

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
A PETITION OF SBA COMMUNICATIONS : PETITION NO. 1547
CORPORATION FOR A DECLARATORY :
RULING ON THE NEED TO OBTAIN A :
SITING COUNCIL CERTIFICATE FOR THE :
MODIFICATION OF AN EXISTING :
TELECOMMUNICATIONS FACILITY AT :
277 HUCKLEBERRY HILL ROAD, AVON, :
CONNECTICUT : FEBRUARY 2, 2023

RESPONSES OF SBA COMMUNICATIONS CORPORATION
TO CONNECTICUT SITING COUNCIL INTERROGATORIES

On January 25, 2022, the Connecticut Siting Council (“Council”) issued Interrogatories to SBA Communications Corporation (“SBA”), relating to Petition No. 1547. Below are SBA’s responses.

Question No. 37

Referring to the response to Council Interrogatory No. 3, what is the anticipated duration of construction for the proposed replacement facility, including other improvements necessary to allow the carriers to locate on the structure?

Response

SBA estimates the construction of the placement facility will take four to six months to complete all activity at the tower site.

Question No. 38

Referring to the response to Council Interrogatory No. 2, what additional equipment, if any, is required to support the Connecticut Land Mobile Radio Network (CLMRN). Can the

network operate using the three Town of Avon whip antennas? If new antennas/equipment are necessary, what entity would operate and maintain the additional equipment?

Response

Yes, the CLMRN network will operate utilizing the (3) whip antennas as specified in the Petition. No additional equipment will be necessary.

Question No. 39

Referring to the response to Council Interrogatory No. 18, the referenced CLMRN brochure states a dish antenna would be required to facilitate network communications. Is a dish antenna required at this site? If yes, provide specifics (mounting height/size/color). Revise the site plan to include the dish antenna.

Response

No. A dish antenna is not going to be installed at the Avon Landfill tower site. The design calls for geographically redundant fiber optic connections from this tower site to the CLMRN network.

Question No. 40

Would the 120-foot level of the tower be available for potential co-location by another carrier or would that height remain vacant to provide separation/clearance from the Town's equipment and telecommunication carrier equipment?

Response

Yes. Crown expects to make the 120-foot level on the tower available to any wireless carrier interested in that antenna location.

Question No. 41

Referring to the response to Council Interrogatory No. 20, what would be the cost to fabricate a tower that could support a 20-foot extension? What would be the cost to fabricate and install a 20-foot tower extension, including the construction mobilization?

Response

SBA would estimate that the additional cost to fabricate a monopole tower that could support a 20-foot extension would be \$100,000. SBA would estimate the cost to fabricate and install a 20-foot extension would be \$125,000. Please remember however, that when it agreed to modify its lease and work with Crown to support the proposed facility modifications, the Town of Avon limited the height of the replacement tower to 130 feet. Regardless of cost, SBA is not permitted, under its existing lease agreement with the Town, to extend the tower beyond 130 feet and it has no current intention to do so.

Question No. 42

Referring to the response to Council Interrogatory No. 36, it states the replacement tower may be visible year-round from an additional 16 acres when compared to the existing tower. Provide a map showing the area with additional visibility. What methodology was used to determine the areas with additional visibility?

Response

Attached is a Comparative Viewshed Analysis Map and a narrative describing the methodology used to produce it.

Question No. 43

What type of tower foundation would be required? How much material would be

excavated to install the foundation? Where would excavated materials be disposed of?

Response

The proposed tower and foundation have not yet been designed but SBA anticipates that it will install a mat foundation for the replacement tower at the Avon Landfill and estimates the need to remove approximately 53 cubic feet of material during construction. SBA will likely spread the excess material within the expanded facility compound. If any excess material remains, will be removed from the Property.

Question No. 44

When the existing facility is decommissioned and removed, would the existing tower foundation remain? Explain.

Response

Yes, a significant portion of the existing tower foundation will remain in place following removal of the tower. SBA will remove the top portion of existing tower foundation to a depth of approximately two feet below finished grade.

Question No. 45

What are the approximate diameters of the existing wood laminate tower and proposed replacement tower?

Response

The existing laminate wood pole is a rectangular structure measuring approximately 30" at the base and 26" at the top. The new 130-foot monopole would maintain a diameter of approximately 51" at the base and 26" at the top.

Question No. 46

Is the site within a DEEP-designated Aquifer Protection Area?

Response

No, this site is not within a CT DEEP Aquifer Protection Area.

Question No. 47

Could the construction or operation of the proposed facility impact or interfere with any existing utilities or infrastructure within the development area? If so, identify any measures that would be employed to protect existing utilities or infrastructure from impact or interference.

Response

SBA would take affirmative steps prior to and during construction of the new tower and related improvements to avoid disrupting or impacting existing utilities or site infrastructure by, locating and marking all utility infrastructure; installing physical barriers to protect utility infrastructure, if necessary; coordinating construction sequencing with site contractors; and conducting regular site inspections throughout the construction period. All existing power and fiber utilities in the vicinity of the tower compound are underground. Contractors will locate utilities prior to construction to prevent damage to any existing underground pipes or conduit during the proposed fence, pad, and tower foundation installations.

Preliminary Computer Modeling

A predictive computer model was developed specifically for this Project using ESRI's ArcMap Geographic Information System ("GIS")¹ software and available GIS data. The predictive model incorporates Project-specific data: including the Site location, ground elevation and proposed height; and the topography, existing vegetation, and structures within the Study Area (the primary features that can block direct lines of sight).

A digital surface model ("DSM"), capturing both the natural and built features on the Earth's surface, was generated for the extent of the Study Area utilizing State of Connecticut 2016 LiDAR² LAS³ data points. LiDAR is a remote-sensing technology that develops elevation data by measuring the time it takes for laser light to return from the surface to the instrument's sensors. The varying reflectivity of objects also means that the "returns" can be classified based on the characteristics of the reflected light, normally into categories such as "bare earth," "vegetation," "road," or "building".

Derived from the 2016 LiDAR data, the LAS datasets contain the corresponding elevation point data and return classification values. The Study Area DSM incorporates the first return LAS dataset values that are associated with the highest feature in the landscape, typically a treetop, top of a building, and/or the highest point of other tall structures. Once the DSM was generated, ESRI's Viewshed Tool was utilized to identify locations within the Study Area where the proposed Facility may be visible. ESRI's Viewshed Tool predicts visibility by identifying those cells⁴ within the DSM that can be seen from an observer location. Cells where visibility was indicated were extracted and converted from a raster dataset to a polygon feature which was then overlaid onto an aerial photograph and topographic base map.

Since the DSM includes the highest relative feature in the landscape, isolated "visible" cells are often indicated within heavily forested areas (e.g., from the top of the highest tree) or on building rooftops during the initial processing. These areas do not represent typical viewer locations and therefore overstate the potential visibility of the Facility. As such, the resulting polygon feature is further refined by extracting those areas. The viewshed results are also cross-checked against the most current aerial photographs to assess whether significant changes (a new housing development, for example) have occurred since the time the LiDAR-based LAS datasets were captured.

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

² Light Detection and Ranging

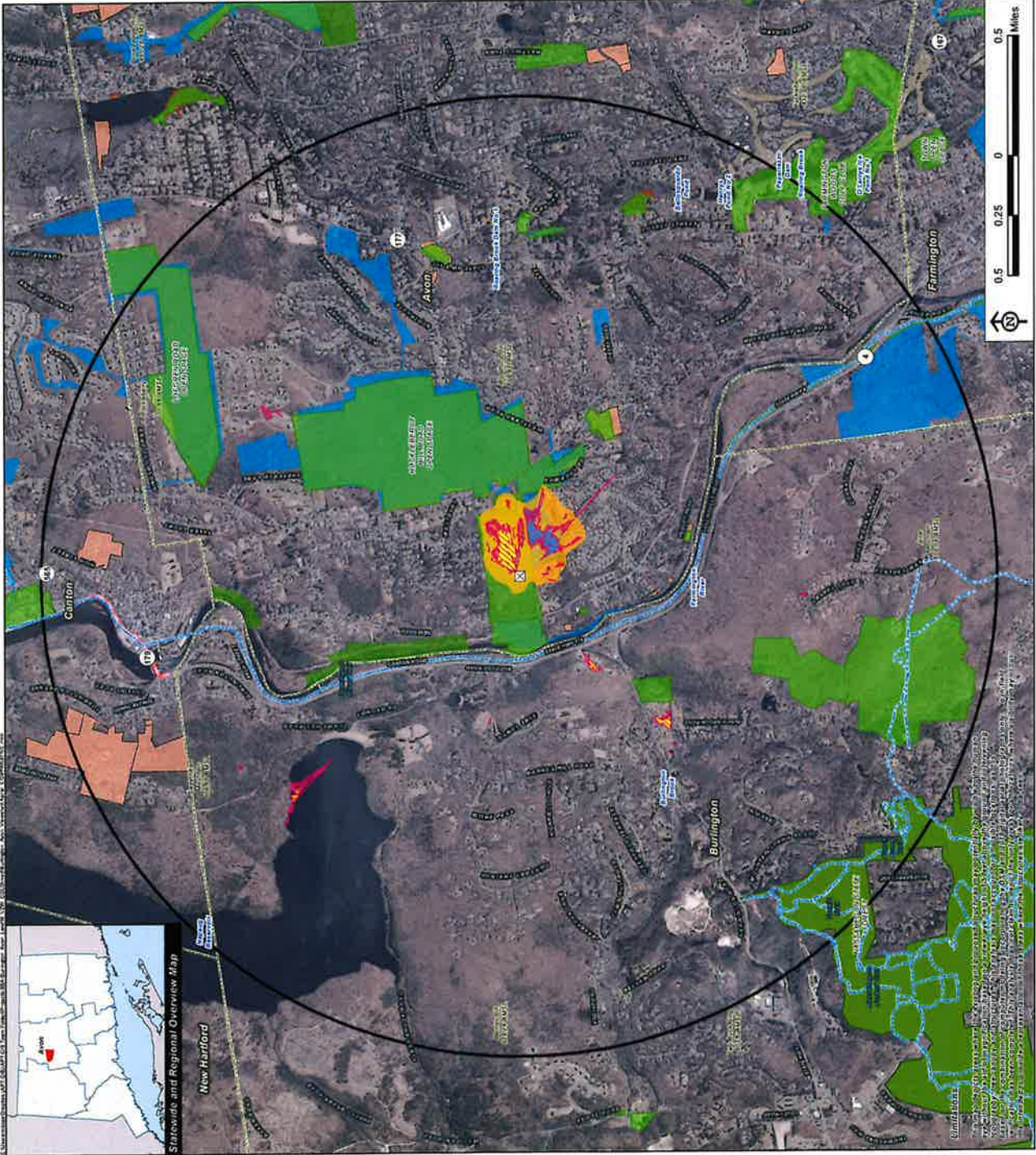
³ An LAS file is an industry-standard binary format for storing airborne LiDAR data.

⁴ Each DSM cell size is one square meter.

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

Seasonal Visibility

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



Comparative Viewshed Analysis Map Burlington-Avon Landfill (CT46143A)

Existing 100' AGL Wooden Tower and Proposed 130' AGL Monopole
277 Huckleberry Hill Road
Avon, Connecticut

Existing 100' AGL tower to be replaced with proposed 130' AGL monopole within existing equipment compound (to be expanded to accommodate proposed equipment).
Forest canopy height is derived from LIDAR data.
Study area encompasses a two-mile radius surrounding each site and includes 8,042 acres.
Information provided on this map has not been field verified.
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Date: January 2023

- Legend**
- ⊗ Site Location (Existing and Proposed)
 - Study Area (2-Mile Radius)
 - Predicted Year-Round Visibility - Existing 100' AGL Tower (11 Acres)
 - Predicted Year-Round Visibility - Proposed 130' AGL Tower (27 Acres)
 - Areas of Potential Seasonal Visibility - Existing and/or Proposed Tower (63 Acres)
 - Municipal Boundary
 - Trail
 - Scenic Highway
 - DEEP Boat Launches
 - Municipal and Private Open Space Property
 - State Fire/Trail/Path
 - Protected Open Space Property
 - Federal
 - Land Tract
 - Municipal
 - Private
 - State

Data Sources:
Physical Geography / Background Data
A digital surface model (DSM) was created from the State of Connecticut 2015 LIDAR LAS data points. The DSM captures the natural and built features on the Earth's surface.
Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP.
Scenic Routes, CTDOT State Route Highway (SR), Municipal Scenic Routes (formally by APT)
Predicted Open Space & Recreational Areas
Connecticut Department of Energy and Environmental Protection (DEEP), DEEP Property (May 2007), Federal Open Space (1987), Municipal and Private Open Space (1987), DEEP Boat Launches (1984)
Connecticut Forest & Parks Association, Connecticut Walk Maps East & West
DIME: CTDOT Scenic Route (based on Department of Transportation data)
NOTES
*Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.



