsible for the payment of any taxes, levies, assessments and other charges imposed including franchise and similar taxes imposed upon the business conducted by LESSOR or LESSEE at the Property. Notwithstanding the foregoing, LESSEE shall not have the obligation to pay any tax, assessment, or charge that LESSEE is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed provided that no lien attaches to the Property. Nothing in this Paragraph shall be construed as making LESSEE liable for any portion of LESSOR's income taxes in connection with any Property or otherwise. Except as set forth in this Paragraph, LESSOR shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property and shall do so prior to the imposition of any lien on the Property.

LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by LESSEE, there is a reduction, credit or repayment received by the LESSOR for any taxes previously paid by LESSEE, LESSOR agrees to promptly reimburse to LESSEE the amount of said reduction, credit or repayment. In the event that LESSEE does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, LESSOR will pursue such dispute at LESSEE's sole cost and expense upon written request of LESSEE.

8. USE; GOVERNMENTAL APPROVALS. LESSEE shall use the Premises for the purpose of constructing, maintaining, repairing and operating a communications facility and uses incidental thereto. A security fence consisting of chain link construction or similar but comparable construction shall be placed around the perimeter of the Premises (not including the access easement). All improvements, equipment, antennas and conduits shall be at LESSEE's expense and

their installation shall be at the discretion and option of LESSEE. LESSEE shall have the right to replace, repair, add or otherwise modify its utilities, equipment, antennas and/or conduits or any portion thereof and the frequencies over which the equipment operates, whether the equipment, antennas, conduits or frequencies are specified or not on any exhibit attached hereto, during the Term. It is understood and agreed that LESSEE's ability to use the Premises is contingent upon its obtaining after the execution date of this Agreement all of the certificates, permits and other approvals (collectively the "Governmental Approvals") that may be required by any Federal, State or Local authorities as well as satisfactory soil boring tests which will permit LESSEE use of the Premises as set forth above. LESSOR shall cooperate with LESSEE in its effort to obtain such approvals and shall take no action which would adversely affect the status of the Property with respect to the proposed use thereof by LESSEE. In the event that (i) any of such applications for such Governmental Approvals should be finally rejected; (ii) any Governmental Approval issued to LESSEE is canceled, expires, lapses, or is otherwise withdrawn or terminated by governmental authority; (iii) LESSEE determines that such Governmental Approvals may not be obtained in a timely manner; (iv) LESSEE determines that any soil boring tests are unsatisfactory; (v) LESSEE determines that the Premises is no longer technically compatible for its use, or (vi) LESSEE, in its sole discretion, determines that the use the Premises is obsolete or unnecessary, LESSEE shall have the right to terminate this Agreement. Notice of LESSEE's exercise of its right to terminate shall be given to LESSOR in writing by certified mail, return receipt requested, and shall be effective upon the mailing of such notice by LESSEE, or upon such later date as designated by LESSEE. All rentals paid to said termination date shall be retained by LESSOR. Upon such termination, this Agreement shall be of no further force or effect except to the extent of the representations, warranties and indemnities made by each Party to the other hereunder. Otherwise, the LESSEE shall have no further obligations for the payment of rent to LESSOR.

9. INDEMNIFICATION. Subject to Paragraph 10 below, each Party shall indemnify and hold the other harmless against any claim of liability or loss from personal injury or property damage resulting from or arising out of the negligence or willful misconduct of the indemnifying Party, its employees, contractors or agents, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of the other Party, or its employees, contractors or agents.

10. INSURANCE.

a. The Parties hereby waive and release any and all rights of action for negligence against the other which may hereafter arise on account of damage to the Premises or to the Property, resulting from any fire, or other casualty of the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the Parties, or either of them. These waivers and releases shall apply between the Parties and they shall also apply to any claims under or through either Party as a result of any asserted right of subrogation. All such policies of insurance obtained by either Party concerning the Premises or the Property shall waive the insurer's right of subrogation against the other Party.

b. LESSOR and LESSEE each agree that at its own cost and expense, each will maintain commercial general liability insurance with limits not less than \$1,000,000 for injury to or death of one or more persons in any one occurrence and \$500,000 for damage or destruction to property in any one occurrence. LESSOR and LESSEE each agree that it will include the other Party as an additional insured.

11. LIMITATION OF LIABILITY. Except for indemnification pursuant to paragraphs 9 and 29, neither Party shall be liable to the other, or any of their respective agents, representatives, employees for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability or otherwise.

12. ANNUAL TERMINATION. Notwithstanding anything to the contrary contained herein, provided LESSEE is not in default hereunder beyond applicable notice and cure periods, LESSEE shall have the right to terminate this Agreement upon the annual anniversary of the Commencement Date provided that three (3) months prior notice is given to LESSOR.

13. INTERFERENCE. LESSEE agrees to install equipment of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to any equipment of LESSOR or other lessees of the Property which existed on the Property prior to the date this Agreement is executed by the Parties. In the event any after-installed LESSEE's equipment causes such interference, and after LESSOR has notified LESSEE in writing of such interference, LESSEE will take all commercially reasonable steps necessary to correct and eliminate the interference, including but not limited to, at LESSEE's option, powering down such equipment and later powering up such equipment for intermittent testing. In no event will LESSOR be entitled to terminate this Agreement or relocate the equipment as long as LESSEE is making a good faith effort to remedy the interference issue. LESSOR agrees that LESSOR and/or any other tenants of the Property who currently have or in the future take possession of the Property will be permitted to install only such equipment that is of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to the then existing equipment of LESSEE. The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph and therefore, either Party shall have the right to equitable remedies, such as, without limitation, injunctive relief and specific performance.

14. REMOVAL AT END OF TERM. LESSEE shall, upon expiration of the Term, or within ninety (90) days after any earlier termination of the Agreement, remove its building(s), antenna structure(s) (except footings), equipment, conduits, fixtures and all personal property and restore the Premises to its original condition, reasonable wear and tear and casualty damage excepted. LESSOR agrees and acknowledges that all of the equipment, conduits, fixtures and personal property of LESSEE shall remain the personal property of LESSEE and LESSEE shall have the right to remove the same at any time during the Term, whether or not said items are considered fixtures and attachments to real property under applicable Laws (as defined in Paragraph 33 below). If such time for removal causes LESSEE to remain on the Premises after

termination of this Agreement, LESSEE shall pay rent at the then existing monthly rate or on the existing monthly pro-rata basis if based upon a longer payment term, until such time as the removal of the building, antenna structure, fixtures and all personal property are completed. If LESSEE shall fail to remove all such equipment within one hundred and twenty (120) days after the expiration of the Term, LESSOR may do so, at LESSEE's sole cost and expense.

15. HOLDOVER. LESSEE has no right to retain possession of the Premises or any part thereof beyond the expiration of that removal period set forth in Paragraph 14 herein, unless the Parties are negotiating a new lease or lease extension in good faith. In the event that the Parties are not in the process of negotiating a new lease or lease extension in good faith, LESSEE holds over in violation of Paragraph 14 and this Paragraph 15, then the rent then in effect payable from and after the time of the expiration or earlier removal period set forth in Paragraph 14 shall be equal to the rent applicable during the month immediately preceding such expiration or earlier termination.

16. RIGHT OF FIRST REFUSAL. If LESSOR elects, during the Term (i) to divide and sell or otherwise transfer that portion of the Property occupied by LESSEE, or (ii) grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, for the purpose of operating and maintaining communications facilities or the management thereof, with or without an assignment of this Agreement to such third party, LESSEE shall have the right of first refusal to meet any bona fide offer of sale or transfer on the same terms and conditions of such offer. If LESSEE fails to meet such bona fide offer within thirty (30) days after written notice thereof from LESSOR, LESSOR may sell or grant the easement or interest in that portion of the Property to such third person in accordance with the terms and conditions of such third party offer.

If LESSOR elects, during the Term, to sell or otherwise transfer all or any portion of the Property that includes LESSEE's tower compound, then LESSEE shall have the right of first offer to purchase from LESSOR a dividable parcel that includes the tower compound, at its fair market value as determined by an appraisal performed by a certified appraiser satisfactory to both LESSOR and LESSEE. LESSEE shall have forty-five (45) days after such notice thereof from LESSOR to submit an offer to LESSOR. If such offer is rejected, then LESSOR may sell the Property or portion thereof to any third party.

For purposes of this Paragraph, any transfer, bequest or devise of LESSOR's interest in the Property as a result of the death of LESSOR, whether by will or intestate succession, or any conveyance to LESSOR's family members by direct conveyance or by conveyance to a trust for the benefit of family members shall not be considered a sale of the Property for which LESSEE has any right of first refusal.

17. RIGHTS UPON SALE. Should LESSOR, at any time during the Term decide (i) to sell or transfer all or any part of the Property to a purchaser other than LESSEE, or (ii) to grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, such sale or grant of an

easement or interest therein shall be under and subject to this Agreement and any such purchaser or transferee shall recognize LESSEE's rights hereunder under the terms of this Agreement. To the extent that LESSOR grants to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE for the purpose of operating and maintaining communications facilities or the management thereof and in conjunction therewith, assigns this Agreement to said third party, LESSOR shall not be released from its obligations to LESSEE under this Agreement, and LESSEE shall have the right to look to LESSOR and the third party for the full performance of this Agreement.

18. QUIET ENJOYMENT. LESSOR covenants that LESSEE, on paying the rent and performing the covenants herein, shall peaceably and quietly have, hold and enjoy the Premises.

19. TITLE. LESSOR represents and warrants to LESSEE as of the execution date of this Agreement, and covenants during the Term that LESSOR is seized of good and sufficient title and interest to the Property and has full authority to enter into and execute this Agreement. LESSOR further covenants during the Term that there are no liens, judgments or impediments of title on the Property, or affecting LESSOR's title to the same and that there are no covenants, easements or restrictions which prevent or adversely affect the use or occupancy of the Premises by LESSEE as set forth above.

20. INTEGRATION. It is agreed and understood that this Agreement contains all agreements, promises and understandings between LESSOR and LESSEE and that no verbal or oral agreements, promises or understandings shall be binding upon either LESSOR or LESSEE in any dispute, controversy or proceeding at law, and any addition, variation or modification to this Agreement shall be void and ineffective unless made in writing signed by the Parties. In the event any provision of the Agreement is found to be invalid or unenforceable, such finding shall not affect the validity and enforceability of the remaining provisions of this Agreement. The failure of either Party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights under the Agreement shall not waive such rights and such Party shall have the right to enforce such rights at any time and take such action as may be lawful and authorized under this Agreement, in law or in equity.

21. GOVERNING LAW. This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the Laws of the State in which the Property is located.

22. ASSIGNMENT. This Agreement may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal or to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition or other business reorganization. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder.

LESSEE may sublet the Premises within its sole discretion, upon notice to LESSOR. Any sublease that is entered into by LESSEE shall be subject to the provisions of this Agreement and shall be binding upon the successors, assigns, heirs and legal representatives of the respective Parties hereto.

23. NOTICES. All notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested or by commercial courier, provided the courier's regular business is delivery service and provided further that it guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or any other address that the Party to be notified may have designated to the sender by like notice):

LESSOR: Benjamin Gallup  
Byron D. Gallup  
53 Gallup Road  
Voluntown, Connecticut 06384

LESSEE: Cellco Partnership  
d/b/a Verizon Wireless  
180 Washington Valley Road  
Bedminster, New Jersey 07921  
Attention: Network Real Estate

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

24. SUCCESSORS. This Agreement shall extend to and bind the heirs, personal representative, successors and assigns of the Parties hereto.

25. SUBORDINATION AND NON-DISTURBANCE. LESSOR shall obtain not later than fifteen (15) days following the execution of this Agreement, a Non-Disturbance Agreement, as defined below, from its existing mortgagee(s), ground lessors and master lessors, if any, of the Property. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust or other security interest (a "Mortgage") by LESSOR which from time to time may encumber all or part of the Property or right-of-way; provided, however, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement for LESSEE's benefit in the form reasonably satisfactory to LESSEE, and containing the terms described below (the "Non-Disturbance Agreement"), and shall recognize LESSEE's right to remain in occupancy of and have access to the Premises as long as LESSEE is not in default of this Agreement beyond applicable notice and cure periods. The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest or any purchaser of Lender's or its successor's interest (a "Purchaser") acquires an ownership interest in the Property, Lender or such successor-in-interest or Purchaser will (1) honor all of the terms of the Agreement, (2) fulfill LESSOR's obligations under the Agreement, and (3) promptly cure all of the then-existing

LESSOR defaults under the Agreement. Such Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any) and on all successors and assigns of Lender and/or its participants and on all Purchasers. In return for such Non-Disturbance Agreement, LESSEE will execute an agreement for Lender's benefit in which LESSEE (1) confirms that the Agreement is subordinate to the Mortgage or other real property interest in favor of Lender, (2) agrees to attorn to Lender if Lender becomes the owner of the Property and (3) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. In the event LESSOR defaults in the payment and/or other performance of any mortgage or other real property interest encumbering the Property, LESSEE, may, at its sole option and without obligation, cure or correct LESSOR's default and upon doing so, LESSEE shall be subrogated to any and all rights, titles, liens and equities of the holders of such mortgage or other real property interest and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct such defaults.

26. RECORDING. LESSOR agrees to execute a Memorandum of this Agreement which LESSEE may record with the appropriate recording officer. The date set forth in the Memorandum of Lease is for recording purposes only and bears no reference to commencement of either the Term or rent payments.

27. DEFAULT.

a. In the event there is a breach by LESSEE with respect to any of the provisions of this Agreement or its obligations under it, including the payment of rent, LESSOR shall give LESSEE written notice of such breach. After receipt of such written notice, LESSEE shall have fifteen (15) days in which to cure any monetary breach and thirty (30) days in which to cure any non-monetary breach, provided LESSEE shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSEE commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSOR may not maintain any action or effect any remedies for default against LESSEE unless and until LESSEE has failed to cure the breach within the time periods provided in this Paragraph.

b. In the event there is a breach by LESSOR with respect to any of the provisions of this Agreement or its obligations under it, LESSEE shall give LESSOR written notice of such breach. After receipt of such written notice, LESSOR shall have thirty (30) days in which to cure any such breach, provided LESSOR shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSOR commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSEE may not maintain any action or effect any remedies for default against LESSOR unless and until LESSOR has failed to cure the breach within the time periods provided in this Paragraph. Notwithstanding the foregoing to the contrary, it shall be a default under this Agreement if LESSOR fails, within five (5) days after receipt of written notice of such breach, to perform an obligation required to be performed by LESSOR if the failure to perform such an obligation interferes with LESSEE's

ability to conduct its business on the Property; provided, however, that if the nature of LESSOR's obligation is such that more than five (5) days after such notice is reasonably required for its performance, then it shall not be a default under this Agreement if performance is commenced within such five (5) day period and thereafter diligently pursued to completion.

28. REMEDIES. Upon a default, the non-defaulting Party may at its option (but without obligation to do so), perform the defaulting Party's duty or obligation on the defaulting Party's behalf, including but not limited to the obtaining of reasonably required insurance policies. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefor. In the event of a default by either Party with respect to a material provision of this Agreement, without limiting the non-defaulting Party in the exercise of any right or remedy which the non-defaulting Party may have by reason of such default, the non-defaulting Party may terminate the Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Premises are located; provided, however, LESSOR shall use reasonable efforts to mitigate its damages in connection with a default by LESSEE. If LESSEE so performs any of LESSOR's obligations hereunder, the full amount of the reasonable and actual cost and expense incurred by LESSEE shall immediately be owing by LESSOR to LESSEE, and LESSOR shall pay to LESSEE upon demand the full undisputed amount thereof with interest thereon from the date of payment at the greater of (i) ten percent (10%) per annum, or (ii) the highest rate permitted by applicable Laws. Notwithstanding the foregoing, if LESSOR does not pay LESSEE the full undisputed amount within thirty (30) days of its receipt of an invoice setting forth the amount due from LESSOR, LESSEE may offset the full undisputed amount, including all accrued interest, due against all fees due and owing to LESSOR until the full undisputed amount, including all accrued interest, is fully reimbursed to LESSEE.

29. ENVIRONMENTAL.

a. LESSOR will be responsible for all obligations of compliance with any and all environmental and industrial hygiene laws, including any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene conditions or concerns as may now or at any time hereafter be in effect, that are or were in any way related to activity now conducted in, on, or in any way related to the Property, unless such conditions or concerns are caused by the specific activities of LESSEE in the Premises.

b. LESSOR shall hold LESSEE harmless and indemnify LESSEE from and assume all duties, responsibility and liability at LESSOR's sole cost and expense, for all duties, responsibilities, and liability (for payment of penalties, sanctions, forfeitures, losses, costs, or damages) and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding which is in any way related to: a) failure to comply with any environmental or industrial hygiene law, including without limitation any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene concerns or conditions as may now or at any time hereafter be in effect, unless such non-



compliance results from conditions caused by LESSEE; and b) any environmental or industrial hygiene conditions arising out of or in any way related to the condition of the Property or activities conducted thereon, unless such environmental conditions are caused by LESSEE.

c. LESSEE shall hold LESSOR harmless and indemnify LESSOR from and assume all duties, responsibility and liability at LESSEE's sole cost and expense, for all duties, responsibilities, and liability (for payment of penalties, sanctions, forfeitures, losses, costs, or damages) and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding which is in any way related to: a) failure to comply with any environmental or industrial hygiene law, including without limitation any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene concerns or conditions as may now or at any time hereafter be in effect, unless such compliance results from conditions caused by LESSOR; and b) any environmental or industrial hygiene conditions arising out of or in any way related to the condition of the Property or activities conducted thereon unless such environmental conditions are caused by LESSOR.

30. CASUALTY. In the event of damage by fire or other casualty to the Premises that cannot reasonably be expected to be repaired within forty-five (45) days following same or, if the Property is damaged by fire or other casualty so that such damage may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, then LESSEE may, at any time following such fire or other casualty, provided LESSOR has not completed the restoration required to permit LESSEE to resume its operation at the Premises, terminate this Agreement upon fifteen (15) days prior written notice to LESSOR. Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment, as of such termination date, with respect to payments due to the other under this Agreement. Notwithstanding the foregoing, the rent shall abate during the period of repair following such fire or other casualty in proportion to the degree to which LESSEE's use of the Premises is impaired.

31. CONDEMNATION. In the event of any condemnation of all or any portion of the Property, this Agreement shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever occurs first. If as a result of a partial condemnation of the Premises or Property, LESSEE, in LESSEE's sole discretion, is unable to use the Premises for the purposes intended hereunder, or if such condemnation may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, LESSEE may, at LESSEE's option, to be exercised in writing within fifteen (15) days after LESSOR shall have given LESSEE written notice of such taking (or in the absence of such notice, within fifteen (15) days after the condemning authority shall have taken possession) terminate this Agreement as of the date the condemning authority takes such possession. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to the equipment, conduits, fixtures, its relocation costs and its damages and losses (but not for the loss of its leasehold interest). Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally

set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment as of such termination date with respect to payments due to the other under this Agreement. If LESSEE does not terminate this Agreement in accordance with the foregoing, this Agreement shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the same proportion as the rentable area of the Premises taken bears to the total rentable area of the Premises. In the event that this Agreement is not terminated by reason of such condemnation, LESSOR shall promptly repair any damage to the Premises caused by such condemning authority.

32. SUBMISSION OF AGREEMENT/PARTIAL INVALIDITY/AUTHORITY. The submission of this Agreement for examination does not constitute an offer to lease the Premises and this Agreement becomes effective only upon the full execution of this Agreement by the Parties. If any provision herein is invalid, it shall be considered deleted from this Agreement and shall not invalidate the remaining provisions of this Agreement. Each of the Parties hereto warrants to the other that the person or persons executing this Agreement on behalf of such Party has the full right, power and authority to enter into and execute this Agreement on such Party's behalf and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Agreement.

33. APPLICABLE LAWS. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, rules, regulations, ordinances, directives, covenants, easements, zoning and land use regulations, and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with Disabilities Act and laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with (a) all Laws relating solely to LESSEE's specific and unique nature of use of the Premises (other than general office use); and (b) all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises.

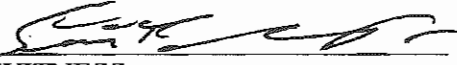
34. SURVIVAL. The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement. Additionally, any provisions of this Agreement which require performance subsequent to the termination or expiration of this Agreement shall also survive such termination or expiration.

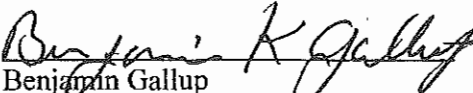
35. CAPTIONS. The captions contained in this Agreement are inserted for convenience only and are not intended to be part of the Agreement. They shall not affect or be utilized in the construction or interpretation of the Agreement.

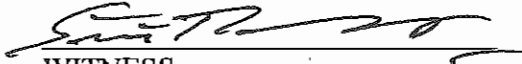
36. SUBLEASING. LESSEE shall have the right, within its sole discretion, to sublet any portion of the Premises, provided that LESSOR shall be paid 10% of any rental payments paid by any sublessee(s), payable at the time rental payments are paid by any sublessee(s) to LESSEE. Such payments shall be made by such sublessee(s) directly to LESSOR.

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

LESSOR:

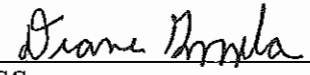
  
WITNESS


  
Benjamin Gallup

  
WITNESS

  
Byron D. Gallup

LESSEE: Cellco Partnership  
d/b/a Verizon Wireless

  
WITNESS

By:   
David R. Heverling

Its: Area Vice President Network

10 25 10

53 Gallup Road  
Voluntown, Connecticut

A certain piece or parcel of land, located in the Town of Voluntown, County of New London and State of Connecticut, together with the buildings and improvements thereon, and being more particularly bounded and described as follows:

certain parcel of land located on the easterly side of Connecticut Route #49, also known as Pendleton Hill Road, which tract is more particularly bounded and described as follows:

- NORTHERLY: By land of the State of Connecticut;
- EASTERLY: By land of the State of Connecticut, land now or formerly of John Carlson, and land now or formerly of George Palmer, in part by each;
- SOUTHERLY: By land now or formerly of the heirs of Birdsey G. Palmer, and by land now or formerly of Hanar Heiri, also known as Hannar Heiri, in part by each;
- WESTERLY: By land now or formerly of Elizabeth and Apo Makella, by land now or formerly of Hanar Heiri, also known as Hannar Heiri, by State of Connecticut, Route #49, also known as Pendleton Hill Road, in part by each.

Together with a certain right of way more particularly described in a deed dated April 25, 1938 and recorded in Volume 25 at Page 205 of the Voluntown Land Records.

**LEASE EXHIBIT**

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

PROPOSED LESSEE 8' TALL GALVANIZED CHAINLINK FENCE WITH 3 STRANDS BARBED WIRE

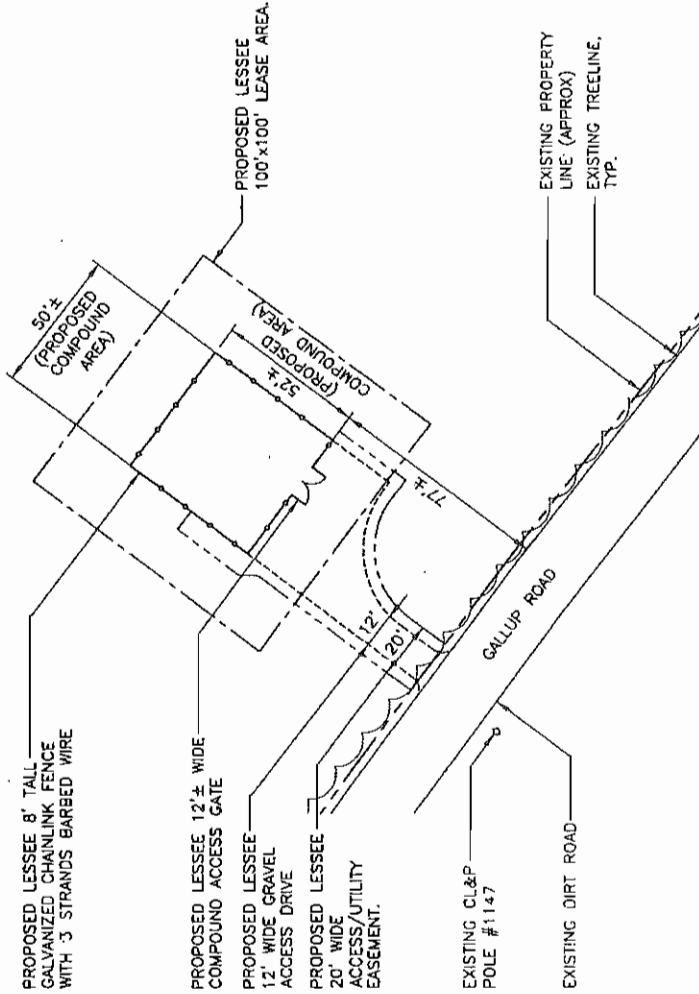
PROPOSED LESSEE 12'± WIDE COMPOUND ACCESS GATE

PROPOSED LESSEE 12'± WIDE GRAVEL ACCESS DRIVE

PROPOSED LESSEE 20'± WIDE ACCESS/UTILITY EASEMENT.

EXISTING CL&P POLE #11147

EXISTING DIRT ROAD



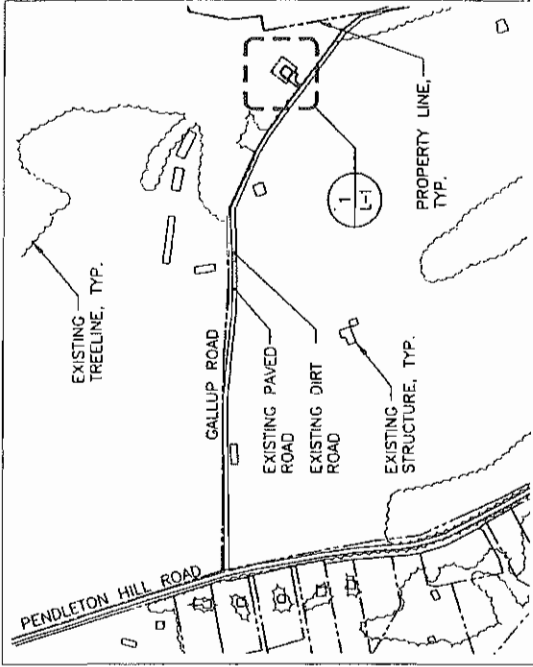
**1 PARTIAL SITE PLAN**  
SCALE: 1" = 40'  
APPROXIMATE NORTH



**SITE COORDINATES:** LAT.: 41°-32'-13"  
(TAKEN FROM HANDHELD GPS) LNG.: 71°-49'-46"  
GROUND ELEVATION: 450' ± A.M.S.L.  
(REFERENCED FROM TOPO MAP)

**NOTES:**

1. LESSEE PROPOSING A 150' MONOPOLE TOWER LOCATED WITHIN PROPOSED LEASE AREA.
2. THE PROPOSED LESSEE ANTENNA INSTALLATION TO INCLUDE UP TO FIFTEEN (15) PANEL ANTENNAS.



**2 SITE ACCESS PLAN**  
SCALE: 1" = 600'  
APPROXIMATE NORTH

NO.	DATE	BY	DESCRIPTION
1	08/28/10	AS SHOWN	AS SHOWN
2	08/28/10	AS SHOWN	AS SHOWN
3	08/28/10	AS SHOWN	AS SHOWN
4	08/28/10	AS SHOWN	AS SHOWN
5	08/28/10	AS SHOWN	AS SHOWN
6	08/28/10	AS SHOWN	AS SHOWN
7	08/28/10	AS SHOWN	AS SHOWN
8	08/28/10	AS SHOWN	AS SHOWN
9	08/28/10	AS SHOWN	AS SHOWN
10	08/28/10	AS SHOWN	AS SHOWN
11	08/28/10	AS SHOWN	AS SHOWN
12	08/28/10	AS SHOWN	AS SHOWN
13	08/28/10	AS SHOWN	AS SHOWN
14	08/28/10	AS SHOWN	AS SHOWN
15	08/28/10	AS SHOWN	AS SHOWN
16	08/28/10	AS SHOWN	AS SHOWN
17	08/28/10	AS SHOWN	AS SHOWN
18	08/28/10	AS SHOWN	AS SHOWN
19	08/28/10	AS SHOWN	AS SHOWN
20	08/28/10	AS SHOWN	AS SHOWN

DATE: 08/28/10  
BY: AS SHOWN  
PROJECT: 10083

**CENTER** engineering  
Centered on Solutions  
www.Centered.com  
800.468.6507  
432 North Broad Street, Northford, CT 06455

Colco Partnership d/b/a Verizon Wireless  
PALMER POND  
GALLUP FARM  
53 GALLUP ROAD  
VOLUME TOWN, CT 06384

SHEET NO. L-1