

August 30, 2018

Mr. Jonathon Idman
Chief Regulatory Officer
Cape Cod Commission
3225 Main Street
Barnstable, MA 02630

RE: Wireless Communications Tower Stormwater Letter:
Applicant: Blue Sky Towers II, LLC
Site Name: Mashpee Fire Station #2
Site Number: MA-5112
Site Address: 101 Red Brook Road
Mashpee, MA 02649

Mr. Idman,

Blue Sky Towers II, LLC ("Applicant") proposes to construct an unmanned wireless communications tower (WCT) and compound located in the central portion of the property designated as Assessor's Parcel 104-2 with a street address of 101 Red Brook Road in Mashpee, Massachusetts. This letter is intended to provide description of the proposed project's stormwater management system.

Background Information

Existing Conditions & Site Information

The partially developed 36± acre parcel is owned by the Town of Mashpee and is occupied by a fire station with associated asphalt paved driveway and parking areas. Red Brook Road borders the south frontage, and vehicular access to the property is provided by the existing asphalt paved driveway. Residential and undeveloped lands surround the locus property.

Local zoning lists the parcel within the Residential District (R-3), the Wireless Facility Overlay District, and the Groundwater Protection Overlay District. All new development work will be within FEMA Zone X "Areas Determined to be Outside the 0.2% Annual Chance Floodplain" per Flood Insurance Rate Map 25001C0753J, effective date of July 16, 2014.

On July 28, 2017, Lucas Environmental, LLC completed a site investigation through a portion of the property to identify and delineate regulated wetland resources within and immediately surrounding the proposed WCT. The investigation resulted in no local, state, or federally regulated wetland resource areas within 100 feet, or perennial streams within 200 feet of the proposed limits of work.

The soils underlying the proposed development areas of the parcel, including the tower compound and driveway, are listed as "Carver Coarse Sand." These soils are classified by the USDA Natural Resources Conservation Service (NRCS) as hydrologic soil group A. Existing soil conditions were confirmed during conversations with Town of Mashpee staff.

See Site Plans for vicinity map and existing conditions.

Preliminary Development Discussions with Regulators

Preliminary development plans were prepared and taken to a meeting on October 23, 2017 with Cape Cod Commission staff to discuss requirements for the project. The initial plans provided a stormwater treatment system in compliance with the Massachusetts Department of Environmental Protection Stormwater Management Handbook.

The stormwater treatment train included a pea gravel diaphragm, 50' wide vegetated filter strip for pretreatment, and an infiltration trench. We determined these features would require 7,500± SF of undeveloped forest area to be cleared. Cape Cod Commission staff requested that the stormwater design be dialed back to reduce the amount of tree clearing and increase vegetative buffer to surrounding properties. During the meeting, it was agreed that the natural forest area would provide an effective treatment for any stormwater leaving the tower compound.

After the meeting with the Cape Cod Commission, the Applicant entered discussions with the Town of Mashpee Planner and Engineer. Town of Mashpee staff agreed with the Cape Cod Commission's request to reduce the amount of tree clearing at the site, and pointed out that the compound's stone surface would allow for stormwater infiltration to occur. Based on the existing soil classifications, Town of Mashpee staff also requested the driveway be crowned to allow stormwater to runoff and infiltrate along the sides of the driveway.

Development of Regional Impacts (DRI) Waivers of Standards

Pursuant Section 7(c)(viii)(d) of the Cape Cod Commission's Enabling Regulations, the Commission may waive application of Minimum Performance Standards of the RPP, provided that the Commission finds that such standards are outside the scope of the proposed project. Given the limited clearing, the small footprint of the WCT facility, the *de minimis* stormwater discharge, and the treatment of the stormwater through the site's forested areas, the Applicant respectfully requests a waiver from compliance with the Massachusetts Department of Environmental Protection Stormwater Management Handbook.

Proposed Improvements

Tower Compound & Access Improvements

The Applicant intends to construct the proposed WCT within a 100'x100' square (10,000 SF) lease area in the central portion of the undeveloped areas of the parcel. Access will follow the existing asphalt paved driveway from Red Brook Road to the rear of the fire station. A proposed 12' wide gravel driveway will run from the pavement to the tower compound. All vehicular access will utilize the existing curb cut off of Red Brook Road and will consist of one or two vehicle visits per carrier per month for inspections.

The facility itself will be constructed of a 70'x70' square (4,900 SF) fenced-in compound with a surface consisting of 4-inch depth clean stone over filter fabric. The stone voids create a reservoir of 650± cubic feet which is equal to 1.6± inches of rainfall. A monopole tower supporting antenna equipment will be placed on a reinforced concrete foundation below grade. Ground and tower space will be allotted for four or five carriers estimated to be about 1,315± SF of impervious area (27%± impervious coverage) at full build-out. Based on the full build-out impervious area, runoff generation at this WCT would be comparable to a TR-55 ½ acre single family residential lot (Impervious = 25%, CN=54).

Total area of earth disturbance to construct the gravel driveway and tower compound is 13,230± SF. The small development is less than 1% of the entire parcel area.

Stormwater Management Improvements

Based upon discussions with Commission and Town of Mashpee staff, in an effort to limit disturbance and reduce clearing, the project seeks to avoid drainage impacts to surrounding areas and mitigation by directing sheet flow runoff to a pea gravel diaphragm BMP along the downhill sides of the tower compound. This BMP will promote infiltration and sediment removal through settling as the velocity of flow is reduced prior to discharge into the natural vegetated filter strip areas surrounding the tower compound.

In addition to the pea gravel diaphragm BMP, the tower compound will utilize disconnected impervious surfaces to direct stormwater runoff into the stone surface of the compound. The tower compound will have gentle slopes (<5%) which will create a non-erosive stormwater flow and allow for infiltration and sediment removal by the compound stone surface. Details of the facility are located within the site plans.

Maintenance of the pea gravel diaphragm will include removal of large vegetation, trash, and excess sediment accumulation. At least once a year, the Applicant will check for signs of erosion/scouring and repair with fresh stone, as needed.

Summary and Conclusion

Based on preliminary meetings with regulators, the project has aimed to provide sufficient mitigation to offset the impacts of grading by providing sediment capture, increasing infiltrative cover, reducing erosion through Best Management Practices (BMPs), and reduced 7,500 ± SF of tree clearing. Proposed work including but not limited to the tower compound and stormwater BMP are sited outside of any wetland resource areas and over 155' from abutting parcels. The compound stone surface will also provide 650± cubic feet of reservoir storage to mitigate runoff volume. In our opinion, stormwater runoff produced by the WCT will not negatively impact the adjacent areas.

If you have any questions or need further information, please do not hesitate to call us at (413) 320-4918.

Sincerely,
ProTerra Design Group, LLC



Jesse Moreno, PE
Managing Partner