

# **ATTACHMENT 5**

# Visual Assessment & Photo-Simulations

CAMP HOYT  
3 MARCHANT ROAD  
REDDING, CT

*Prepared in February 2023 by:  
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*Prepared for MCM Holdings LLC*



## **VISUAL ASSESSMENT & PHOTO-SIMULATIONS**

MCM Holdings LLC ("MCM") is seeking approval for the development of a new wireless communications facility (the "Facility") at 3 Marchant Road in Redding, Connecticut (the "Host Property"). At the request of MCM, All-Points Technology Corporation, P.C. ("APT") completed this assessment to evaluate the potential visual effects of the proposed Facility from within a two-mile radius (the "Study Area"). The Study Area includes portions of the neighboring municipalities of Danbury to the north, Bethel to the northeast and Ridgefield to the west.

### **Project Setting**

The Host Property is a 174-acre mostly wooded parcel located north of Marchant Road and east of Simpaug Turnpike. It is the site of the Boy Scouts of America Hoyt Scout Camp ("Camp Hoyt"). The proposed Facility would be located in the northcentral portion of the Host Property ("Site"). Land use within the immediate area is primarily a mix of residential development and forested areas.

The topography within the Study Area consists of relatively hilly terrain. Ground elevations range from approximately 321 feet above mean sea level ("AMSL") in the southeastern portion of the Study Area to approximately 796 feet AMSL in the northeastern portion of the Study Area. Tree cover within the Study Area (consisting primarily of mixed deciduous hardwoods) occupies approximately 6,015 acres (or ±74.8%) of the 8,042-acre Study Area.

### **Project Undertaking**

The proposed Facility would be located at a ground elevation of approximately 522 feet AMSL and include a 150-foot tall steel monopole designed to be painted brown. Associated ground-mounted equipment would be located within an irregularly shaped approximately 4,880 square foot, gravel-base compound surrounded by an 8-foot high chain link fence with privacy slats. Cellco Partnership d/b/a Verizon Wireless would install antennas, painted brown to match the monopole, extending to the top of the monopole. The Facility has been designed to accommodate multiple service providers. Access to the Site would be gained over a new gravel drive extending from a gravel area and an existing paved entrance originating off Simpaug Turnpike.

### **Methodology**

APT used the combination of a predictive computer model, in-field analysis, and a review of various data sources to evaluate the visibility associated with the proposed Facility on both a

quantitative and qualitative basis. The predictive model provides a measurable assessment of visibility throughout the entire Study Area, including private properties and other areas inaccessible for direct observations. The in-field analysis consisted of a balloon test and field reconnaissance of the Study Area to record existing conditions, verify results of the model, inventory seasonal and year-round view locations, and provide photographic documentation from publicly accessible and private areas. A description of the procedures used in the analysis is provided below.

### **Preliminary Computer Modeling**

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

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

Once the DSM was generated, ESRI's Viewshed Tool was utilized to identify locations within the Study Area where the proposed Facility may be visible. ESRI's Viewshed Tool predicts visibility by identifying those cells<sup>4</sup> within the DSM that can be seen from an observer location. Cells where visibility was indicated were extracted and converted from a raster dataset to a polygon feature which was then overlaid onto aerial photograph and topographic base maps. Since the DSM includes the highest relative feature in the landscape, isolated "visible" cells are often indicated within heavily forested areas (e.g., from the top of the highest tree) or on building rooftops during the initial processing. It is recognized that these areas do not represent typical

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

<sup>2</sup> Light Detection and Ranging

<sup>3</sup> An LAS file is an industry-standard binary format for storing airborne LiDAR data.

<sup>4</sup> Each DSM cell size is 1 square meter.

viewer locations and overstate visibility. As such, the resulting polygon feature is further refined by extracting those areas. The viewshed results are also cross-checked against the most current aerial photographs to assess whether significant changes (a new housing development, for example) have occurred since the time the LiDAR-based LAS datasets were captured.

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

### **Seasonal Visibility**

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

### **Balloon Test and Field Reconnaissance**

To supplement and fine tune the results of the computer modeling efforts, APT completed in-field verification activities consisting of a balloon test, vehicular and pedestrian reconnaissance, and photo-documentation. The balloon test and field reconnaissance were completed on February 1, 2023. The balloon test involved raising a brightly-colored (red), approximately 4-foot diameter, helium-filled balloon tethered to a string height of  $\pm 150$  feet AGL<sup>5</sup> at the proposed Site. Weather conditions were favorable for the in-field activities with clear skies and light winds.

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<sup>5</sup> The bottom of the balloon represented the top of the monopole.

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

### **Photographic Documentation and Simulations**

During the Study Area reconnaissance, APT obtained photo-documentation of representative locations where the balloon was – and was not – visible. Photographs were taken with a Canon EOS 6D digital camera body<sup>6</sup> and Canon EF 24 to 105 millimeter (“mm”) zoom lens. The coordinates of the balloon (i.e., the proposed tower location) were entered as a “waypoint” into a handheld global positioning system (“GPS”) device, with the “find” tool on the GPS unit then used to provide the distance and orientation to the balloon position. The geographic coordinates of each photo location were recorded as meta data using GPS technology internal to the camera. APT used a standard focal length of 50mm to present a consistent field of view.

Photographic simulations were generated to portray scaled renderings of the proposed Facility from five (5) locations presented herein where the Facility may be recognizable above or through the trees. Using field data, site plan information and 3-dimensional (3D) modeling software, spatially referenced models of the Site and Facility were generated and merged. The geographic coordinates obtained in the field for the photograph locations were incorporated into the model to produce virtual camera positions within the spatial 3D model. Photo-simulations were then created using a combination of renderings generated in the 3D model and photo-rendering software programs, which were ultimately composited and merged with the existing conditions photographs (using Adobe Photoshop image editing software). The scale of the subjects in the photograph (the balloon) and the corresponding simulation (the Facility) is proportional to their surroundings.

For presentation purposes in this report, the photographs were produced in an approximate 7-inch by 10.5-inch format. When reproducing the images in this format size, we believe it is important to present the largest view while providing key contextual landscape elements (existing developments, street signs, utility poles, etc.) so that the viewer can determine the proportionate scale of each object within the scene. Photo-documentation of the field reconnaissance and photo-simulations of the proposed Facility are presented in the attachment at the end of this report. The field reconnaissance photos that include the balloon in the view provide visual reference points for the approximate height and location of the proposed Facility

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

relative to the scene. The corresponding photo-simulations were created to represent the proposed monopole and antennas. The photo-simulations are intended to provide the reader with a general understanding of the different view characteristics associated with the Facility from various locations. Photographs were taken from publicly accessible areas and select private residential parcels, and unobstructed view lines were chosen wherever possible.

Table 1 – Photo Locations summarizes the photographs and simulations presented in the attachment to this report, and includes a description of each location, view orientation, distance from where the photo was taken relative to the Site, and the general characteristics of the view. The photo locations are depicted on the photolog and viewshed maps provided as attachments to this report.

**Table 1 – Photo Locations**

<b>Photo</b>	<b>Location</b>	<b>Orientation</b>	<b>Distance to Site</b>	<b>Visibility</b>
1	Picketts Ridge Road	East	± 0.67 Mile	Not Visible
2	Picketts Ridge Road	Northeast	± 0.63 Mile	Not Visible
3	Fire Hill Road, Ridgfield	Northeast	± 1.18 Miles	Not Visible
4	Simpaug Turnpike	Northeast	± 1.09 Miles	Not Visible
5	Simpaug Turnpike	Northeast	± 0.93 Mile	Not Visible
6	Simpaug Turnpike	Northeast	± 0.54 Mile	Not Visible
7	Marchant Road	Northeast	± 0.52 Mile	Not Visible
8	Marchant Road	Northeast	± 0.52 Mile	Seasonal
9	Marchant Road	Northeast	± 0.52 Mile	Not Visible
10	Marchant Road	Northeast	± 0.54 Mile	Not Visible
11	Charlie Hill Road at Marchant Road	Northwest	± 0.53 Mile	Not Visible
12	Umpawaug Road at Guardhouse Drive	Northwest	± 0.90 Mile	Not Visible
13	Umpawaug Road	Northwest	± 0.60 Mile	Not Visible
14	Umpawaug Road	West	± 0.64 Mile	Not Visible
15	Redding Road	West	± 0.76 Mile	Not Visible
16	Redding Road	West	± 0.75 Mile	Seasonal
17	Station Road	West	± 0.64 Mile	Not Visible
18	Redding Road	West	± 0.74 Mile	Not Visible
19	Side Cut Road	Southwest	± 0.59 Mile	Not Visible
20	Side Cut Road	Southwest	± 0.47 Mile	Not Visible
21	Long Ridge Road	South	± 0.50 Mile	Not Visible
22	Long Ridge Road	Southwest	± 0.45 Mile	Not Visible
23	Redding Train Station	Southwest	± 0.38 Mile	Not Visible
24	Simpaug Turnpike	Southwest	± 0.27 Mile	Not Visible
25	Simpaug Turnpike	Southeast	± 0.19 Mile	Seasonal
26	Simpaug Turnpike	Southeast	± 0.19 Mile	Seasonal
27	George Hull Hill Road	Southeast	± 0.74 Mile	Not Visible
28	Old Lantern Road, Danbury	South	± 1.00 Mile	Year Round
29	Turkey Plain Road, Bethel	Southwest	± 1.90 Miles	Not Visible



## **Final Visibility Mapping**

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

## **Conclusions**

As presented on the attached viewshed maps and photo-simulations, views of the Facility would be minimal and limited primarily to locations within 0.5-mile of the Site (within portions of the Host Property and immediately surrounding areas) during those months when the leaves are off the deciduous trees (i.e., seasonally). Seasonal visibility, during leaf-off conditions, accounts for ±44 acres of the predicted visibility (see Photos 25 and 26 as representative examples). Scattered small pockets of seasonal visibility extend out to locations as far as ±0.9 mile from the Site (see Photos 8 and 16).

Year-round visibility is estimated to occur over open fields and water, respectively, at distances of approximately 0.4-mile to the east and approximately 1 mile to the north of the Site (comprising ±2 acres in total). As an example, see Photo 28 which depicts a view from Old Lantern Road in Danbury as it crosses Hawley Pond. From this vantage point, the monopole may extend 20 to 30 feet above the tree line.

In total, the combined seasonal and year-round visibility of the proposed Facility is estimated to extend over an area of up to ±46 acres which represents less than one percent (±0.06%) of the 8,042-acre Study Area. More than half of the predicted visibility would occur on the Host Property (±28.3 acres or 61.5%).

The results of this visual assessment demonstrate that the Facility's visibility would be restricted to a small geographic area. The proposed painting of the monopole and antennas in brown, combined with dense surrounding woodland, will minimize and soften any potential seasonal views from neighboring locations.

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

No schools or commercial child day care centers are located within 250 feet of the proposed Facility. John Read Middle School is located approximately 2.07-miles southeast of the Site at 486 Redding Road in Redding. The Children's Academy child care center is located

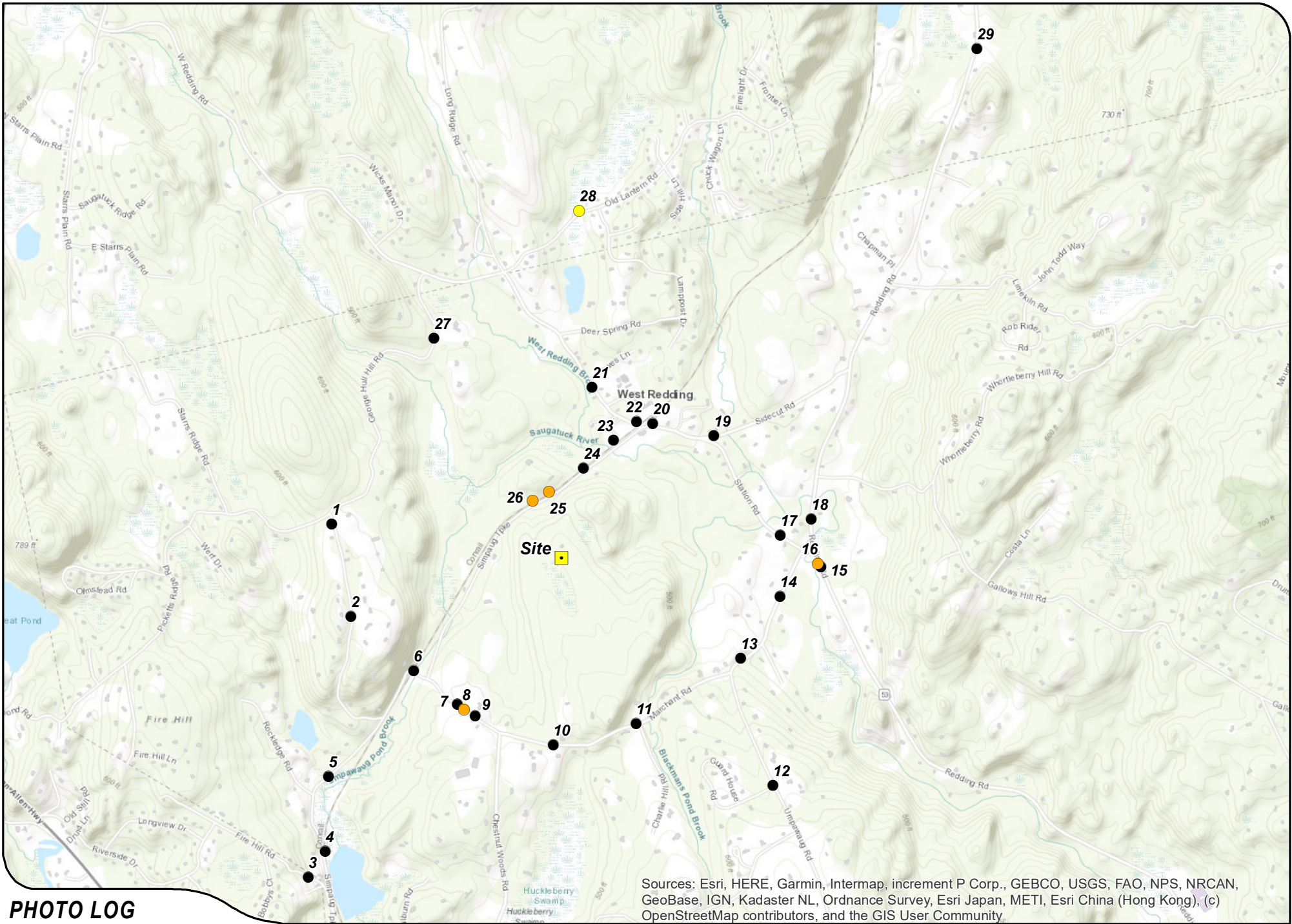
approximately 1.83-mile southwest of the Site at 890 Ethan Allen Highway in Ridgefield. No visibility is anticipated from either location.

### **Limitations**

The viewshed maps presented in the attachment to this report depict areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of five (5) feet above the ground and intervening topography, tree canopy, and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating aerial photographs, and in-field observations from publicly accessible locations. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

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

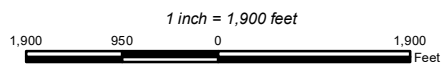
## **ATTACHMENTS**



# PHOTO LOG

## Legend

- Site
- Not Visible
- Seasonal
- Year-Round





PHOTOGRAPHED ON 2/17/2023

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
1	PICKETTS RIDGE ROAD	EAST	+/- 0.67 MILE	NOT VISIBLE



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

2

LOCATION

**PICKETTS RIDGE ROAD**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.63 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

3

LOCATION

**FIRE HILL ROAD - RIDGEFIELD**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 1.18 MILES**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/10/23

**EXISTING**

PHOTO

4

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 1.09 MILES**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 2/1/2023

**EXISTING**

PHOTO

5

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.93 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

6

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.54 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPH ON 2/1/2023

**EXISTING**

PHOTO

7

LOCATION

**MARCHANT ROAD**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.52 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

8

LOCATION

**MARCHANT ROAD**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.52 MILE**

VISIBILITY

**SEASONAL**



**PROPOSED**

PHOTO

8

LOCATION

**MARCHANT ROAD**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.52 MILE**

VISIBILITY

**SEASONAL**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

9

LOCATION

**MARCHANT ROAD**

ORIENTATION

**NORTHEAST**

DISTANCE TO SITE

**+/- 0.52 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPH ON 2/10/23

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
10	MARCHANT ROAD	NORTH	+/- 0.54 MILE	NOT VISIBLE



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

11

LOCATION

**CHARLIE HILL ROAD AT MARCHANT ROAD**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.53 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 2/10/23

**EXISTING**

PHOTO

12

LOCATION

**UMPAWAUG ROAD AT GUARDHOUSE DRIVE**

ORIENTATION

**NORTHWEST**

DISTANCE TO SITE

**+/- 0.90 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

13

LOCATION

UMPAWAUG ROAD

ORIENTATION

NORTHWEST

DISTANCE TO SITE

+/- 0.60 MILE

VISIBILITY

NOT VISIBLE



PHOTOGRAPH ON 2/17/23

**EXISTING**

PHOTO

**14**

LOCATION

**UMPAWAUG ROAD**

ORIENTATION

**WEST**

DISTANCE TO SITE

**+/- 0.64 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

15

LOCATION

REDDING ROAD

ORIENTATION

WEST

DISTANCE TO SITE

+/- 0.76 MILE

VISIBILITY

NOT VISIBLE



PHOTOGRAPHED ON 2/10/23

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
16	REDDING ROAD	WEST	+/- 0.75 MILE	SEASONAL



**PROPOSED**

PHOTO

16

LOCATION

REDDING ROAD

ORIENTATION

WEST

DISTANCE TO SITE

+/- 0.75 MILE

VISIBILITY

SEASONAL



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

17

LOCATION

STATION ROAD

ORIENTATION

WEST

DISTANCE TO SITE

+/- 0.64 MILE

VISIBILITY

NOT VISIBLE



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

**18**

LOCATION

**REDDING ROAD**

ORIENTATION

**WEST**

DISTANCE TO SITE

**+/- 0.74 MILE**

VISIBILITY

**NOT VISIBLE**





PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

19

LOCATION

**SIDE CUT ROAD**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.59 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/2023

**EXISTING**

PHOTO

20

LOCATION

**SIDE CUT ROAD**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.47 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/2023

**EXISTING**

PHOTO

21

LOCATION

**LONG RIDGE ROAD**

ORIENTATION

**SOUTH**

DISTANCE TO SITE

**+/- 0.50 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

22

LOCATION

**LONG RIDGE ROAD**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.45 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

23

LOCATION

**REDDING TRAIN STATION**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.38 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/10/23

**EXISTING**

PHOTO

24

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**SOUTHWEST**

DISTANCE TO SITE

**+/- 0.27 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/10/23

**EXISTING**

PHOTO

25

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 0.19 MILE**

VISIBILITY

**SEASONAL**



**PROPOSED**

PHOTO

25

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 0.19 MILE**

VISIBILITY

**SEASONAL**





PHOTOGRAPHED ON 2/17/2023

**EXISTING**

PHOTO

26

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 0.19 MILE**

VISIBILITY

**SEASONAL**



**PROPOSED**

PHOTO

26

LOCATION

**SIMPAUG TURNPIKE**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 0.19 MILE**

VISIBILITY

**SEASONAL**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

27

LOCATION

**GEORGE HULL HILL ROAD**

ORIENTATION

**SOUTHEAST**

DISTANCE TO SITE

**+/- 0.74 MILE**

VISIBILITY

**NOT VISIBLE**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE	VISIBILITY
28	OLD LANTERN ROAD - DANBURY	SOUTH	+/- 1.00 MILE	YEAR ROUND



**PROPOSED**

PHOTO

28

LOCATION

**OLD LANTERN ROAD - DANBURY**

ORIENTATION

**SOUTH**

DISTANCE TO SITE

**+/- 1.00 MILE**

VISIBILITY

**YEAR ROUND**



PHOTOGRAPHED ON 2/17/23

**EXISTING**

PHOTO

29

LOCATION

**TURKEY PLAIN ROAD - BETHEL**

ORIENTATION

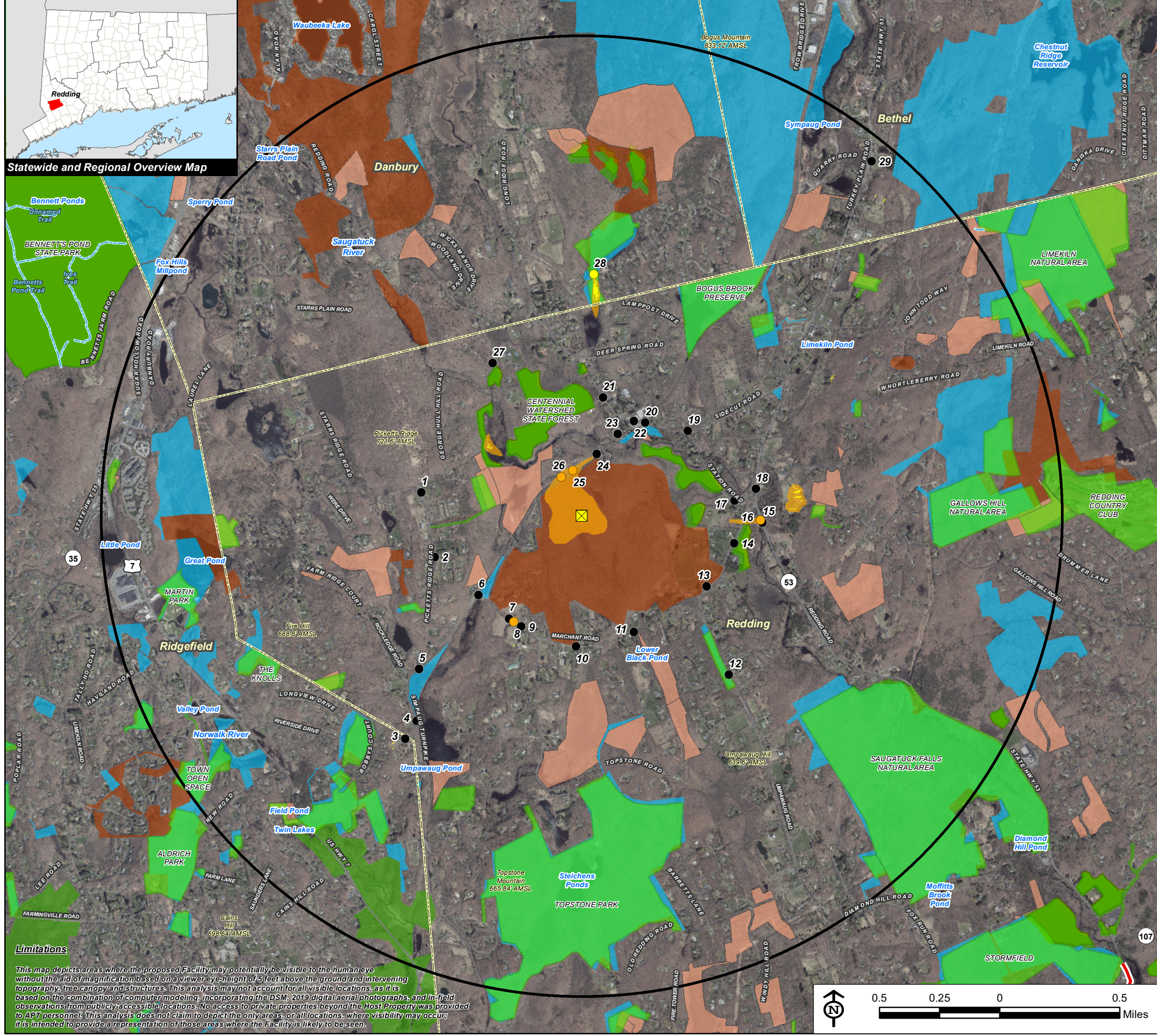
**SOUTHWEST**

DISTANCE TO SITE

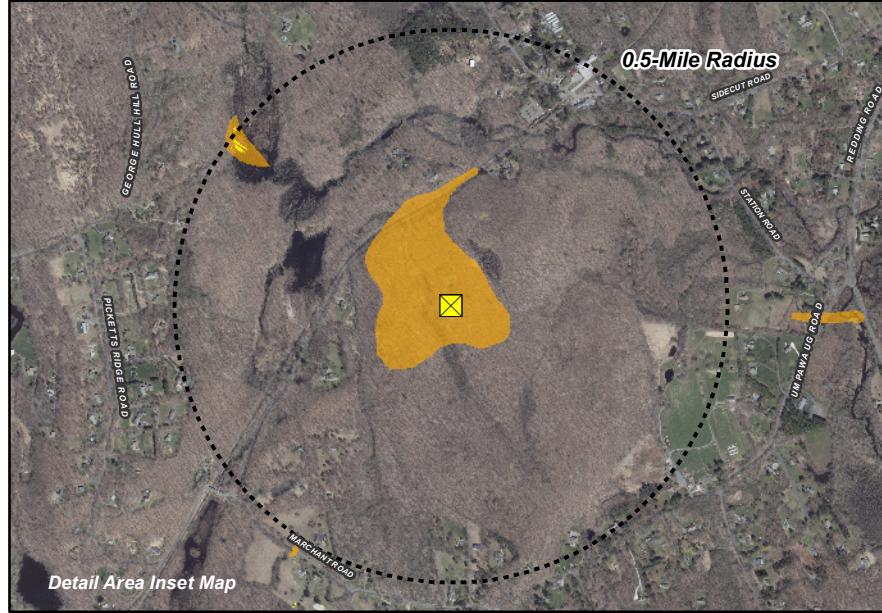
**+/- 1.90 MILES**

VISIBILITY

**NOT VISIBLE**



Statewide and Regional Overview Map



## Viewshed Analysis Map

### Proposed Wireless Telecommunications Facility Camp Hoyt Redding 3 Marchant Road Redding, Connecticut

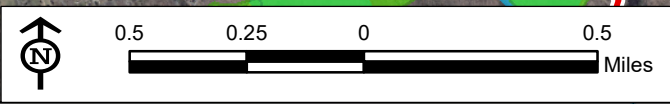
Proposed facility height is 150 feet AGL.  
 Forest canopy height is derived from LIDAR data.  
 Study area encompasses a two-mile radius and includes 8,042 acres.  
 Map information field verified by APT on February 1, 2023  
 Base Map Source: 2019 Aerial Photograph (CTECO)  
 Map Date: February 2023

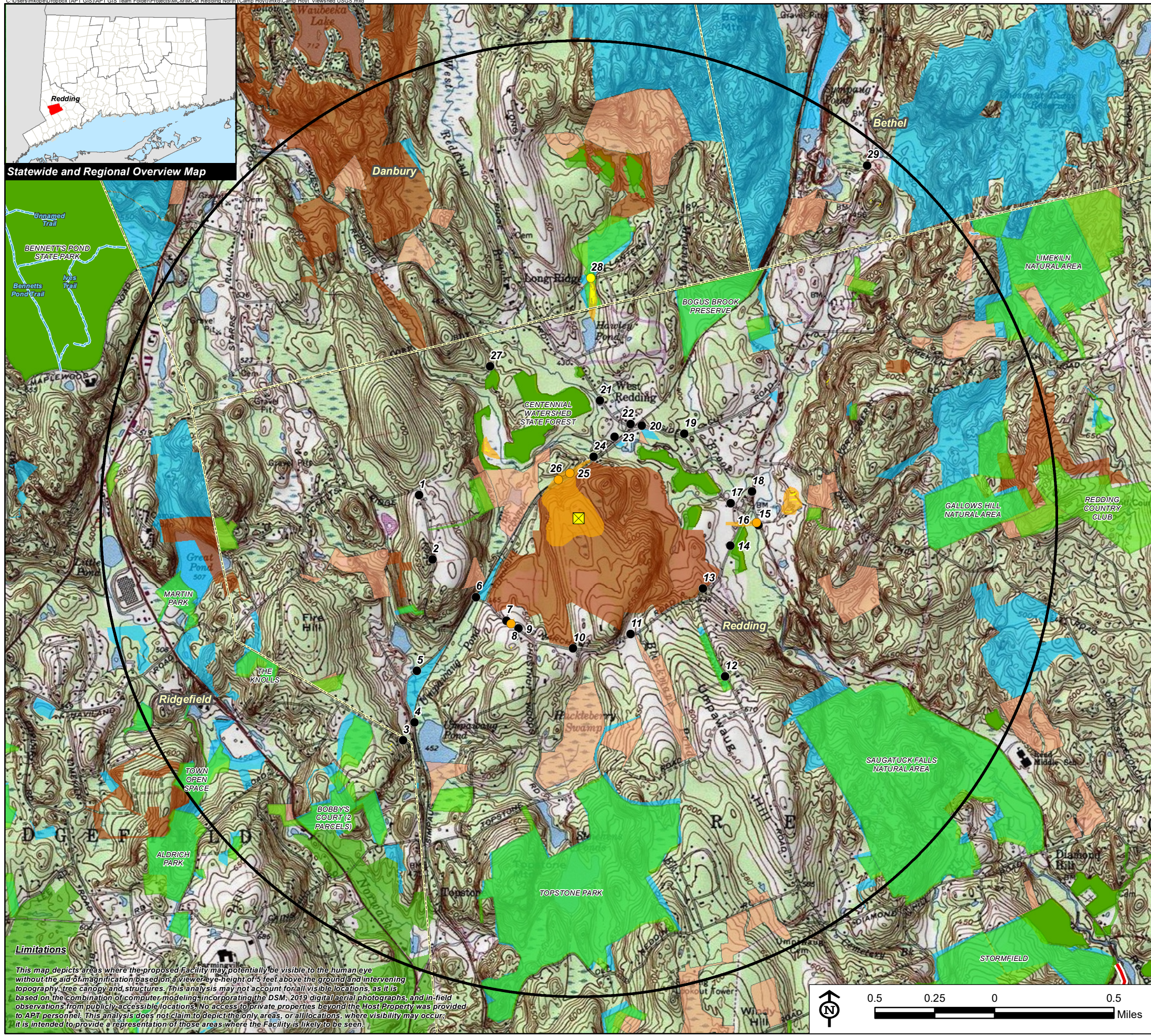
**Legend**

Proposed Site	Trail
Study Area (2-Mile Radius)	Scenic Highway
Predicted Year-Round Visibility (2 Acres)	DEEP Boat Launches
Areas of Potential Seasonal Visibility (44 Acres)	Municipal and Private Open Space Property
Photo Locations (February 1, 2023)	State Forest/Park
Not Visible	<b>Protected Open Space Property</b>
Seasonal	Federal
Year-Round	Land Trust
Municipal Boundary	Municipal
	Private
	State

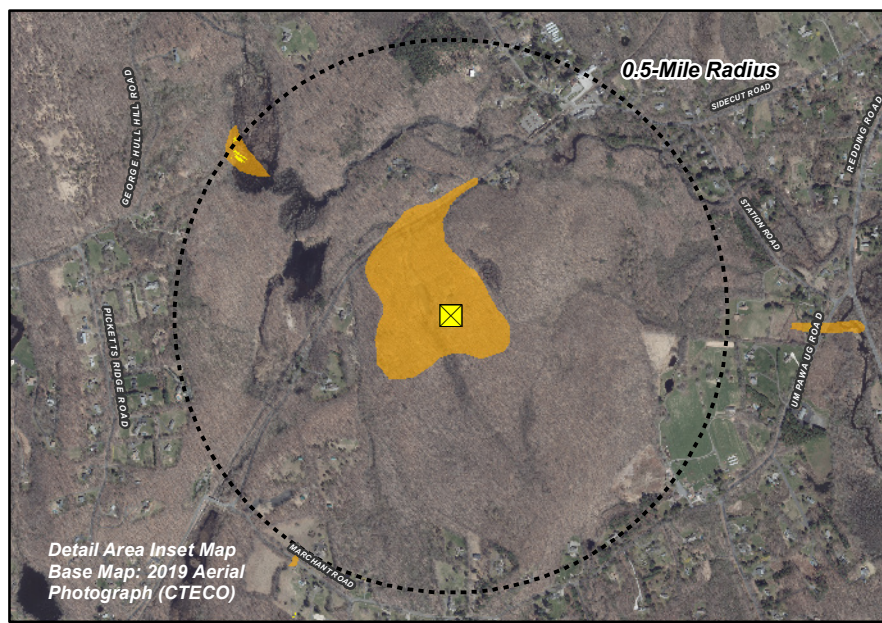
**Data Sources:**  
**Physical Geography / Background Data**  
 A digital surface model (DSM) was created from the State of Connecticut 2016 LIDAR LAS data points. The DSM captures the natural and built features on the Earth's surface.  
 Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP. Scenic Roads: CTDOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)  
**Dedicated Open Space & Recreation Areas**  
 Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007); Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)  
 Connecticut Forest & Parks Association, Connecticut Walk Books East & West  
**Other**  
 CTDOT Scenic Strips (based on Department of Transportation data)  
**Notes**  
 \*\*Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.

**Limitations**  
 This map depicts areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM, 2019 digital aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties beyond the Host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.





Statewide and Regional Overview Map



**Viewshed Analysis Map**  
 Proposed Wireless Telecommunications Facility  
 Camp Hoyt Redding  
 3 Marchant Road  
 Redding, Connecticut

Proposed facility height is 150 feet AGL.  
 Forest canopy height is derived from LIDAR data.  
 Study area encompasses a two-mile radius and includes 8,042 acres.  
 Map information field verified by APT on February 1, 2023  
 Base Map Source: USGS 7.5 Minute Topographic  
 Quadrangle Map, Bethel, CT (1984)  
 Map Date: February 2023

- Legend**
- Proposed Site
  - Study Area (2-Mile Radius)
  - Predicted Year-Round Visibility (2 Acres)
  - Areas of Potential Seasonal Visibility (44 Acres)
  - Not Visible
  - Seasonal
  - Year-Round
  - Municipal Boundary
  - Trail
  - Scenic Highway
  - DEEP Boat Launches
  - Municipal and Private Open Space Property
  - State Forest/Park
  - Protected Open Space Property**
  - Federal
  - Land Trust
  - Municipal
  - Private
  - State

**Data Sources:**  
**Physical Geography / Background Data**  
 A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points. The DSM captures the natural and built features on the Earth's surface.

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

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

Connecticut Forest & Parks Association, Connecticut Walk Books East & West

**Other**  
 CTDOT Scenic Strips (based on Department of Transportation data)

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

**Limitations**  
 This map depicts areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling incorporating the DSM, 2019 digital aerial photographs, and in-field observations from publicly-accessible locations. No access to private properties beyond the Host Property was provided to APT personnel. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

