

February 19, 2021

VIA ELECTRONIC MAIL AND FEDERAL EXPRESS

Ms. Melanie A. Bachman, Esq., Executive Director Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

Re: DOCKET 496

Dear Attorney Bachman:

This office represents Tarpon Towers II, LLC ("Tarpon"). On behalf of Tarpon, I have enclosed one hardcopy of Tarpon's responses to the first set of interrogatories issued by the Connecticut Siting Council.

Please do not hesitate to contact me with any questions.

Very truly yours,

Jesse A. Langer

Enclosure

STATE OF CONNECTICUT CONNECTICUT SITING COUNCIL

APPLICATION OF TARPON TOWERS : DOCKET NO. 496

II, LLC FOR A CERTIFICATE OF

ENVIRONMENTAL COMPATIBILITY :

AND PUBLIC NEED FOR THE

CONSTRUCTION, MAINTENANCE

AND OPERATION OF A WIRELESS :

TELECOMMUNICATIONS FACILITY :

AT 800 PROSPECT HILL ROAD, : WINDSOR, CONNECTICUT : February 19, 2021

APPLICANT'S RESPONSES TO THE FIRST SET OF INTERROGATORIES BY THE CONNECTICUT SITING COUNCIL

Tarpon Towers II, LLC ("Tarpon") respectfully submits the following responses and non-privileged documentation to the First Set of Interrogatories issued by the Connecticut Siting Council ("Council") in connection with the above-captioned matter.

- 1. Referring to Application p. 3, of the letters sent to abutting property owners, how many certified mail receipts were received? If any receipts were not returned, which owners did not receive their notice? Were any additional attempts made to contact those property owners?
 - Tarpon received certified receipts from six of the seven property owners notified. The lone property for which a return receipt was not received is the real property commonly known as 2000 Day Hill Road. Tarpon sent an additional notice to the record owner as well as to ABB Corporate Real Estate ("ABB"), the corporate headquarters of the other entity listed on the Town of Windsor's ("Town") GIS for this property address. Tarpon received a certified receipt from ABB.
- 2. Referring to Application p. 21, clarify the date that the technical report was submitted to the Town.
 - The date referenced in the Application was a typographical error. The correct date is November 6, 2019.
- 3. Referring to Application pp. 21-22, how many residences attended the January 30, 2020, public meeting? What concerns were raised by residents and town officials and how were these concerns addressed?

There were few residential property owners in attendance at the public meeting. Some Town officials were in attendance and represented that they were speaking on behalf of some of their constituents. Those officials indicated that there is an existing coverage gap to the north of the site of the proposed facility. They wanted to know whether other carriers could or would collocate on the facility and whether the facility would be 5G capable. There were no concerns raised about the environmental or visual impacts of the proposed facility.

4. Referring to Application p. 22, how will Tarpon recover the construction cost of the facility?

Tarpon would recover construction costs associated with the facility by the revenue generated from leasing space on the facility to other wireless providers.

5. What is the estimated cost of T-Mobile's equipment, including installation? How is the cost of T-Mobile's installation recovered?

The estimated cost for the installation is \$250,000. T-Mobile would recover that cost through subscriber revenue.

Site Search

6. Identify the approximate center and radius of the site search area.

The proposed facility is the approximate center of the site search area with a one-half mile radius.

7. When did T-Mobile issue a site search for this area?

March 28, 2020.

Site/tower

8. Estimate the amounts of cut and fill that would be required to develop the proposed facility.

Tarpon estimates approximately five cubic yards of volume cut and twenty cubic yards of volume fill for a net volume of fifteen cubic yards. The earthwork cut and fill quantities are based upon the difference between finished and existing surfaces and do not account for pavement/gravel thickness. A 1.15 fill factor was used to account for compaction and loss. The engineer does not guarantee that these will be the actual earthwork cut and fill quantities as generated on-site.

9. Would any blasting be required to develop the site?

The proposed facility would be located behind an existing building in a finished area of the Property that is well landscaped. Blasting would be required only if ledge is encountered during excavation for the monopole foundation. Tarpon and its representatives do not anticipate any ledge and, accordingly, it is unlikely blasting will be necessary.

10. What measures are proposed for the site to ensure security and deter vandalism? (Including alarms, gates, locks, anti-climb fence design, etc.)

Tarpon would secure the site with an eight foot high chain link fence. The double swing gates would have a combination lock to prevent unauthorized access. Tarpon would limit access to its authorized representatives and the wireless carriers leasing space on the facility. Please see Attachment 1, Sheet D-1, to the Application. Additionally, each carrier, T-Mobile in this instance, installs vandal resistant equipment cabinet enclosures to protect their equipment.

- 11. Pursuant to CGS §16-50p(a)(3)(G), identify the safety standards and/or codes by which equipment, machinery or technology that would be used or operated at the proposed facility.
 - a. 2015 International Building Code with the 2018 CT Building Code Amendments;
 - b. 2017 National Electric Code (NFPA70);
 - c. 2018 CT State Fire Safety Code;
 - d. TIA-222-G-4 "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures"; and
 - e. Occupational Safety and Health Administration (OSHA).
- 12. Would the tower include an engineered yield point to ensure the tower does not strike the building in the event of a tower failure?

Tarpon would include a yield point as part of its design if ordered by the Council.

13. Application Attachment 16 indicates the frequencies that will be installed at the site. How do these frequencies interact within T-Mobile's wireless network? Are all frequencies used to transmit voice and data?

All LTE and GSM frequencies are used to transmit both voice and data. The 5G NR frequencies are currently used for data only. The chart below summarizes the manner in which the various frequencies interact with T-Mobile's wireless network.

Technology	Service:
T-Mobile 1900 MHz (PCS) LTE	Voice and Data
T-Mobile 1900 MHz (PCS) GSM	Voice and Data
T-Mobile 2100 MHz (AWS) LTE	Voice and Data
T-Mobile 600 MHz LTE / 5G NR	LTE -Voice and Data; 5G NR only Data
T-Mobile 700 MHz LTE	Voice and Data
T-Mobile 1900 MHz (PCS) LTE	Voice and Data
T-Mobile 2500 MHz (BRS) LTE / 5G NR	LTE -Voice and Data; 5G NR only Data

14. Would the proposed facility provide 5G services?

Yes.

- 15. Referring to Application Attachment 5, what LTE frequency was used to generate the coverage models? Why was this frequency chosen to depict wireless service as opposed to other frequencies?
 - T-Mobile used the LTE 1700 MHz layer to generate the coverage plots. T-Mobile chose this frequency because the main objective for this facility is to improve in-vehicle ("IVC") and inbuilding coverage for both residential ("IBR") and commercial properties ("IBC"), as well as relieve the capacity from low band neighboring sites CTHA068A and CT11227D.
- 16. Referring to Application p. 5, provide more specific information as to how the site will improve upon the existing wireless service in the area. Include data that quantifies the additional coverage area footprint and road miles that would be served by the proposed facility.
 - The purpose of the proposed facility is to improve IVC, IBR and IBC coverage in this area of the Town. The proposed facility would provide new IVC, IBR and IBC coverage along approximately 2.2 miles of Day Hill Road that has approximately 20,000 vehicles travelling daily. This stretch of Day Hill Road hosts a lot of commercial activity, which continues to grow. This facility would also provide new IVC, IBR and IBC coverage: (a) to the northeast along approximately 1 mile of Prospect Hill Road; (b) along approximately 1.1 miles of Goodwin Drive, Phoenix Crossing, Old Iron Ore Road, and surrounding streets; and (c) areas extending approximately 2.5 miles to the north.
- 17. Identify the distance and direction to adjacent sites with which the proposed facility would hand off signals. Include addresses, tower types, and existing antenna centerline heights for such carriers at these adjacent sites.

Please see the table appended hereto as Attachment 1.

18. Can coverage objectives be met by installing antennas at a lower tower height? Identify the lowest possible antenna height and describe how this height would affect coverage needs and/or capacity relief within the service area.

The proposed centerline height of 130 feet above ground level is the lowest height in which T-Mobile can achieve its coverage and capacity objectives.

- 19. Can flush-mounted antennas be installed at the site to provide the required coverage? Describe any antenna/tower modifications that would be required to achieve coverage objectives.
 - T-Mobile both prefers and needs a full platform design. Flush mounts reduce the number of possible antennas, thus limiting the performance of the facility when compared to a full platform configuration. The full platform configuration also allows for future

modifications as technology advances. Finally, the full platform is essential to accommodate the additional spectrum T-Mobile recently acquired from the Sprint Corporation merger.

20. What is the purpose of the proposed parabolic microwave dish?

The purpose of the parabolic microwave dish is to provide backhaul to or from the facility.

- 21. Referring to Application p. 5, provide the following;
 - a) Identify sites CTHA068A and CT11227D.
 - b) What frequencies and sectors at these sites would benefit from capacity relief?
 - c) Would the proposed facility sufficiently address these capacity issues at these sites or would an additional facility be required in the near term to off-load traffic?
 - (a) Please see the propagation plot appended hereto as Attachment 2.
 - (b) The following sectors and frequencies would benefit from capacity relief: (i) CTHA068A Alpha sector L6/L7 low band frequency and (ii) CT11227D Gamma sector L700 low band frequency. Depictions of this relief are reflected on <u>Attachment 2</u> with red arrows.
 - (c) The proposed facility would be sufficient to address the current capacity issues in the near term of approximately two to three years. T-Mobile cannot predict the additional benefits of the proposed facility after that two to three year period.

Backup power

22. Referring to Application p. 13, a portable 25 kW diesel generator is proposed for an emergency power source. Why is a portable backup power source proposed for this site instead of a permanent battery or generator? Would the portable generator have secondary spill containment measures?

The reference in the Application narrative to a portable backup power source was in error. T-Mobile would install a permanent 25kW diesel generator. Please see Attachment 1, Sheet CA-1, to the Application.

23. Is natural gas available on the property?

Natural gas is available at the Property.

24. Is it possible to obtain emergency power for the proposed facility from any existing on-site emergency power source generator that serves the buildings?

There are no emergency backup generators on the Property.

Public Safety

25. Would the proposed facility support text-to-911 service? Is additional equipment required for this purpose?

Yes, T-Mobile's installation would support text-to-911 service. No additional equipment is required.

26. Would T-Mobile's antennas comply with federal E911 requirements?

Yes, T-Mobile's installation would comply with the applicable federal E911 requirements.

27. Would T-Mobile's installation comply with the intent of the Warning, Alert and Response Network Act of 2006?

T-Mobile has elected to participate in part in the Wireless Emergency Alert public safety notification system, which enables authorized agencies to sent text-like messages to consumers with capable devices to alert them of emergencies in their area. T-Mobile's installation would comply with the FCC requirements concerning Wireless Emergency Alerts.

28. Would the operation of the proposed facility comply with Department of Energy and Environmental Protection noise control standards at the property boundaries? What equipment is expected to make noise?

The equipment expected to emit noise at the facility would be the equipment cabinet and the standby generator. The equipment cabinet noise would come from cooling fans, which would be quieter than the standby generator when it is running. The manufacturer for the standby generator lists a maximum noise level of 65 dB when observed from twentythree feet away from the standby generator. The standby generator would be located approximately ninety-seven feet from the closest property line. That property line is shared with a farm to the north located in an Agricultural (AG) Zoning District. The property borders a residential district (AA) to the east; however, the property's eastern boundary is Prospect Hill Road, which is approximately 359 feet from proposed location of the standby generator and shielded by a large building. The other adjoining properties to the south and to the west are zoned industrial (I). They are 267 feet and 325 feet from the generator respectively and shielded by two large buildings. A sketch depicting the distances and intervening structures is appended here to as Attachment 3. While an acoustical study was not performed, Tarpon expects compliance with the noise control standards because of (1) the manufacturer sound specifications, (2) the significant distances to the property line, (3) the existing intervening buildings and road, and (4) the class of receptors, particularly at the closest property line, which is ninety-seven feet.

Environment

29. Is the site located on prime farmland soil? If so, estimate the amount that would be disturbed to develop the facility.

There is a total of 0.97 acres of prime farmland soil on the 5.76 acre parcel. Approximately 0.08 acres of prime farmland soil would be disturbed to develop the facility.

30. Is the proposed facility within a Department of Energy and Environmental Protection (DEEP) designated Aquifer Protection Area? If so, what measures could the Applicant utilize to protect this APA?

The proposed facility is not within a DEEP designated Aquifer Protection Area.

31. The DEEP Natural Diversity Database (NDDB) determination expired on January 8, 2021. Does the Applicant intend to re-submit an NDDB Request for Review?

All-Points Technology Corporation, P.C. ("APT") resubmitted a NDDB Request for Review on February 3, 2021. APT reviewed the 2020 NDDB mapping and determined that no changes have occurred since the original submittal. According to the NDDB, there are two known state threatened species populations of the Eastern box turtle and the Eastern hognose snake within the project boundaries. The NDDB has requested protection strategies be implemented to lessen the impact to state-listed species. As no changes have occurred since the original submittal, the compliance determination completed by APT on April 8, 2019 is still valid. The Applicant is committed to implementing all recommended protective measures.

32. Referring to Application Attachment 9 - Visibility Assessment, provide a photolog chart that includes columns for photograph number, location, distance to tower and an estimate of how much of the tower is visible in each photograph (in feet).

Virtual Site Simulations, LLC ("VSS") updated its Viewshed Analysis Report ("Report") to reflect a two-mile radius. The updated Report is appended hereto as <u>Attachment 4</u>. Since the preparation of the original Report, the data sources available to VSS have also been updated. Accordingly, VSS used this opportunity to re-run the viewshed with the updated data. The requested photolog chart is embedded in the Report at page 5. Additionally, although the percentage of visibility increased slightly as result of the two-mile radius, the number of residences with potential views remained the same.

33. Referring to Application Attachment 9 - Visibility Assessment, why is the area within 0.35 mile of the site characterized as commercial/industrial/farmland but excludes residential? Estimate the number of homes that would have year-round views of the tower within 0.35-mile.

This was an inadvertent oversight. A revised characterization of the area within 0.35 miles of the site would read: "Areas of predicted visibility, both seasonal and year-round, are mostly contained within Commercial/Industrial/Farmland and Residential areas within .35 miles surrounding the proposed site." This language is now included in the updated Report.

Based on the viewshed analysis model, it is estimated that approximately twenty-three residences would potentially have some year-round views of the proposed site. Fifteen of these residences are located within the residential area immediately to the north of the proposed site along Huckleberry Road and Morello Court. The remaining seven residences are on Prospect Hill Road adjacent to and across from the proposed site.

34. Please submit photographic site documentation with notations linked to the site plans or a detailed aerial image that identifies locations of site-specific and representative site features. The submission should include photographs of the site from public road(s) or publicly accessible area(s) as well as Site-specific locations depicting site features including, but not necessarily limited to, the following locations as applicable:

For each photo, please indicate the photo viewpoint direction and stake or flag the locations of site-specific and representative site features. Site-specific and representative site features include, but are not limited to, as applicable:

- 1. wetlands, watercourses and vernal pools;
- 2. forest/forest edge areas;
- 3. agricultural soil areas;
- 4. sloping terrain;
- 5. proposed stormwater control features;
- 6. nearest residences;
- 7. Site access and interior access road(s);
- 8. tower location/compound;
- 9. clearing limits/property lines;
- 35. mitigation areas; and
- 36. any other noteworthy features relative to the Project.

A photolog graphic must accompany the submission, using a site plan or a detailed aerial image, depicting each numbered photograph for reference. For each photo, indicate the photo location number and viewpoint direction, and clearly identify the locations of site specific and representative site features shown (e.g., physical staking/flagging or other means of marking the subject area)

The submission shall be delivered electronically in a legible portable document format (PDF) with a maximum file size of <20MB. If necessary, multiple files may be submitted and clearly marked in terms of sequence.

The remote field review is appended hereto as Attachment 5.

Respectfully submitted by,

TARPON TOWERS II, LLC

By:

Jesse A. Langer

Updike, Kelly & Spellacy, P.C.

8 Frontage Road

East Haven, CT 06512

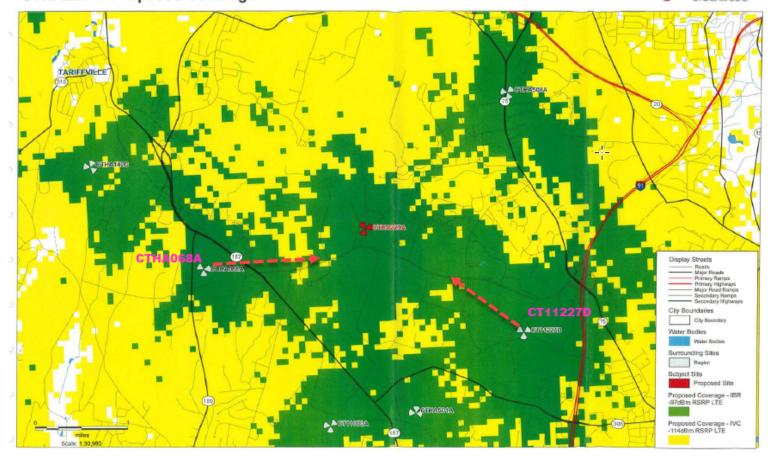
(203) 786-8310

Email: jlanger@uks.com

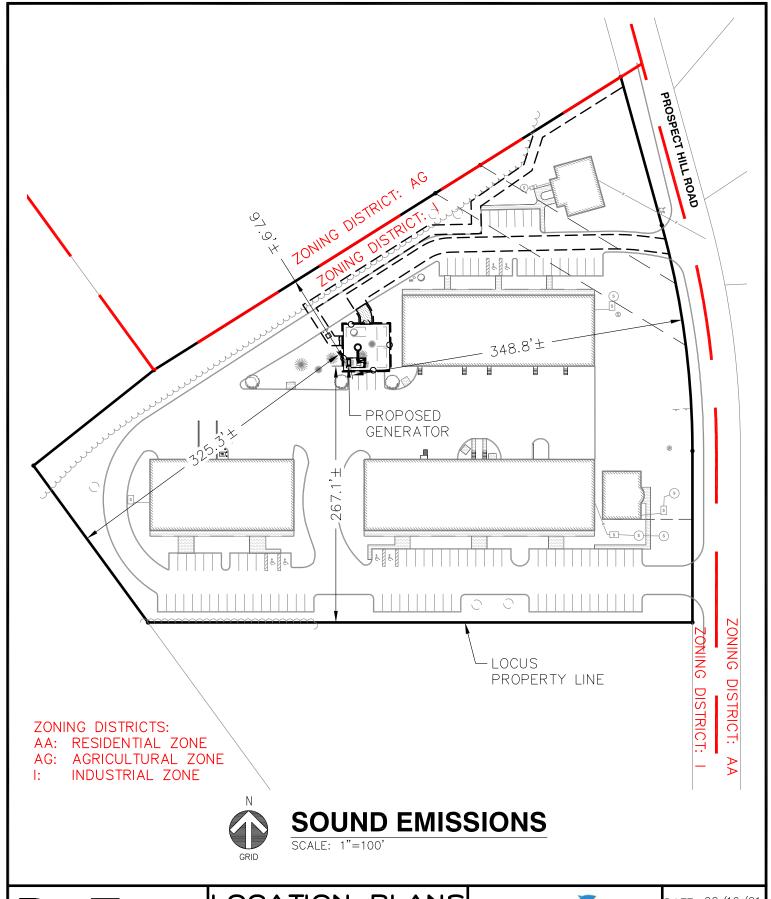
(Adjacent Site Table – Interrogatory No. 17)

Site:	Street address	City	State	Zip Code	Tower type	Centerlin e Height (FT)	Direction from proposed	Distance from Proposed (Miles)
CTHA501A	22 East Dudley Town Road	Bloomfield	СТ	06002	Watertank	125	South	2.07
CT11227D	482 Pigeon Hill Road	Windsor	СТ	06095	Self Support Tower	145	South East	2.06
CT11000A	100 Filley St.	Bloomfield	СТ	06002	Monopole	95	South	2.14
CTHA068A	2627 Day Hill Road	Bloomfield	СТ	06002	Monopole	100	West	1.75
CTHA142G	7 Hoskins Rd	Bloomfield	СТ	06002	Self Support Tower	140	North West	3
CTHA508A	1760 Poquonock Avenue	Windsor	СТ	06095	Rooftop Structure	55	North East	2.18

(Propagation Plot – Interrogatory No. 21)



(Distance Sketch – Interrogatory No. 28)





4 Bay Road, Bldg. A Suite 200 Hadley, MA 01035 Ph: (413)320-4918

LOCATION **PLANS**

SITE NAME: WINDSOR SITE NUMBER: CT 1209 ADDRESS:

800 PROSPECT HILL ROAD WINDSOR, CT 06095



TARPON TOWERS II, LLC 1001 3RD AVENUE WEST SUITE 420

BRADENTON, FL 34205

DATE: 02/16/21

REVISION: 0

JOB NO.:18-027

SK SHEET:

(Updated Viewshed Analysis Report with Photolog Chart – Interrogatory No. 32)

Viewshed Analysis Report

Proposed Wireless Telecommunications Facility:

CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095



- Proposed new 139 ft AGL Monopole tower structure
- Viewshed map completed 2/17/21
- Balloon test and viewshed verification completed 3/3/19

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 Tarpon Towers II, LLC, Virtual Site Simulations, LLC (VSS) was contracted to provide a Viewshed Analysis Report for a proposed telecommunications Facility located at 800 Prospect Hill Road, Windsor, CT 06095. Hereafter referred to as "the Site". The proposed tower facility would consist of an approximate 135 Ft. above ground level ("AGL") Monopole type antenna structure with a max height of 139 Ft. AGL that includes a 4 Ft lightning rod. Space is available for co-location of 3 future carriers. Associated unmanned equipment will be contained within an approximately 50 ft x 50 ft fenced gravel equipment compound surrounding the base of the proposed tower.

Site Description and Setting

The proposed Monopole type telecommunications facility is located on the 5.71+/- Acre property designated by the tax assessor as parcel Code 8300 Map 17 Block 135 Lot 1 and owned by THE FERRAINA COMPANY LLC. The Site is approximately 2.4 miles due west of Interstate 91 at Exit 38, Poquonock Avenue. The site is located within a mostly rural area and the subject property contains 3 existing single story Industrial/Commercial buildings. The Proposed facility location is within an existing triangular shaped landscaped area behind an existing structure, along the Northern edge of the property. Existing tree-line on northern edge of property adjacent to proposed compound is to remain.

Development surrounding this area is a mix of farmland and residential houses to the north and northeast with commercial/industrial buildings and farmland to the south and south east. The Farmington River is approximately 1.04 miles to the northwest at its nearest point. The METROPOLITAN LEARNING CENTER is approximately 1.26 miles to the southwest. Educational Playcare Inc., a daycare facility, is approximately 1.0 +/-Miles to southeast. The Metacomet Trail is 3.3 miles to the east at its closest point. 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.

Note: Balloon Test was conducted during leaf-off conditions therefore leaf-on viewshed results were verified.

Computer Modeling - Viewshed Analysis

A combination of Image based, Lidar 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 139 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.). Lidar data was used to create a Digital Surface Model (DSM) of the existing topography. Existing tree canopy height and Building heights were not averaged or assumed but calculated from lidar data within the DSM. Image analysis was used to classify the existing tree cover for both leaf on and leaf off conditions. The Image analysis results were then used to create two different DSM's. Visibility analysis tools were then applied, and visibility models were created. The results of this computer model were then graphically layered on topographic and aerial maps.

These maps can be found in Attachment A.

A balloon test was conducted on Sunday, March 3rd, 2019 and used as the visual reference for site observations from random locations throughout the study area. Note: The balloon test was conducted at 135 Ft AGL. The balloon test consisted of flying a 3 Ft. diameter helium filled balloon to the top elevation of the proposed tower. Balloon diameter was measured using a custom set of calipers. A red balloon was used to provide the best contrast between it and surrounding sky or vegetation. The balloon was tethered to the location of the proposed tower, and its elevation was set by measuring the length of the tether. The elevation was verified using the Lieca DISTO D2 Laser distometer.

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 was done using the method outlined above to determine what areas were predicted to have views of the proposed site and to verify the computer model. Drive-by visual reconnaissance of the Study Area was then conducted using the preliminary viewshed analysis as a guide. Locations where the Balloon was visible and not visible were photo documented and a GPS track of reconnaissance areas was made. Reconnaissance areas were limited to public areas/roads, no private property was used in the on-site observations of this test.

Photo documentation of this test was accomplished using a Nikon P900 16Mp digital camera set to use a 50mm focal length¹². 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 was then incorporated into a computer model prediction. The on-site observations were used to adjust model assumptions made in 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

A number of photographs were 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 was used to generate virtual camera positions within a 3d model. The balloon in the documentation photos was used as a spatial reference to verify the proportions and height of the proposed tower. Site plan information, field observations and 3D models were then used in these simulations to portray relative scale and location of the proposed structure. The photo simulations were 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.

Seventeen photographs were used for simulations and documentation. These simulations and documentation photos are plotted on the viewshed analysis map attached and shown in the Photo Simulation Package (Attachment B)

Image_No	Address	Distance	Orientation	Visibility	Visibility FT
1	850 Prospect Hill Rd	0.11 Miles	South	Year Round	91
2	725 Prospect Hill Rd	0.17 Miles	North-East	Year Round	52
3	25 Silver Birch Ln	0.2 Miles	East	Obscured	NA
4	1080 Day Hill Rd	0.27 Miles	South-East	Year Round	52
5	Day Hill Rd and Old Iron Ore Rd	0.29 Miles	South-East	Not Visible	NA
6	98 Morello Cir	0.31 Miles	North	Year Round	72
7	2 Lochview Dr	0.4 Miles	North-East	Not Visible	NA
8	Day Hill Rd and Opp Motortown USA	0.4 Miles	South-East	Not Visible	NA
9	1 Lochview Dr	0.42 Miles	North-East	Obscured	NA
10	9 Little Loch Way	0.5 Miles	East	Not Visible	NA
11	136 Morning Glory Ct	0.54 Miles	East	Not Visible	NA
12	111 Great Pond Dr	0.61 Miles	South-West	Not Visible	NA
13	Goodwin Drive	0.61 Miles	South	Year Round	91
14	410 Lantern Way	0.69 Miles	North-East	Not Visible	NA
15	104 Pierce Blvd	0.79 Miles	North-East	Not Visible	NA
16	626 Thoreau Cir	0.83 Miles	East	Not Visible	NA
17	50 Baker Hollow Rd	0.91 Miles	South-East	Year Round	15

Visibility Analysis Results

The results of the of viewshed analysis for the proposed tower are provided on the visibility analysis maps attached at the end of this report within Attachment A.

Predicted estimate of year-round views (Summer, leaf on condition) of the proposed tower facility are from approximately 179.0 acres or approximately 2.23 % of the 2-mile radius study area (8038.4 acres). The majority of these views (127.23 acres +/- 71.1%) are contained within the farmland/industrial/commercial area to south of the proposed site around and along Day Hill Road at Goodwin Drive. The next largest area of predicted year-round visibility is contained with a 30.6 Acre area directly to the north of proposed site. The land use in this area is farmland/residential with approximately 16 single family homes built within existing farmland along Huckleberry Road and Morello Circle to the north. The majority of the remaining 21.2 Acres of predicted year-round views mainly occur in small pockets of visibility within the commercial /farmland area to southwest of the site along Day Hill Road. These views are predicted to be of the upmost portion of the proposed tower.

Predicted seasonal views (Winter, leaf off condition) of the proposed facility are from an additional 19.9 acres (an additional .24 %). Total predicted seasonal views 198.9 Acres. These additional seasonal views mostly occur along the edges of the year-round visibility areas with some small areas (+/-300 sq. ft) of additional seasonal visibility scattered within the residential area to west. Views form these specific areas are predicted to be distant and obscured by existing tree cover.

Areas of predicted visibility, both seasonal and year-round, are mostly contained within Commercial/Industrial/Farmland and Residential areas within .35 miles surrounding the proposed Site. The most significant residential views are predicted to occur from the southern side of the six single family homes on the south side of Huckleberry Road and the first two homes at the intersection of Huckleberry road and Morello Circle. These homes are approximately .19 miles (+/- 1000 ft) from the proposed tower location and their parcels appear to have been cut from neighboring farmland and as such, contain few mature trees. Due to the existing tree-line on the proposed site that is to remain, the proposed compound and lower portion of the tower are predicted to be obscured from views in this direction. It is predicted that the upper portion of the tower will be visible from these locations. It is estimated that approximately 23 residences will potentially have some year-round views of the proposed site. Fifteen of these

residences are located within the residential area immediately to the north of the proposed site along Huckleberry road and Morello Court. The remaining seven residences are on Prospect Hill Road adjacent to and across from the proposed site.

It should be noted that no significant year -round views are predicted in the large residential area to west or to the north.

Documentation

Sources used for Visibility Analysis located at:

Proposed Wireless Telecommunications Facility CT1209 Windsor 800 Prospect Hill Road Windsor, CT 06095

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 – (2018)

UCONN- Center for Land Use Education and Research

LiDAR data (2018)

DEEP- Connecticut Department of Energy and Environmental Protection

- Open Space (2010)
- DEEP Property (2017)

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 (2020)

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 - Viewshed Mapping Package

Proposed Wireless Telecommunications Facility:

CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095

- Proposed new 139 ft AGL antenna structure
- Balloon test and viewshed verification completed 3/3/19

Package prepared by:

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

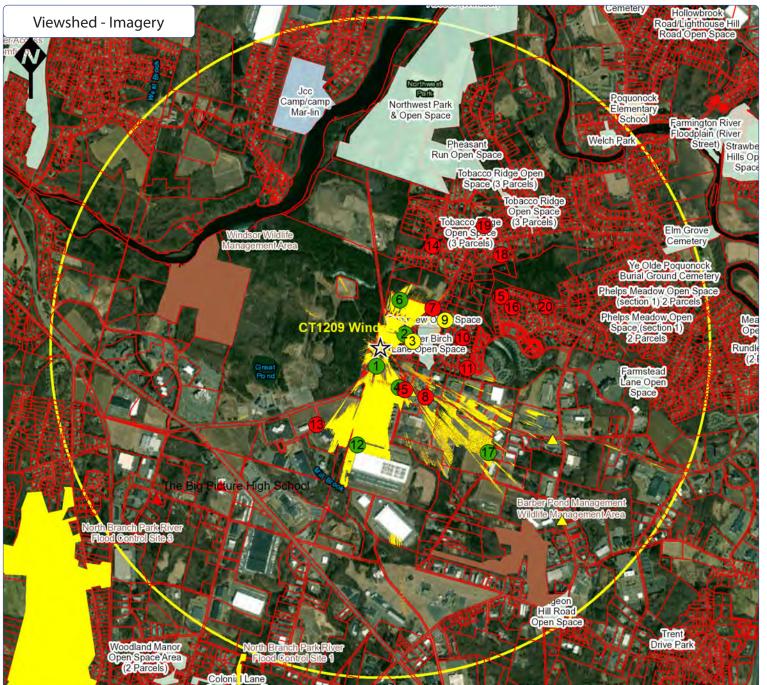
www.VirtualSiteSimulations.com www.ThinkVSSFirst.com

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.









CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095

Legend:

Facility Location



2 Mile Radius

Plat Lot Lines

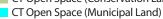
Photo location -Balloon visible- Year Round

Photo location -Balloon visible- Seasonal

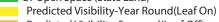
Photo location -Balloon NOT visible



CT Open Space (Conservation Land)



CT Open Space (State Land)



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)= 2 Mile

TRANSMITTER_HEIGHT (Ft-AGL)= 139 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft

PERCENT_VISIBLE (%) Year Round (Leaf On)= 2.23% 179 Acres PERCENT_VISIBLE (%) Seasonal (Leaf Off)= 2.47% 198.9 Acres

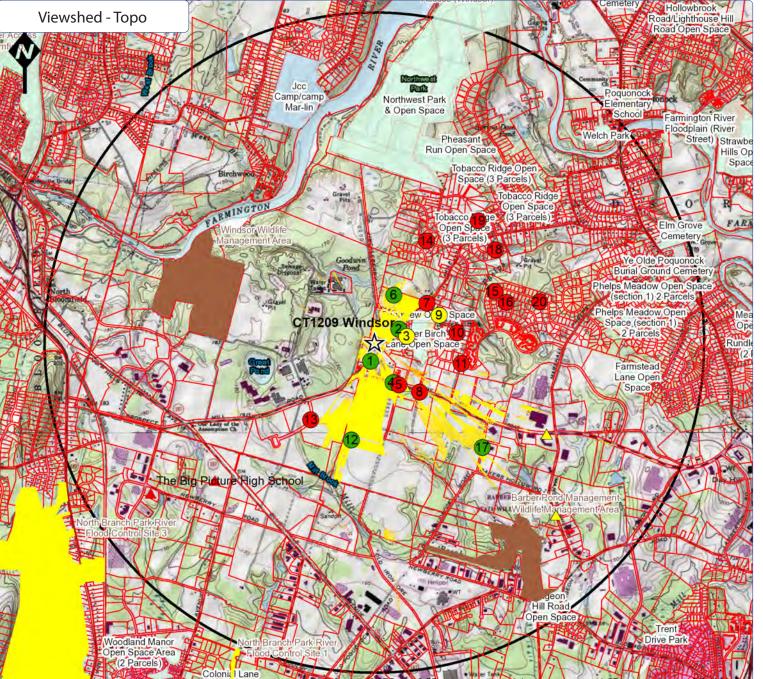
- map compiled by VSS, LLC on: 2/17/21
- Tower location(lat/long NAD 83): 41.882925 -72.708104
- Data Sources noted on documentation page attached



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.







CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095

Legend:

Facility Location



Plat Lot Lines

Photo location -Balloon visible- Year Round

(X) Photo location -Balloon visible- Seasonal

Photo location -Balloon NOT visible

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)= 2 Mile

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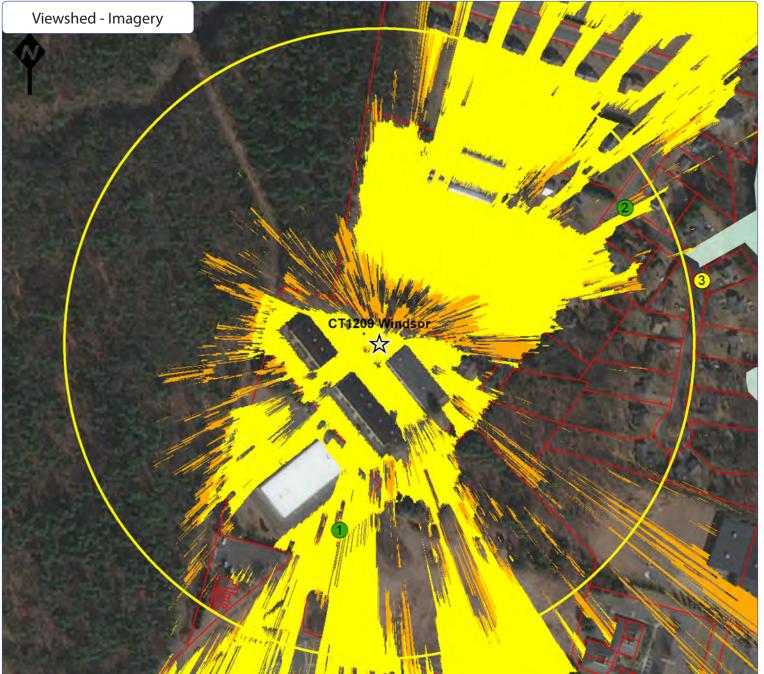
- map compiled by VSS, LLC on: 2/17/21
- Tower location(lat/long NAD 83): 41.882925 -72.708104
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CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095

Legend:

Facility Location

1000 ft Radius

Plat Lot Lines

Photo location -Balloon visible- Year Round

Note: Photo location -Balloon visible- Seasonal

Photo location -Balloon NOT visible

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)= 1000 Feet

TRANSMITTER_HEIGHT (Ft-AGL)= 139 RECEIVER_HEIGHT (Ft-AGL)= 5 Ft

PERCENT_VISIBLE (%) Year Round (Leaf On)= 2.23% 179 Acres PERCENT_VISIBLE (%) Seasonal (Leaf Off)= 2.47% 198.9 Acres

Notes

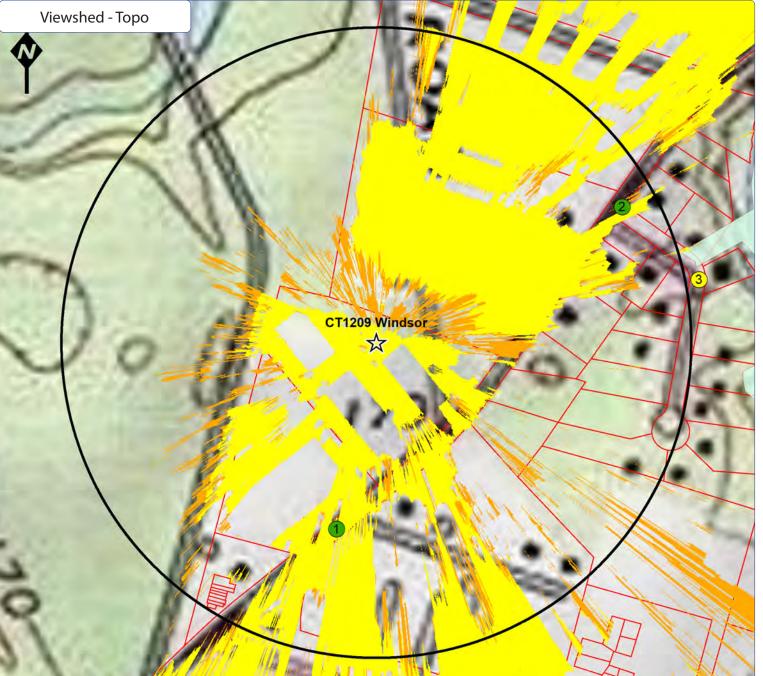
- map compiled by VSS, LLC on: 2/17/21
- Tower location(lat/long NAD 83): 41.882925 -72.708104
- Data Sources noted on documentation page attached



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CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095

Legend:

Facility Location



1000 ft Radius

Plat Lot Lines

Photo location -Balloon visible- Year Round

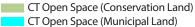


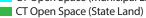
(X) Photo location -Balloon visible- Seasonal

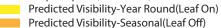


Photo location -Balloon NOT visible









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)= 1000 Feet TRANSMITTER_HEIGHT (Ft-AGL)= 139

RECEIVER_HEIGHT (Ft-AGL)= 5 Ft

PERCENT_VISIBLE (%) Year Round (Leaf On)= 2.23% 179 Acres PERCENT_VISIBLE (%) Seasonal (Leaf Off)= 2.47% 198.9 Acres

- map compiled by VSS, LLC on: 2/17/21
- Tower location(lat/long NAD 83): 41.882925 -72.708104
- 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.





Attachment B - Photographic Simulation Package

Proposed Wireless Telecommunications Facility:



CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095

- Balloon Test Conducted 3/3/19

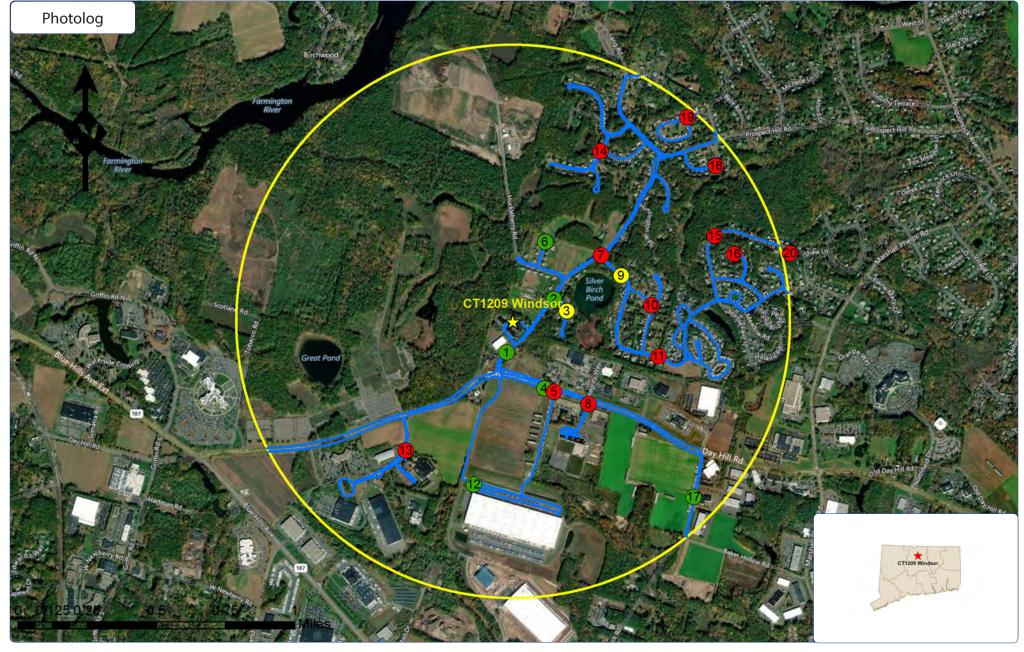
Package prepared by:

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

www.VirtualSiteSimulations.com www.ThinkVSSFirst.com







Wireless Telecommunications Facility:

CT1209 Windsor 800 Prospect Hill Rd Windsor, CT 06095

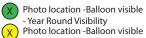
Legend:











- Obscured Visibility 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







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility1850 Prospect Hill Rd41.88131 -72.708570.11 MilesSouth12Year Round







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility1850 Prospect Hill Rd41.88131 -72.708570.11 MilesSouth12Year Round







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility2725 Prospect Hill Rd41.88411-72.705240.17 MilesNorth-East241Year Round







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility2725 Prospect Hill Rd41.88411-72.705240.17 MilesNorth-East241Year Round







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility325 Silver Birch Ln41.88348-72.704350.2 MilesEast259Obscured







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility325 Silver Birch Ln41.88348-72.704350.2 MilesEast259Obscured







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility41080 Day Hill Rd41.87943-72.705920.27 MilesSouth-East335Year Round







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility41080 Day Hill Rd41.87943-72.705920.27 MilesSouth-East335Year Round







VSS

















Photo # Approximate Location Gps Coordinates Distance to site Orientation Bearing to site Visibility

8 Day Hill Rd and Opp Motortown USA 41.87861 -72.70282 0.4 Miles South-East 318 Not Visible







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility91 Lochview Dr41.88533-72.700530.42 MilesNorth-East247Obscured







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility91 Lochview Dr41.88533-72.700530.42 MilesNorth-East247Obscured







VSS Your Visual Data Partner

TARPON TOWERS





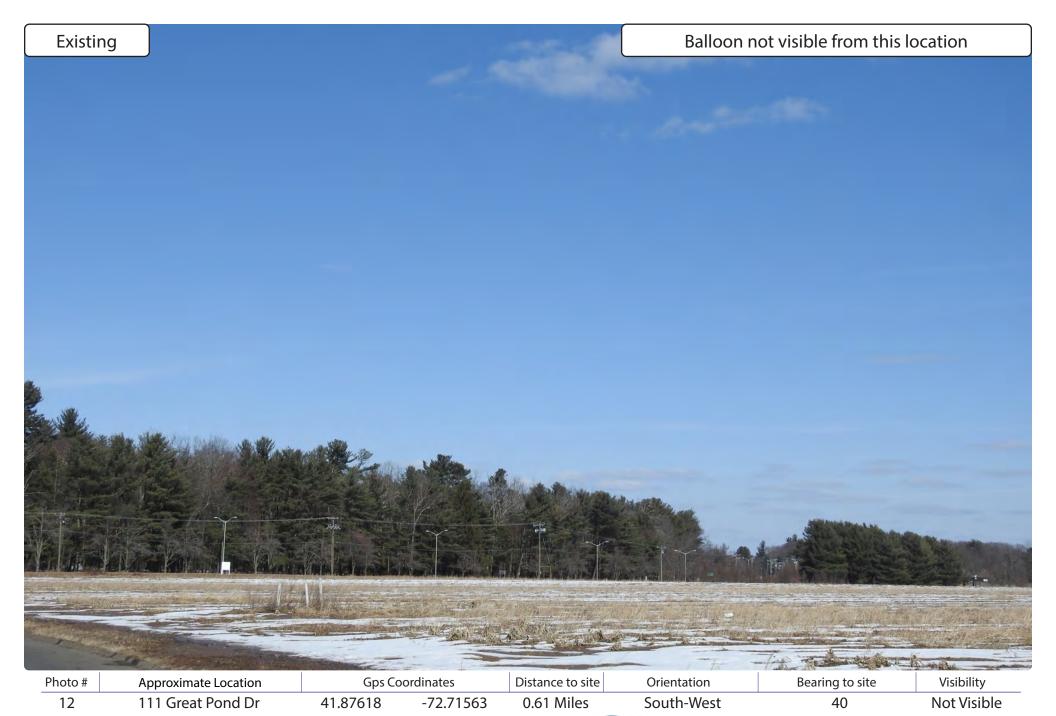










Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility13Goodwin Drive41.8744-72.710860.61 MilesSouth14Year Round







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility14410 Lantern Way41.89185-72.701980.69 MilesNorth-East207Not Visible







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility15104 Pierce Blvd41.88741-72.693980.79 MilesNorth-East247Not Visible







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility16626 Thoreau Cir41.88646-72.692630.83 MilesEast253Not Visible







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility1750 Baker Hollow Rd41.87374-72.695460.91 MilesSouth-East314Year Round







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility1750 Baker Hollow Rd41.87374-72.695460.91 MilesSouth-East314Year Round











Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility1915 Broadleaf Cir41.89363-72.69590.97 MilesNorth-East220Not Visible







Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility2053 Pierce Blvd41.8865-72.68871.03 MilesEast256Not Visible





ATTACHMENT 5

(Remote Field Review – Interrogatory No. 34)



REMOTE FIELD REVIEW



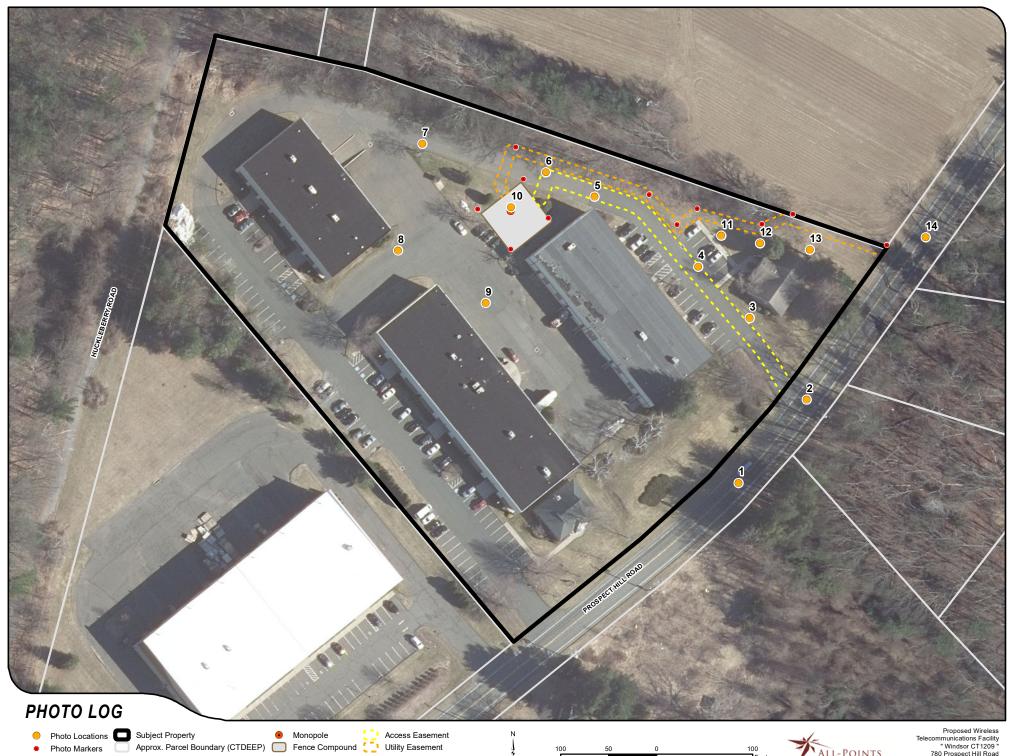
CONNECTICUT SITING COUNCIL DOCKET NO. 496
WINDSOR
800 PROSPECT HILL ROAD
WINDSOR, CT 06095

PREPARED FOR:



PREPARED BY:

ALL-POINTS TECHNOLOGY CORPORATION, P.C. 567 Vauxhall Street Extension – Suite 311 Waterford, CT 06385



Proposed Wireless Telecommunications Facility " Windsor CT1209 " 780 Prospect Hill Road Windsor, CT



PHOTO DESCRIPTION

1 PROSPECT HILL ROAD LOOKING NORTHEAST







PHOTO DESCRIPTION

2 PROSPECT HILL ROAD LOOKING NORTHWEST







PHOTO DESCRIPTION

3 PROPOSED ACCESS EASEMENT LOOKING NORTHWEST





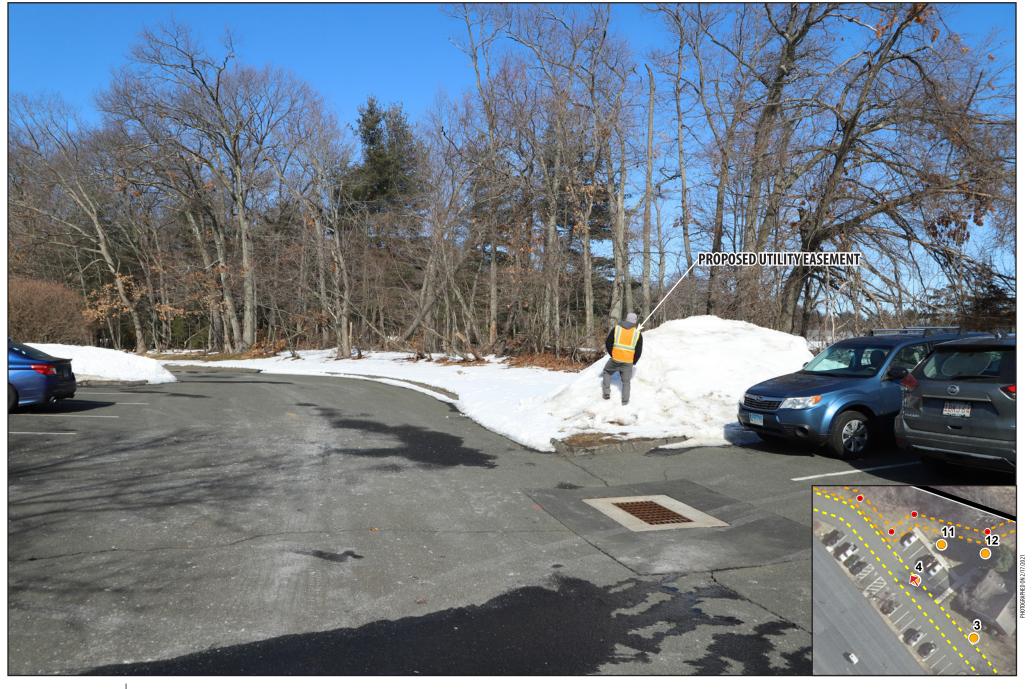


PHOTO DESCRIPTION

4 PROPOSED ACCESS EASEMENT LOOKING NORTHWEST







PHOTO DESCRIPTION

4A

PROPOSED ACCESS EASEMENT LOOKING SOUTHEAST







PROPOSED ACCESS EASEMENT LOOKING WEST

5











6 PROPOSED ACCESS EASEMENT LOOKING SOUTHWEST







PHOTO DESCRIPTION

6A PROPOSED ACCESS EASEMENT LOOKING SOUTHEAST







7 HOST PROPERTY DRIVEWAY LOOKING SOUTHEAST







HOST PROPERTY PARKING LOT LOOKING EAST







PHOTO DESCRIPTION

HOST PROPERTY PARKING LOT LOOKING NORTH

9











10





PHOTO DESCRIPTION

VIEW FROM PROPOSED TOWER LOCATION - FOUR CARDINAL POINTS





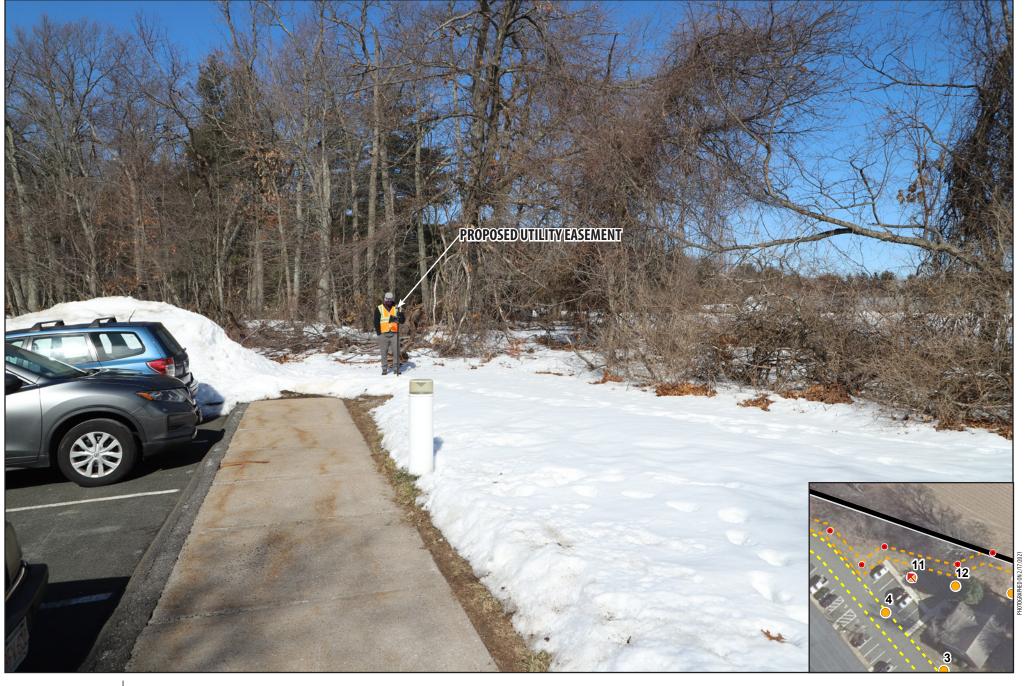


PHOTO DESCRIPTION

11 LOOKING NORTHWEST







PHOTO DESCRIPTION

11A LOOKING NORTHEAST





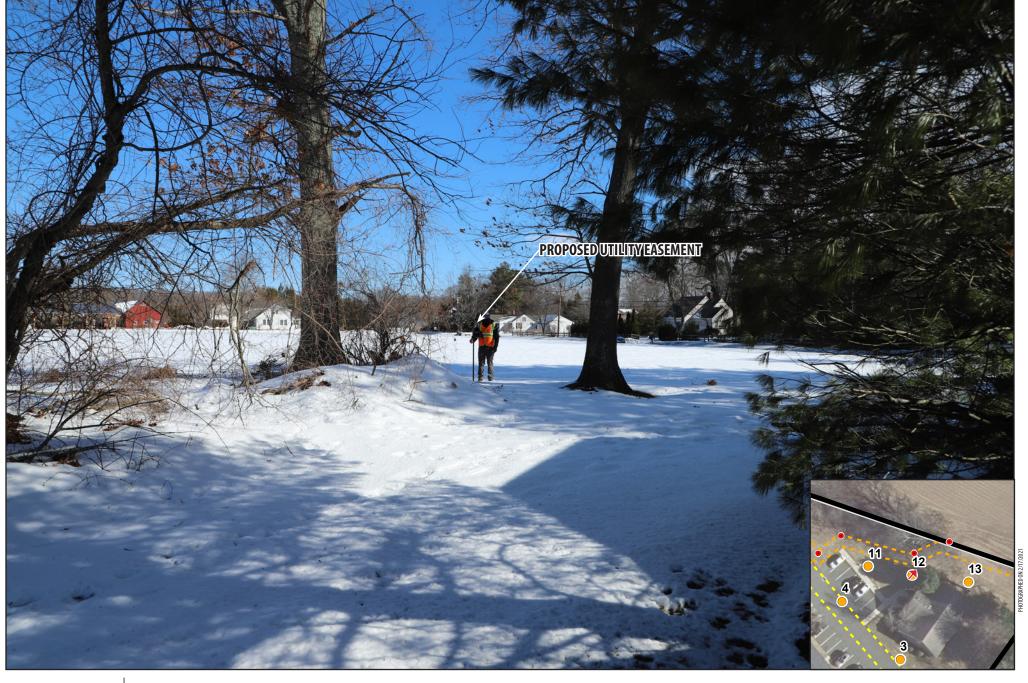


PHOTO DESCRIPTION

12 LOOKING NORTHEAST







PHOTO DESCRIPTION

13 LOOKING EAST







PHOTO DESCRIPTION

14 PROSPECT HILL ROAD LOOKING SOUTHWEST



