

PLAPC

PARISI LAW ASSOCIATES, P.C.

**APPLICATION FOR
SPECIAL PERMIT AND SITE PLAN APPROVAL
(Planning Board)
And
VARIANCES
(Zoning Board)
FOR
PERSONAL WIRELESS SERVICE FACILITY

SUPPLEMENT No. 4**

Applicant: Vertex Towers, LLC
Site Id: VT-MA-0019F
Property Address: 28 Martin Road, Buckland, MA 01338
Tax Assessors: 8-0-60 (facility)
8-0-60.1 (access)
Property Owner: Amos M. Franceschelli and Christopher Franceschelli
Date: July 25, 2022

1. Balloon Test – Process and Documentation Report (updated)
2. Supplemental Photographic Simulation Package (photo locations 12 and 18 only)

Respectfully submitted,



Francis D. Parisi, Esq.
Parisi Law Associates, P.C.
225 Dyer Street
Providence, RI 02903
(401) 447-8500 cell
fparisi@plapc.com

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Balloon Test- Process & Documentation

VT-MA-0019F

A balloon test is conducted to be used as the visual reference for site observations from multiple locations throughout the study area. The balloon test consists of flying an approximately 3 Ft. diameter helium filled balloon to the top elevation of the proposed structure. A red balloon is typically used to provide the best contrast between it and surrounding sky or vegetation. The balloon is then tethered to the location of the proposed structure, while elevation is set by measuring the length of the tether. The tether is a braided polyethylene (with little to no stretch) line, pre-measured and marked with a black mark every 5 feet with the base color of the line changing every 25 feet. The line is measured to the base of the balloon. To increase accuracy, the location of the base of the tether is determined using both construction or zoning drawings depicting landmarks which are previously flagged with stakes and or orange tape, and confirming with GPS (Global Positioning System) or latitude and longitude numbers.

Balloon test accuracy is very wind dependent. The balloon test is therefore scheduled on a day with wind conditions below the accepted threshold of 10mph. Drive-by visual reconnaissance of the Study Area is then conducted. Locations where the Balloon is visible and not visible are photo documented. GPS data from the photos and camera is used to document photo locations, directions and other meta data. A track of the cameras travel in the study areas is made and added to a map as an overlay. Reconnaissance areas are 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 can then be 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 within the study area.

Weather:

First Balloon float: 0-5mph in the early morning, 5-10mph in the afternoon

Second Balloon Float: 5-7mph all day

Third Balloon Float: almost no wind, 0-3mph all day

Fourth Balloon Test: 1-5 mph winds during test.

Location:

A 3-foot red Helium filled balloon was flown at one hundred fifty feet (150') located at 42.577356 -72.693697 on the following dates:

First Balloon float - 6/14, 8am-2pm

Second Balloon Float - 6/15, 8am-7pm, balloon down 5-5:45 due to helium loss

Third Balloon Float - 6/25, 8am-7pm

Fourth Balloon Test 7/16, 8am-12pm

David Archambault

David Archambault

Virtual Site Simulations

7/6/2022 (Resigned with Fourth Balloon test added) 7-25-2022

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Photographic Simulation Package

Proposed Wireless Telecommunications Facility:

VT-MA-0019F Buckland
28 Martin Road
Buckland, MA 01338

- Balloon test conducted 7/16/22
- Proposed new 150ft AGL monopole structure

Package prepared by:

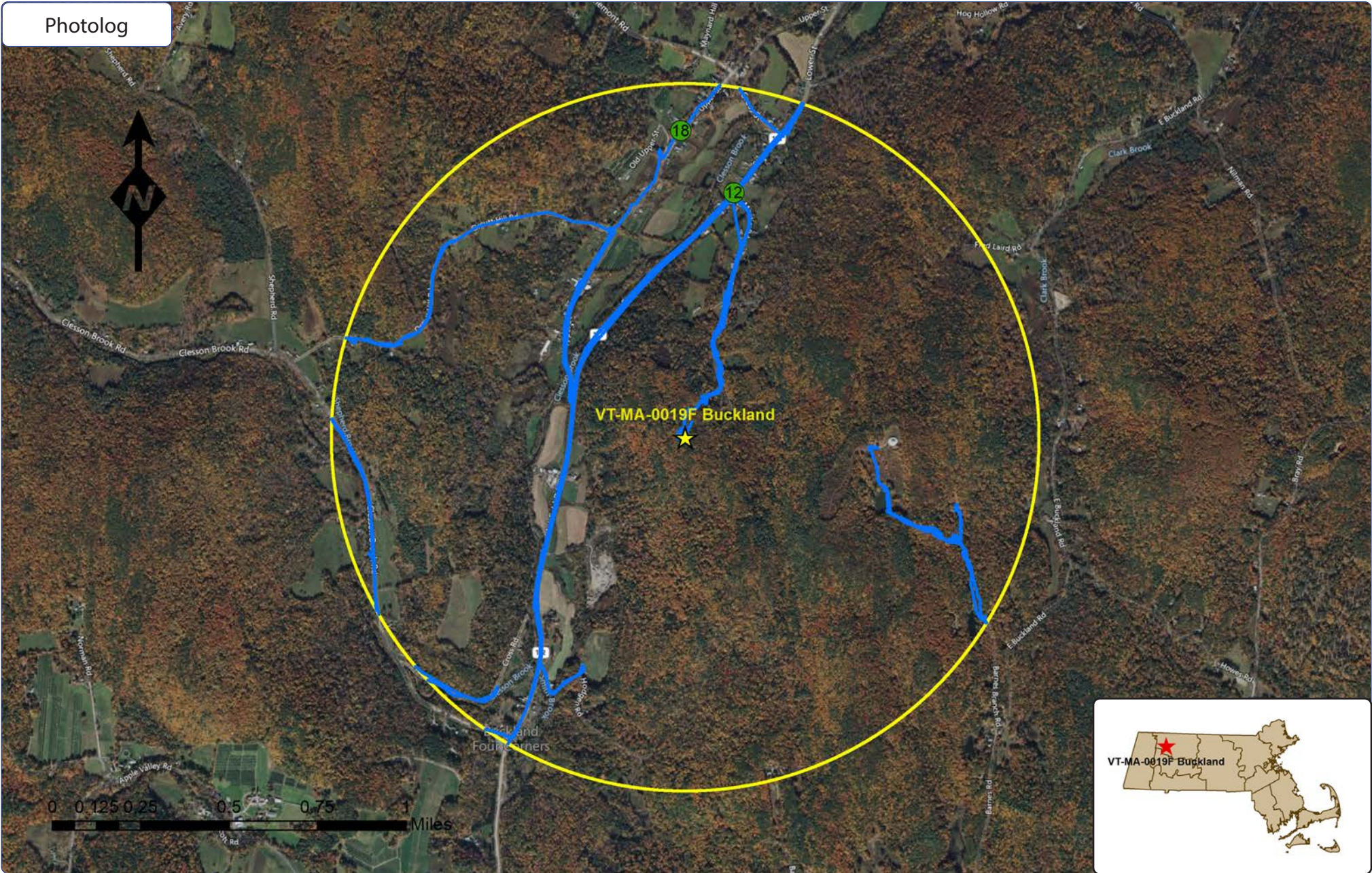
Virtual Site Simulations, LLC
24 Salt Pond Road
Suite C3
South Kingstown, Rhode Island 02879

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:

VT-MA-0019F Buckland
 28 Martin Road
 Buckland, MA 01338

Legend:

- ★ Facility Location
- 1 Mile Radius
- Reconnaissance Track Log
- ⓧ Photo location - Balloon visible - Year Round Visibility
- ⓧ Photo location - Balloon visible - Obscured Visibility
- ⓧ Photo location - Balloon NOT visible

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Existing



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
12	Lower St	42.58739 -72.791	0.71 Miles	North	191	Year Round

Site: VT-MA-0019F Buckland

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Simulation



Photo #	Approximate Location	Gps Coordinates	Distance to site	Orientation	Bearing to site	Visibility
12	Lower St	42.58739 -72.791	0.71 Miles	North	191	Year Round

Site: VT-MA-0019F Buckland

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Existing



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
18	Upper St	42.58992	-72.79396	0.87 Miles	North	179	Year Round

Site: VT-MA-0019F Buckland

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Simulation



Photo #	Approximate Location	Gps Coordinates		Distance to site	Orientation	Bearing to site	Visibility
18	Upper St	42.58992	-72.79396	0.87 Miles	North	179	Year Round

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