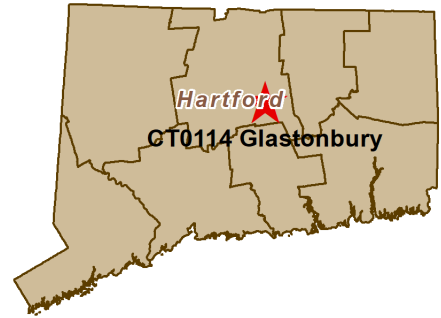


EXHIBIT H

Preliminary Visibility Analysis Package

Proposed Wireless Telecommunications Facility:

CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033



- Proposed new 115 ft AGL antenna structure
- Viewshed map completed 12/18/2020

Viewshed analysis maps and representations contained herein depict where proposed facility may potentially be visible based on the best data available and site conditions at the time data was collected. This study does not claim to depict all locations from where the facility may be potentially visible.



Introduction

At the request of Arx Wireless, LLC, Virtual Site Simulations, LLC (VSS) was contracted to provide a Preliminary Viewshed Analysis Report for a proposed monopole type telecommunications facility located at Lot N-4 Sequin Drive, Glastonbury CT 06033. Hereafter referred to as “the Site”. The proposed tower facility would contain a 115 foot above ground level (“AGL”) monopole type antenna structure. Associated unmanned equipment will be contained within an approximately 50 ft x 50 ft fenced compound area immediately surrounding the base of the proposed tower.

Site Description and Setting

The proposed Monopole type telecommunications facility is located on a +/- 11.233 Acre property designated by the tax assessor as lot number F5-6200-N0004, owned by New Land of Glastonbury, LLC-. The Site is approximately .5 miles east of Ct. Route 2 at the Ct Route 64 Hebron Avenue overpass. The site is located within a Commercial/Industrial area and the subject property is currently used as a materials storage yard.

The Links Transition School/Links Academy, 628 Hebron Avenue, building 4, Glastonbury CT 06033 is located .46 miles to the west and is the closest school to the proposed facility. The YMCA Child Care Program/Preschool 95 Oakwood Drive, Glastonbury CT 06033 is located .27 miles to the southwest of the site and is the closest licensed daycare facility. There are no CT Blue Blazed Trails within the study area. There are no schools or licensed daycare facilities within 250 ft of the proposed facility.

Methodology

Determination of Study Area

In order to complete this analysis a study area must first be determined. For this site, a one-mile study area (2010.6 acre) was selected based on years of experience in modeling the visibility of telecommunication structures. Typical views from beyond this distance, in this type of Topography, are distant and partially obscured and are therefore omitted from the analysis. This is done to focus on areas within the defined study area that will have a larger visual impact.

The Preliminary Viewshed Analysis was conducted within the predefined study area using three-dimensional computer modeling software described below.

Computer Modeling – Data Processing

Once the study area is selected, a combination of Ortho Image based, and Lidar based datasets are assembled.

Ortho Imagery is remotely sensed imagery that has been geometrically corrected. This geometric correction, or orthorectification, is required to adjust for lens distortion, camera tilt, and topographical relief. An orthorectified image is an extremely accurate view of the surface of the Earth. This allows for the measurement of true distance, precise digitization, and the exact placement of geographic symbols and analysis results.

LiDAR, or light detection ranging is a remote sensing method that maps structure including vegetation height, density and other characteristics across a region. Think of it as radar using laser light instead of radio waves. LiDAR directly measures the height and density of vegetation on the ground as well as the bare-earth topology.

The datasets are clipped to the study area and processed to create the 3d models necessary to perform this analysis. For Leaf On/Leaf off analysis three different models need to be created:

- 1. A Digital Elevation Model ("DEM")- a 3d model of existing bare earth topography (i.e. no surface features, like trees and buildings)**
- 2. A Leaf-On Digital Surface Model ("DSM ") - a 3d model of existing topography that includes all surface features measured (i.e. building and trees)**
- 3. A Leaf-Off Digital Surface Model- a 3d model of existing topography that includes all surface features measured with specific analysis done to remove datapoints from deciduous trees/bushes (see Leaf Off considerations section below).**

It is important to note that by using lidar data to create these models, building heights, existing tree canopy heights and other land cover is not averaged or assumed but measured from lidar dataset. Several different software packages are used in this processing, most notably, ESRI ArcGIS platform is used to interpret Lidar data, perform image analysis and create a Digital Surface Model ("DSM ") and a corresponding Digital Elevation Model ("DEM"). These datasets are then used to perform a viewshed analysis.

Image Analysis Leaf Off considerations

In this case where Leaf Off analysis is necessary, an extra step is required to adjust DSM to remove leaves. There are many different methods that can be used to perform this analysis. Image analysis of Ortho Imagery taken at the same time as lidar measurement data was chosen as the best approximation for the purposes of this analysis. It has been proven to yield a reasonable approximation of what views would be likely in the leaf off condition. This analysis is used to differentiate between deciduous and non-deciduous (coniferous) trees and ground cover.

Once completed the calculated deciduous areas are removed from the DSM. This Leaf Off DSM is then used to perform the Leaf Off viewshed analysis.

Viewshed Analysis- IVSview®

The primary software used for the viewshed analysis is IVSview® VVS, LLC's proprietary Interactive Viewshed Analysis Tool. This software allows the user to perform viewshed analysis on imported maps and datasets on multiple levels at the same time. These calculations determine not only if the tower will be seen, but also how much of the

tower will be visible from those locations. The IVSview® results have been field verified at thousands of locations with all topography types (i.e. urban, rural, mixed etc..) throughout New England. And, when compared to other viewshed analysis software packages, it has proven to provide a more realistic comprehensive representation of potential views.

The datasets are imported as layers within the software mapping program. Once imported, spatial analysis tools are used to evaluate each position within those layers from which the proposed facility may be visible. These tools allow for the input of viewing reference height (assumed to be 5 Ft AGL) and tower height(s). The tools also consider any layers that have been imported that may affect viewing location (i.e. topography, tree canopy, ground cover, buildings, roads etc.) IVSview® is then applied, and visibility models are created. The results of this computer model are then graphically layered on topographic and aerial maps.

These maps can be found in Attachment A.

Preliminary Visibility Analysis Results

The preliminary results of the of viewshed analysis for the proposed telecommunications facility are provided on the visibility analysis maps attached at the end of this report within Attachment A. The maps are provided in two ways, one set of maps comparing leaf-on, leaf-off conditions (single color for each) and a second set of maps showing proposed total visibility by height (IVSview® multi-level viewshed) as an overview.

Year-Round Visibility:

Predicted estimate of year-round views (Summer, leaf-on condition) of the proposed tower facility are from approximately 22.6 acres or approximately 1.13 % of the 1-mile radius, 2010.6 Acre study area. The majority of those specific views (10.3 Acres) are of the upper most portion of the proposed tower. (see Attachment A - IVSview® for multi-level viewshed leaf-on prediction)

Seasonal Visibility:

Predicted estimate seasonal views (Winter, leaf-off condition) of the proposed facility are from an additional 4.2 acres (.2 %). Total predicted seasonal views 26.8 Acres (1.33%). The majority of the additional leaf-off views are along the edges of predicted leaf-on visibility. (see - IVSview® leaf-off prediction)

Documentation

Sources used for Visibility Analysis located at:

**CT0114 Glastonbury
Lot N-4 Sequin Drive,
Glastonbury CT 06033**

Maps and datasets /consulting documents:

United States Geological Survey - USGS Topographical quadrangles (2011-2012)

National Resource Conservation Service -NAIP aerial photography (2010, 2012)

CRCOG Ortho-imagery – (2017)

UCONN- Center for Land Use Education and Research

- **LiDAR data (2016)**

DEEP- Connecticut Department of Energy and Environmental Protection

- **Open Space (2010)**
- **DEEP Property (2017)**
- **Historic Places (2008)**

United States Census (2010) – Landmark Polygon Features

Connecticut Forest & Park Association (CFPA) – Blue Blazed Trails (2016)

Connecticut.Gov eLicensing Website – Child Daycare & Group Daycare Homes Roster (2017)

Environmental Systems Research Institute Inc (ERSI) – CT state boundaries/counties (2010)

Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo

Limitations:

This report and the analysis herein does not claim to depict all locations, or the only locations from which the proposed facility will be visible; it is intended to provide a representation of those areas where proposed facility is likely to be visible.

Attachment A - Preliminary Viewshed Mapping Package

Proposed Wireless Telecommunications Facility:

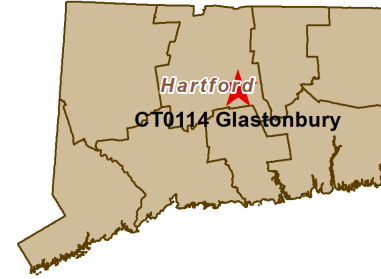
CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033

- Proposed new 115 ft AGL antenna structure
- Viewshed map completed 12/18/2020

Package prepared by:

Virtual Site Simulations, LLC
24 Salt Pond Road
Suite C3
South Kingstown, Rhode Island 02879

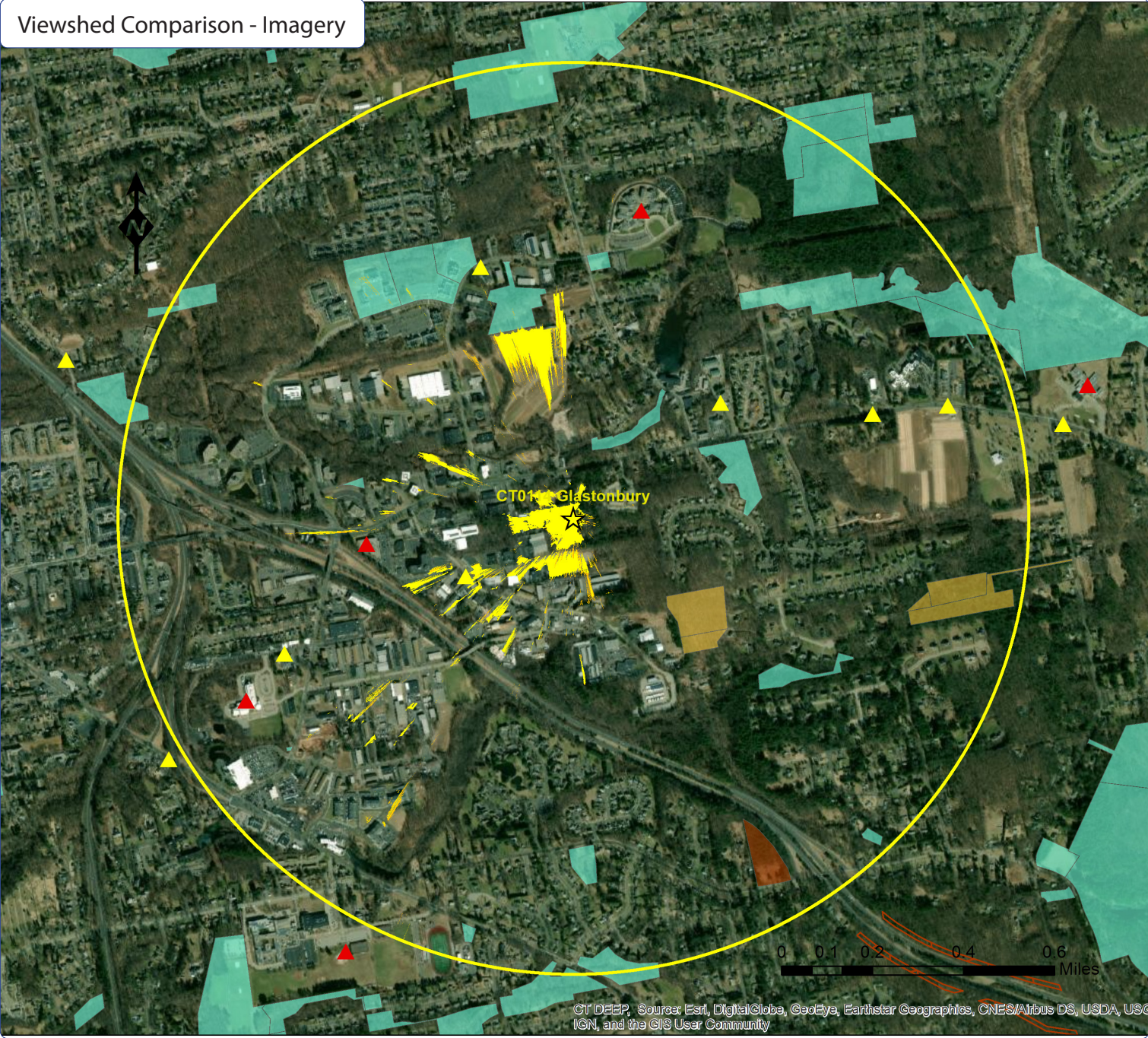
www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com



Viewshed analysis maps and representations contained herein depict where proposed facility may potentially be visible based on the best data available and site conditions at the time data was collected. This study does not claim to depict all locations from where the facility may be potentially visible.



Viewshed Comparison - Imagery

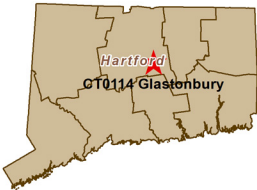


Proposed Facility:

CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033

- ☆ Facility Location ○ 1 Mile Radius
- ▲ School Facilities ▲ Daycare Facilities
- CT Open Space (Conservation Land)
- CT Open Space (Municipal Land)
- CT Open Space (State Land)
- Predicted Visibility-Year Round(Leaf On)
- Predicted Visibility-Seasonal(Leaf Off)

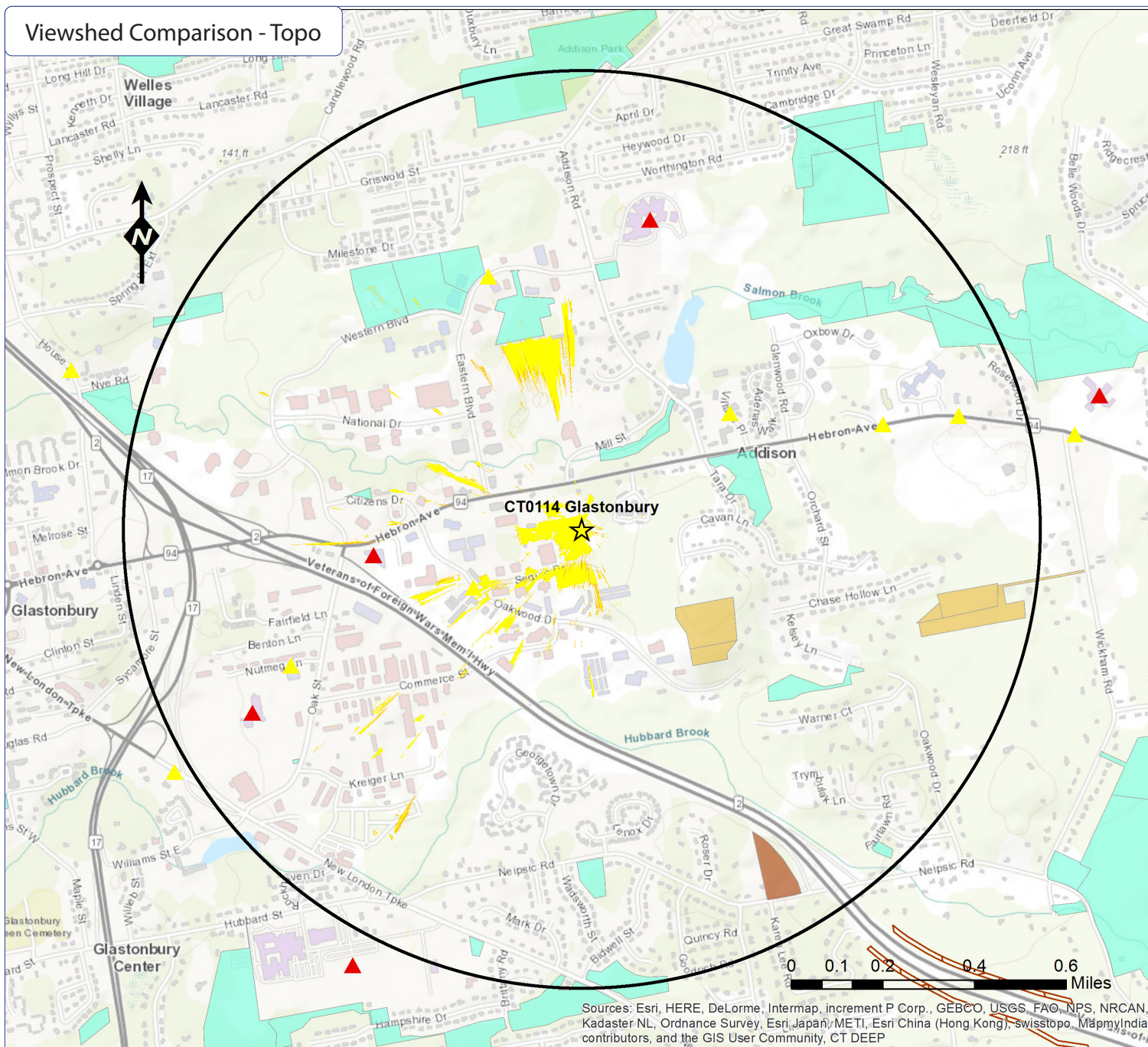
Statistics:
PROJ_DESC=Geographic (Lat/Long) / WGS84 / arc degrees
PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
PIXEL WIDTH=0.0000013 arc degrees (+/- .6 ft)
PIXEL HEIGHT=0.0000014 arc degrees(+/- .6 ft)
RADIUS (FT)= 1 Mile
TRANSMITTER_HEIGHT (Ft-AGL)= 115
RECEIVER_HEIGHT (Ft-AGL)= 5 Ft
PERCENT_VISIBLE (%) Year Round (Leaf On)= 1.13%
PERCENT_VISIBLE (%) Seasonal (Leaf Off)= 1.33%
Notes:
- map compiled by VSS, LLC on : 12/18/2020
- Tower location(lat/long NAD 83): 41.714652 -72.580755
- Data Sources noted on documentation page attached



Viewshed analysis maps and representations contained herein depict where proposed facility may potentially be visible based on the best data available and site conditions at the time data was collected. This study does not claim to depict all locations from where the facility may be potentially visible.



Viewshed Comparison - Topo



Proposed Facility:

CT0114 Glastonbury

Sequin Street

Glastonbury, CT 06033

☆ Facility Location ○ 1 Mile Radius

- ▲ School Facilities ▲ Daycare Facilities
- CT Open Space (Conservation Land)
- CT Open Space (Municipal Land)
- CT Open Space (State Land)
- Predicted Visibility-Year Round(Leaf On)
- Predicted Visibility-Seasonal(Leaf Off)

Statistics:

PROJ_DESC=Geographic (Lat/Long) / WGS84 / arc degrees
 PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
 PIXEL WIDTH=0.0000013 arc degrees (+/- .6 ft)
 PIXEL HEIGHT=0.0000014 arc degrees(+/- .6 ft)
 RADIUS (FT)= 1 Mile
 TRANSMITTER_HEIGHT (Ft-AGL)= 115
 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft
 PERCENT_VISIBLE (%) Year Round (Leaf On)= 1.13%
 PERCENT_VISIBLE (%) Seasonal (Leaf Off)= 1.33%

Notes:

- map compiled by VSS, LLC on : 12/18/2020
- Tower location(lat/long NAD 83): 41.714652 -72.580755
- Data Sources noted on documentation page attached



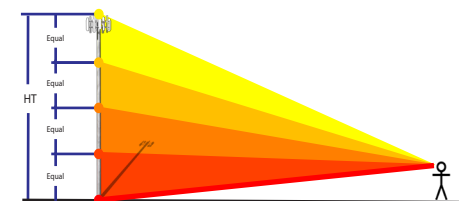
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Proposed Facility:
CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033

IVS Leaf On - Image

IVSview® Color Legend



☆ Facility Location ○ 1 Mile Radius

▲ School Facilities ▲ Daycare Facilities
 ■ CT Open Space (Conservation Land)
 ■ CT Open Space (Municipal Land)
 ■ CT Open Space (State Land)

Tower Visibility

Color	Location	% Vis	Acres
Yellow	Top 25%	0.51%	10.3
Orange	Top 50%	0.25%	5.0
Red-Orange	Top 75%	0.09%	1.8
Red	Top 100%	0.09%	1.8
Dark Red	Base	0.18%	3.7
TOTAL		1.13%	22.6 Acres

Statistics:

PROJ_DESC=Geographic (Lat/Long) / WGS84 / arc degrees
 PROJ_DATUM=WGS84 PROJ_UNITS=arc degrees
 PIXEL_WIDTH=0.0000013 arc degrees (+/- .6 ft)
 PIXEL_HEIGHT=0.0000014 arc degrees (+/- .6 ft)
 RADIUS (FT)= 1 Mile
 TRANSMITTER_HEIGHT (Ft-AGL)= 115
 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 1.13%

Notes:

- map compiled by VSS, LLC on :12/18/2020
 - Tower location(lat/long NAD 83): 41.714652 -72.580755
 - Data Sources noted on documentation page attached



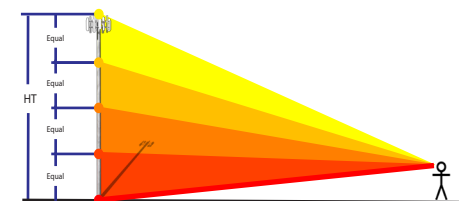
VSS-IVS- Interactive Viewshed Analysis output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site testing as needed.



Proposed Facility:
CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033

IVS Leaf Off - Imagery

IVSview® Color Legend



☆ Facility Location ○ 1 Mile Radius

▲ School Facilities ▲ Daycare Facilities
 ■ CT Open Space (Conservation Land)
 ■ CT Open Space (Municipal Land)
 ■ CT Open Space (State Land)

Tower Visibility

Color	Location	% Vis	Acres
Yellow	Top 25%	0.56%	11.4
Orange	Top 50%	0.34%	6.8
Red-Orange	Top 75%	0.12%	2.3
Red	Top 100%	0.11%	2.2
Dark Red	Base	0.21%	4.1
TOTAL		1.33%	26.8 Acres

Statistics:

PROJ_DESC=Geographic (Lat/Long) / WGS84 / arc degrees
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 PIXEL_WIDTH=0.0000013 arc degrees (+/- .6 ft)
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 RADIUS (FT)= 1 Mile
 TRANSMITTER_HEIGHT (Ft-AGL)= 115
 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 1.33%

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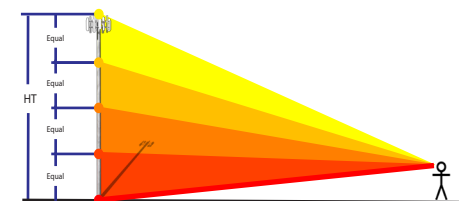
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Proposed Facility:
CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033

IVS Leaf On - Topo

IVSview® Color Legend



☆ Facility Location ○ 1 Mile Radius

- ▲ School Facilities ▲ Daycare Facilities
- CT Open Space (Conservation Land)
- CT Open Space (Municipal Land)
- CT Open Space (State Land)

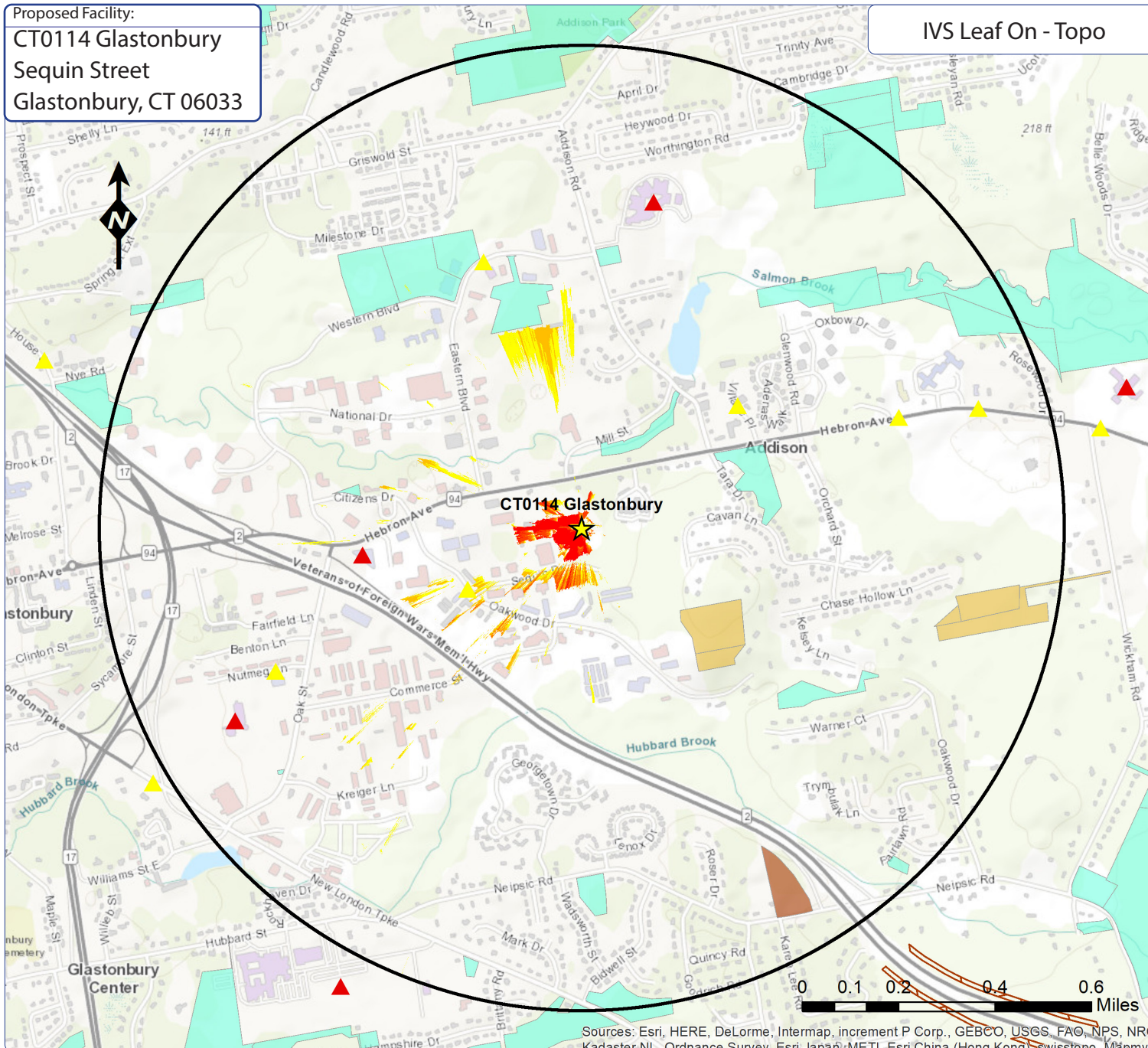
Tower Visibility			
Color	Location	% Vis	Acres
Yellow	Top 25%	0.51%	10.3
Orange	Top 50%	0.25%	5.0
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 RADIUS (FT)= 1 Mile
 TRANSMITTER_HEIGHT (Ft-AGL)= 115
 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 1.13%

Notes:

- map compiled by VSS, LLC on :12/18/2020
- Tower location(lat/long NAD 83): 41.714652 -72.580755
- Data Sources noted on documentation page attached



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRC, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, Mapbox

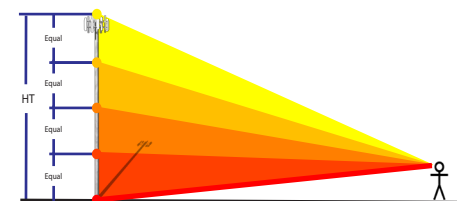
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Proposed Facility:
CT0114 Glastonbury
 Sequin Street
 Glastonbury, CT 06033

IVS Leaf Off - Topo

IVSview® Color Legend



☆ Facility Location ○ 1 Mile Radius

- ▲ School Facilities ▲ Daycare Facilities
- CT Open Space (Conservation Land)
- CT Open Space (Municipal Land)
- CT Open Space (State Land)

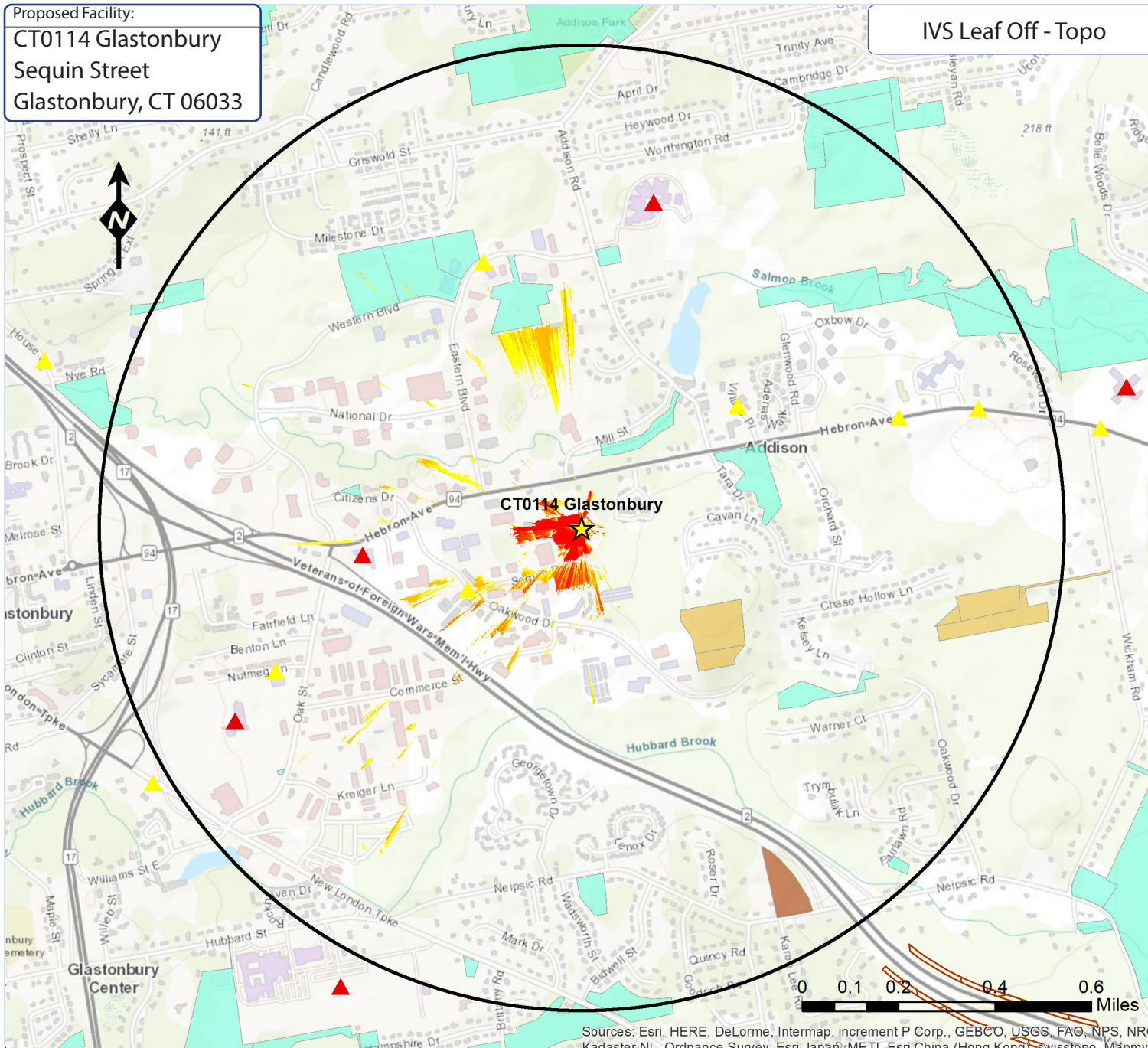
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Red	Top 100%	0.11%	2.2
Red	Base	0.21%	4.1
TOTAL		1.33%	26.8 Acres

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 RADIUS (FT)= 1 Mile
 TRANSMITTER_HEIGHT (Ft-AGL)= 115
 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft
 PERCENT_VISIBLE (%)= 1.33%

Notes:

- map compiled by VSS, LLC on :12/18/2020
- Tower location(lat/long NAD 83): 41.714652 -72.580755
- Data Sources noted on documentation page attached



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRC, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, Mapbox

VSS-IVS- Interactive Viewshed Analysis output maps contained herein depict where proposed facility may potentially be visible based on the best and newest data publicly available at the time the data was collected. VSS does not claim to depict all locations from where the facility may potentially be visible and calculated output should be confirmed via site testing as needed.

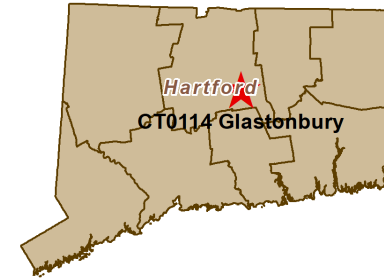


Photographic Simulation Package

Proposed Wireless Telecommunications Facility:

CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033

- Balloon Test Conducted 2/11/21



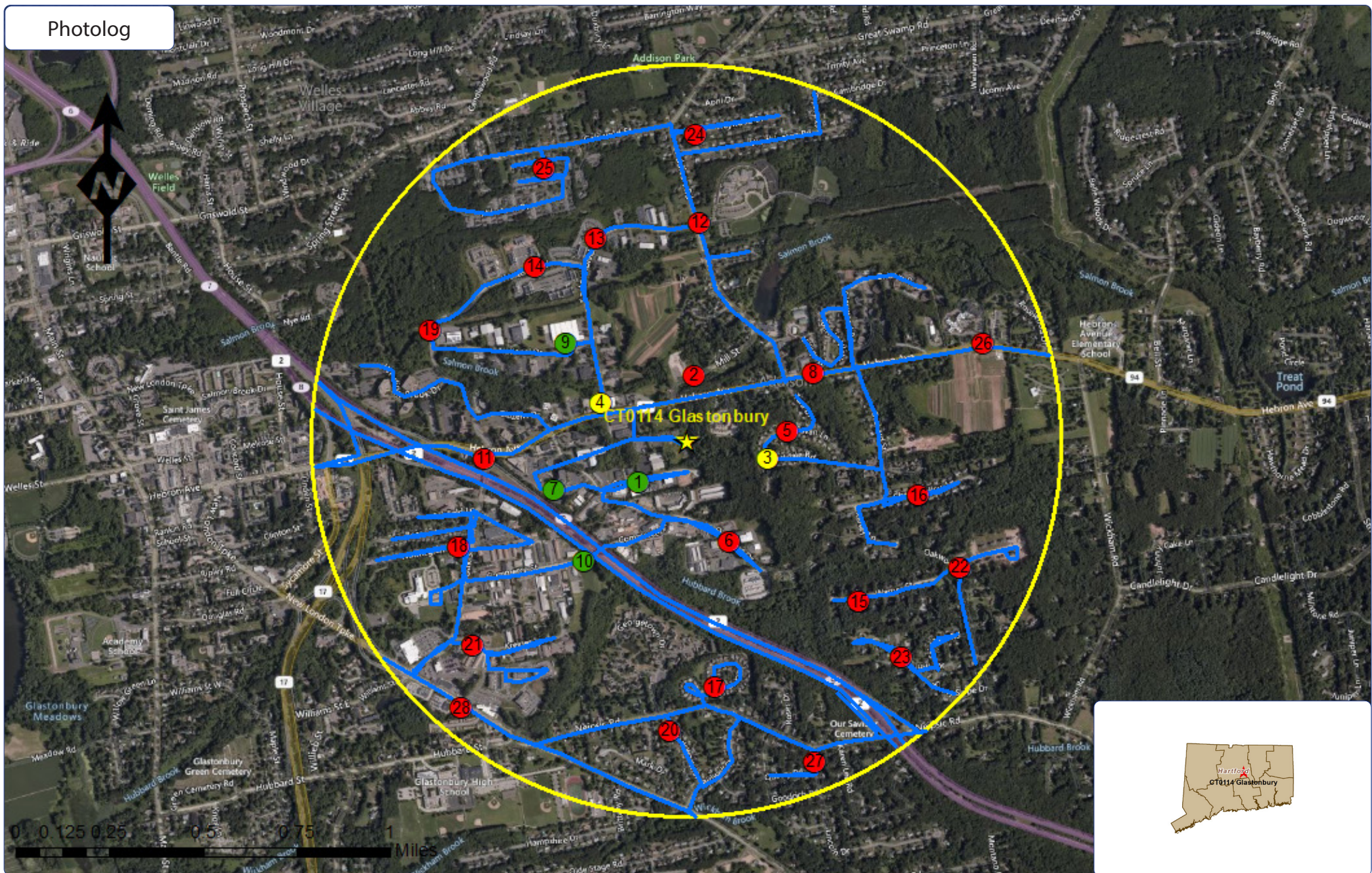
Package prepared by:

Virtual Site Simulations, LLC
24 Salt Pond Road
Suite C3
South Kingstown, Rhode Island 02879

www.VirtualSiteSimulations.com
www.ThinkVSSFirst.com

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution





Wireless Telecommunications Facility:

CT0114 Glastonbury
Sequin Street
Glastonbury, CT 06033

Legend:

- ★ Facility Location
- 1 Mile Radius
- Reconnaissance Track Log
- ⊗ Photo location - Balloon visible
- ⊗ Photo location - Balloon NOT visible
- ⊗ Photo location - Balloon visible
- ⊗ Photo location - Balloon NOT visible

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
1	Sequin Dr	41.71305	-72.58317	0.17 Miles	South-West	48	Year Round

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution





Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
1	Sequin Dr	41.71305	-72.58317	0.17 Miles	South-West	48	Year Round

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
2	Mill St	41.71718	-72.5803	0.18 Miles	North	188	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
3	Cavan Ln	41.71396	-72.57653	0.22 Miles	East	282	Obscured

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution





Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
3	Cavan Ln	41.71396	-72.57653	0.22 Miles	East	282	Obscured

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
4	Blvd and Hebron Ave	41.71613	-72.5851	0.25 Miles	North-West	114	Obscured

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution





Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
4	Blvd and Hebron Ave	41.71613	-72.5851	0.25 Miles	North-West	114	Obscured

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
5	Cavan Ln	41.71501	-72.57553	0.27 Miles	East	265	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
6	Oakwood Dr	41.71077	-72.57851	0.29 Miles	South-East	337	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
7	Hebron Ave	41.71278	-72.58751	0.37 Miles	West	70	Year Round

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution





Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
7	Hebron Ave	41.71278	-72.58751	0.37 Miles	West	70	Year Round

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
8	Hebron Ave	41.71725	-72.57419	0.38 Miles	North-East	242	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
9	Dr and Eastern Blvd	41.71845	-72.58691	0.41 Miles	North-West	130	Year Round

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution





Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
9	Dr and Eastern Blvd	41.71845	-72.58691	0.41 Miles	North-West	130	Year Round

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10	Commerce St	41.71	-72.58601	0.42 Miles	South-West	40	Year Round

Site: CT0114 Glastonbury

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Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
10	Commerce St	41.71	-72.58601	0.42 Miles	South-West	40	Year Round

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
11	Hebron Ave	41.714	-72.59113	0.54 Miles	West	85	Not Visible

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
12	Addison Rd	41.72308	-72.58002	0.58 Miles	North	184	Not Visible

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
13	Eastern Blvd	41.72247	-72.58536	0.59 Miles	North-West	156	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
14	Western Blvd	41.72139	-72.58853	0.61 Miles	North-West	139	Not Visible

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
15	Warner Ct	41.70843	-72.57189	0.63 Miles	South-East	313	Not Visible

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
16	Chase Hollow Ln	41.71252	-72.56878	0.64 Miles	East	283	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
17	Lenox Dr	41.70515	-72.57926	0.66 Miles	South	353	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
18	Oak St	41.71058	-72.59246	0.67 Miles	South-West	65	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
19	National Dr	41.71895	-72.5939	0.74 Miles	North-West	114	Not Visible

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
20	Wadsworth St	41.70347	-72.58163	0.77 Miles	South	3	Not Visible

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
21	Kreiger Ln	41.70678	-72.59174	0.79 Miles	South-West	46	Not Visible

Site: CT0114 Glastonbury

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Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
22	Oakwood Dr	41.70974	-72.56663	0.8 Miles	South-East	295	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
23	Rolling Hills Dr	41.70628	-72.56968	0.81 Miles	South-East	315	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
24	Heywood Dr	41.72645	-72.58024	0.82 Miles	North	182	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
25	Firethorn Dr	41.72516	-72.58804	0.82 Miles	North-West	153	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
26	Hebron Ave	41.71836	-72.5654	0.83 Miles	East	252	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
27	Neipsic Rd	41.70225	-72.57417	0.92 Miles	South	338	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Existing

Balloon not visible from this location



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
28	New London Turnpike	41.70437	-72.59237	0.93 Miles	South-West	40	Not Visible

Site: CT0114 Glastonbury

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution



Balloon Test- Process & Documentation

A balloon test is conducted to be used as the visual reference for site observations from random locations throughout the study area. The balloon test consisted of flying a 3 Ft. diameter helium filled balloon to the top elevation of the proposed tower(s). A red balloon is typically used to provide the best contrast between it and surrounding sky or vegetation. And, when necessary yellow balloons are used to provide differentiation to other towers or locations. The balloon(s) are then tethered to the location(s) of the proposed tower(s), and elevation(s) are set by measuring the length of the tether.

Balloon test accuracy is very wind dependent. The balloon test was therefore scheduled on a day with wind conditions below the accepted threshold of 10mph. A preliminary viewshed analysis can be done using the method outlined above to determine what areas are predicted to have views of the proposed site and to verify the computer model. Drive-by visual reconnaissance of the Study Area is then conducted using the preliminary viewshed analysis as a guide. Locations where the Balloon is visible and not visible are photo documented and a GPS track of reconnaissance areas is made. Reconnaissance areas were limited to public areas/roads, no private property is used in the on-site observations of this test.

Photo documentation of this test is accomplished using a Nikon P900 16Mp digital camera set to use a 50mm focal length^{1 2}. The Nikon P900 was chosen because it has built- in XMP metadata files that embed the GPS location, light conditions and bearing to target within the image source data file. These photos document the necessary location and bearing data to ensure the accuracy of simulation location. This documentation is then incorporated into a computer model prediction. The on-site observations are used to adjust model assumptions made in the 3d model as necessary.

¹ “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 an 24 x 35mm image, the normal focal length is about 50mm” Warren Bruce Photography, West Publishing Company, Egan, MN c 1993 (page 70)

² 50 mm focal length is based on 35mm film photography. Since Digital photographic sensors are not the same size as 35mm film ALL digital photography focal lengths must be corrected

Photographic Documentation – Photorealistic Simulations

A number of photographs are chosen from the on-site documentations photos and used to prepare photorealistic simulations of the proposed telecommunications facility. GPS coordinates and bearing information recorded within the XMP metadata file of the documentation photos are used to generate virtual camera positions within a 3d model. The balloon in the documentation photos is used as a spatial reference to verify the proportions and height of the proposed tower. Site plan information, field observations and 3D models are then used in these simulations to portray relative scale and location of the proposed structure. The photo simulations are then created using a combination of the 3d model and photo rendering software. These simulations and the existing site photographs provided for reference are attached.

Limitations:

This report and the analysis herein does not claim to depict all locations, or the only locations from which the proposed facility will be visible; it is intended to provide a representation of those areas where proposed facility is likely to be visible.