EXHIBIT E

Viewshed Analysis - Photographic Simulation Package

Proposed AT&T Wireless Telecommunications Facility

CT2583
Southington Center Street
168 Center Street
Southington, CT 06489

- proposed new 31 ft rooftop lattice type tower
- existing rooftop height 42 ft AGL
- total height of tower on rooftop 73 ft AGL
- balloon test complete on 4/11/2014
- documentation photographs taken 4/11/2014
- Visibility Analyisis completed 5/27/2014

Package prepared by:

Virtual Site Simulations, LLC
9 walts way
Narragansett, Rhode Island 02882
(401)308-7067

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Introduction

At the request of New Cingular Wireless PCS, LLC DBA "AT&T", Virtual Site Simulations, LLC (VSS) was contracted to provide a Viewshed Analysis for a proposed rooftop mounted telecommunications Facility located at 168 Center Street, Southington, CT 06489. Hereafter referred to as "the Site". The proposed rooftop tower facility would consist of a 31 ft. lattice type guy tower added to the existing rooftop height of 42 ft. above ground level ("AGL"). The total height of proposed tower will be approximately 73 ft. AGL. The lattice guy tower will have an antenna structure with 12 panel antennas mounted at a centerline height of approximately 69 ft. AGL. The diesel backup generator and associated unmanned equipment will be housed in an equipment area located in the basement of building.

Site Description and Setting

The proposed rooftop mounted, lattice guy tower type telecommunications facility is located at the south end of the rooftop of existing building on the property designated by the tax assessor as 099/053. The Site is approximately 1.1 miles southeast of RT 84 at exit 31 Hart Street. The surrounding area is urban with a mix of multifamily family residential, single family residential and commercial properties. Development to the immediate north, east and south consists of mostly industrial properties. Areas to the west consist of mostly multifamily and single family residential properties. The North Center Elementary School is approximately .37 mile to the north. The Derynoski Elementary School is approximately .39 miles to the southeast. The CT Trail System Farmington Canal Trail passes from north to south through study area and adjoins the site. 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

A two mile radius surrounding the site is defined as the study area for this Viewshed Analysis. The Viewshed Analysis was conducted within the predefined study area using two different methods: computer modeling and on-site observation. Each method was used to verify the results of the other, providing the best possible prediction of locations that will have views of proposed telecommunications facility.

Computer Modeling: A combination of Image based and Digital Elevation Model ("DEM") based data was used to perform this analysis. The primary software used was Environmental Systems Research Institute Inc (ERSI) ArcGIS Spatial Analysis. This software allows the user to perform spatial analysis on imported maps and datasets. The maps and datasets used are documented in the "documentation" page at the end of this report. The maps and 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 (in this case 73 ft. AGL). The tools also take into account any layers that have been imported that may affect viewing location (i.e. topography, tree canopy, ground cover, buildings, roads etc.). In this case no current data sets exist that accurately depict the actual building or tree canopy heights. It was determined that averaging manual measurements of the existing tree canopy and building heights and manually inputting this data into the analysis would increase the accuracy of the model. Therefore, tree canopy elevations were measured randomly throughout the study area to obtain an average tree canopy height. A Lieca DISTO D2 infrared laser range finder developed by Lieca Geosystems, Inc. with a typical accuracy of +/- .06 " was used to obtain these measurements. An average height of 50' AGL was determined to be the most accurate representation of the existing tree canopy. Buildings within the study area are mainly two story commercial structures and two story multi-family residential properties. An average building height of 25 ft AGL was determined to best represent this type of structure. These averages were incorporated into their specific layers and viewshed analysis tools were applied. The results of this computer model were then graphically layered on topographic and aerial maps. A second viewshed analysis was then done using the existing building height of 42 ft. AGL. These two results were then compared to obtain a Total Addition Viewshed Map. The results of both the proposed tower viewshed analysis and the addition to viewshed only analysis are provided in separate maps at the end of this report.

On-site observation: A balloon test was conducted and used as the visual reference for site observations from random locations throughout the study area. The balloon test consisted of

flying an approximately 4 ft diameter helium filled balloon to the top elevation of the proposed tower. The balloon was tethered to the location of the proposed tower, and its elevation was verified using the Lieca DISTO D2 described above. The observations were photo documented. Photo documentation was accomplished using a Nikon AW110 16Mp digital camera set to use a 50mm focal length[1] [2]. The Nikon AW110 was chosen because it has built in 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 was then incorporated into a computer model prediction. The on-site observations were used to adjust model assumptions 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 and 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

A number of photographs were taken from the on-site documentations and used to prepare photorealistic simulations of the proposed telecommunications facility. Site plan information, field observations and 3D models are used in these simulations to portray relative scale and location of the proposed structure. These simulations and the existing site photographs provided for reference are attached.

Five photographs were used for site simulations and were taken from the following locations:

Image	Location	Latitude:	Longitude:		Distance to site		Orientation
1	Columbus Avenue	41.60042	-72.87952	+/-	0.16	Miles	South West
2	Factory Square	41.60283	-72.88136	+/-	0.12	Miles	North West
3	Mill Street	41.60443	-72.88142	+/-	0.22	Miles	North
4	Hill Street	41.60266	-72.88551	+/-	0.19	Miles	North East
5	Matthews Street	41.60095	-72.88771	+/-	0.28	Miles	East

Visibility Analysis Results

The results of both the proposed tower viewshed analysis and the addition to viewshed only analysis are provided in separate maps at the end of this report. Due to the urban nature of the surrounding development, primary views are scattered within the study area with commercial buildings partially obscuring most "near field" (<.25 miles) views. Year round views of the upper portion of the tower are predicted from residential areas immediately to the west. It is predicted that these views will be partially obscured by urban landscape and tree canopy. Year round views from the CT Trail System Farmington Canal Trail are predicted as it passes immediately to the west along South Center Street. The predicted estimate of year round views of the proposed rooftop tower facility are from approximately 450 acres, mostly confined to an area within .5 miles of the site. The predicted year round visibility of existing building is from 355 acres. The predicted addition to year round viewshed due to proposed addition to the structure is approximately 95 acres. The predicted seasonal views of the proposed facility are from an additional approximate 1022 acres. The predicted seasonal visibility of existing building is from approximately 792 acres. The predicted addition to seasonal views due to the proposed addition to the structure is 230 acres.

Documentation

Sources used for Visibility Analysis located at:

Proposed AT&T Wireless Telecommunications Facility
S3463 Southington West Center Street
1011 West Center Street
Southington, CT 06489

Maps and datasets /consulting documents:

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

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

UCONN- Center for Land Use Education and Research
- LiDAR data (2000)
- Land Use/Ground Cover (2006)

DEEP- Connecticut Department of Energy and Environmental Protection
- Open Space (1997)
- DEEP Property(2007)
- Historic Places (2008)

United States Census (2010) – Landmark Polygon Features

Connecticut Forest & Park Association (CFPA) – Blue Blazed Trails (2014)

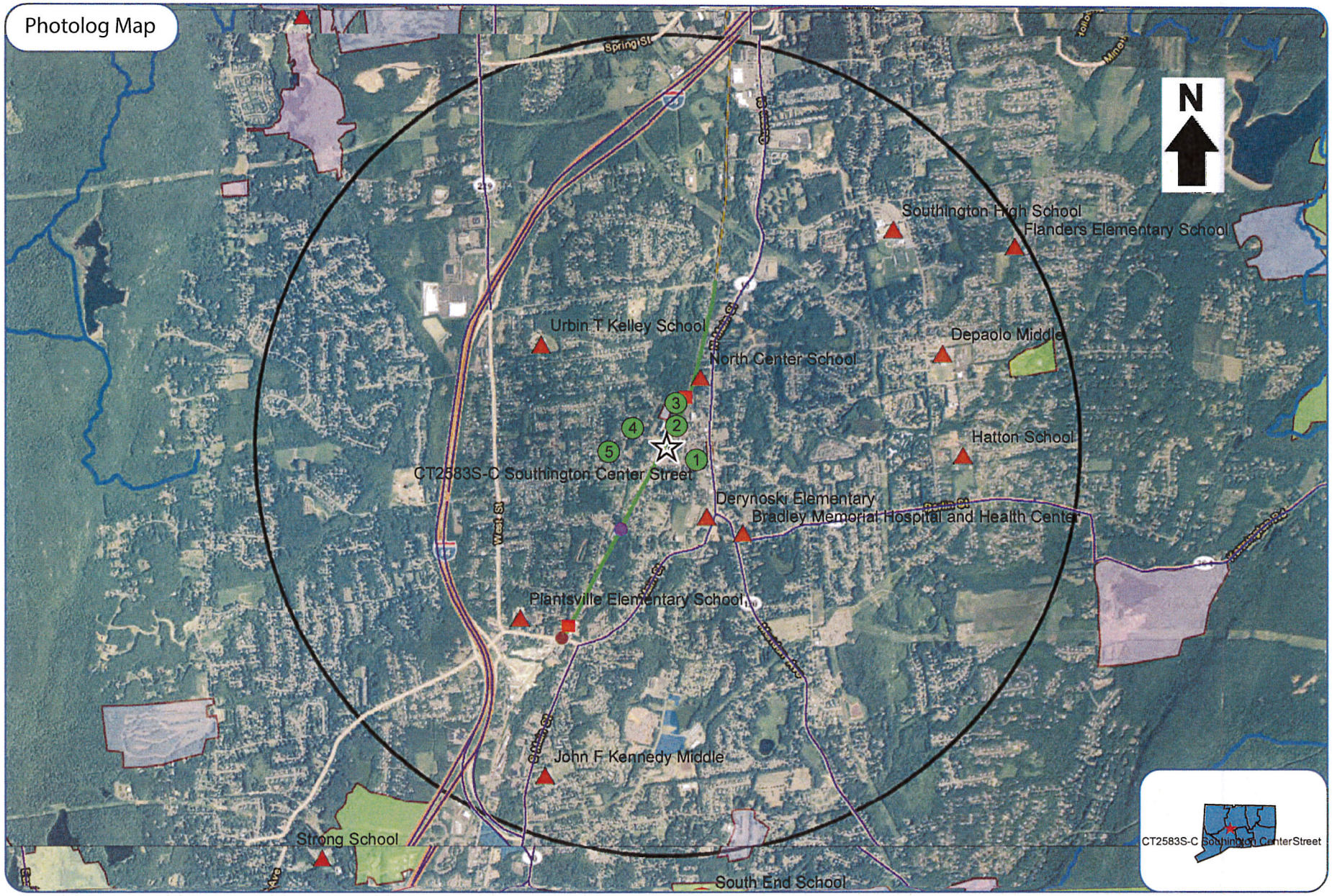
Connecticut.Gov eLicensing Website – Child Daycare & Group Daycare Homes Roster (2014)

Environmental Systems Research Institute Inc (ERSI) – CT state boundaries/counties (2010)
2013 National Geographic Society

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.



Proposed AT&T Wireless Telecommunications Site:

CT2583 Southington Center Street
168 Center Street
Southington, CT 06489

Legend:

- Proposed Tower Location
- Photo Documentation location
- 2 Mile Radius

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

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Photo #	Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
1	Columbus Avenue	41.60042	-72.87952	+/- 0.16 Miles	South West	315.99	Seasonal

Site: CT2583 Southington Center Street

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Photo #	Location	Gps Coordinates		Distance to site			Orientation	Bearing to site	Visibility
2	Factory Square	41.60283	-72.88136	+/-	0.12	Miles	North West	206.46	Year Round

Site: CT2583 Southington Center Street

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Existing

Photo #	Location	Gps Coordinates		Distance to site			Orientation	Bearing to site	Visibility
3	Mill Street	41.60443	-72.88142	+/-	0.22	Miles	North	192.12	Year Round

Site: CT2583 Southington Center Street

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Photo #	Location	Gps Coordinates		Distance to site		Orientation	Bearing to site	Visibility
2	Factory Square	41.60283	-72.88136	+/- 0.12	Miles	North West	206.46	Year Round

Site: CT2583 Southington Center Street

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Simulation

Photo #	Location	Gps Coordinates		Distance to site			Orientation	Bearing to site	Visibility
3	Mill Street	41.60443	-72.88142	+/-	0.22	Miles	North	192.12	Year Round

Site: CT2583 Southington Center Street

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Photo #	Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
4	Hill Street	41.60266	-72.88551	+/- 0.19 Miles	North East	118.22	Seasonal

Site: CT2583 Southington Center Street

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Photo #	Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
4	Hill Street	41.60266	-72.88551	+/- 0.19 Miles	North East	118.22	Seasonal

Site: CT2583 Southington Center Street

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Photo #	Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
5	Matthews Street	41.60095	-72.88771	+/- 0.28 Miles	East	84.22	Seasonal

Site: CT2583 Southington Center Street

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Photo #	Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
5	Matthews Street	41.60095	-72.88771	+/- 0.28 Miles	East	84.22	Seasonal

Site: CT2583 Southington Center Street

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