

REQUEST FOR REVIEW

Case No: 2020-01
Petitioner: Vertex Towers
Address: 421 Elm Street
Homeowner: Stuart & Leslie Lee
Parcel # 100-043-000

<u> </u> *	PLANNING BOARD
<u> </u> *	BOARD OF HEALTH
<u> </u> *	CONSERVATION COMMISSION
<u> </u> *	DESIGN REVIEW BOARD
<u> </u> *	WATER DEPARTMENT
<u> </u> *	DUXBURY BAY MANAGEMENT COMMISSION
<u> </u> *	HIGHWAY DEPARTMENT

Date form was delivered: 2/27/2020

DATE REVIEW REPORT DUE TO BOARD OF APPEALS (906.4-WITHIN 35 DAYS) - Written comments and recommendations should be received within 35 days or there shall be deemed no opposition or desire to comment. **DUE DATE TO ZBA: 4/2/2020**

PUBLIC HEARING SCHEDULED FOR: 4/9/2020

<u> </u>	RESIDENTIAL CLUSTER DEVELOPMENT
<u> </u>	PLANNED DEVELOPMENT
<u> </u> X	SPECIAL PERMIT
<u> </u> X	VARIANCE
<u> </u>	APPEAL

BOARD OF APPEALS REQUESTS:

<u> </u>	PRELIMINARY QUALIFICATION/SITE ANALYSIS REVIEW	803.5
<u> </u> X	SPECIAL PERMIT COMMENTS & RECS.	906.2
<u> </u>	DEVELOPMENT APPLICATION REVIEW	806.2
<u> </u>	SITE PLAN APPROVAL	602
<u> </u> X	VARIANCE – COMMENTS AND RECOMMENDATIONS	
<u> </u>	APPEAL OF BUILDING INSPECTOR'S DETERMINATION- COMMENTS AND RECOMMENDATIONS	



TOWN CLERK
2020 FEB 27 PM 2:54
DUXBURY, MASS.

TOWN OF DUXBURY



BOARD OF APPEALS

NOTICE OF PUBLIC HEARING

The Board of Appeals will hold a public hearing in the Mural Room at Town Hall, 878 Tremont Street, on Thursday, April 9, 2020 at 7:30 p.m. to consider the application of Vertex Tower Assets, LLC for a Special Permit and Variances under Article(s) 400, 600, and 900, Section(s) 406, 410.3 #11, 610.4, 610.5 #2, 610.6, 610.7, 615, 906.2 and 906.3 of the Duxbury Protective Bylaw. The property is located at 421 Elm Street, Parcel No. 060-043-000 of the Duxbury Assessors Map, consisting of 2.09 Acres in the Residential Compatibility (RC) and Aquifer Protection Overlay Districts (APOD) and owned by Stuart M. and Leslie A. Lee, 421 Elm Street, Duxbury, MA 02332. The Applicant proposes to construct a ground-mounted monopole Wireless Telecommunications Service Facility with a 120-foot tall monopole, placed less than 120 feet from the nearest lot line. A Special Permit is required for the Facility and Variances from the 100 foot height limit and standard setback are required for the monopole. The application may be viewed in the Municipal Services Department between the hours of 8:00 a.m. and 2:00 p.m., or by appointment. Any individual with a disability may request accommodation in order to participate in the public hearing and may request the application and any accompanying materials in an accessible format. Such requests should be made at least three business days in advance by contacting the Municipal Services Department.

Wayne Dennison
Chair, Board of Appeals

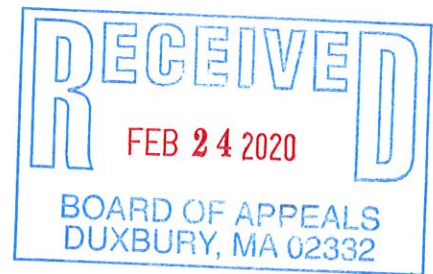
Adv: 03/25 & 04/01/2020
Case #2020-01

PLAPC

PARISI LAW ASSOCIATES, P.C.

APPLICATION FOR
SPECIAL PERMIT AND VARIANCES
(Zoning Board of Appeals)
FOR
WIRELESS TELECOMMUNICATIONS SERVICE FACILITY

Applicant: Vertex Tower Assets, LLC
Site Id: VT-MA-0115A
Property Address: 421 Elm Street, Duxbury, MA 02332
Tax Assessors: 060/043/000
Property Owner: Stuart M. Lee and Leslie A. Lee
Date: February 24, 2020



1. Application (Zoning Board of Appeals)
2. Filing Fees
3. Abutters List
4. Letter of Authorization
5. Project Narrative
6. TOWAIR (FAA Analysis re No Hazard to Air Navigation)
7. Affidavit of Site Acquisition Specialist
8. Affidavit of RF Engineer and RF Coverage Maps
9. Site Emissions Report
10. Site Plans

Respectfully submitted,

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



The Town of Duxbury
 878 Tremont Street
 Duxbury, MA 02332
 Phone: (781) 934-1100 • Fax: (781) 934-1118

TOWN CLERK'S STAMP:
 TOWN CLERK
 2020 FEB 27 PM 2:55
 DUXBURY, MASS.

APPLICATION - DUXBURY ZONING BOARD OF APPEALS

APPLICATION INFORMATION

This Application is for:

- Special Permit Appeal Variance Comprehensive Permit

Project Name: 421 Elm Street Cell Tower
 Project Type: wireless telecommunication services facility
 Location (Street Address): 421 Elm Street
 Assessor's Map/Block/Lot Number (s): 060 049 000

Applicant: Vertex Tower Assets, LLC
 Address: c/o Parisi Law Associates, P.C. 225 Dyer St., Providence RI 02903
 Telephone: 401 447-8500 Fax: 781 735 6192 Email: fparisi@plapc.com

Property Owner: Stuart M. Lee and Leslie A. Lee
 Address: c/o Parisi Law Associates, P.C. 225 Dyer St., Providence RI 02903
 Telephone: 401 447 8500 Fax: 781 735 6192 Email: fparisi@plapc.com

Briefly describe and justify your special permit or variance request, or the basis for your appeal:

Vertex Tower Assets, LLC, a wireless infrastructure developer, seeks a Special Permit and Variances to construct a wireless telecommunication services facility consisting of a 120' tall monopole tower that will be set back less than 120' from the nearest lot line.

SITE INFORMATION

Total Area (Sq. Ft.): 2.09 ac Lot Frontage: 360'
 Total Upland Area (Sq. Ft.): 2.09 ac

Zoning District(s):

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> RC: Residential Compatibility | <input type="checkbox"/> PD3: Planned Development District 3 | <input type="checkbox"/> POLOD: Publicly Owned Land Overlay District |
| <input type="checkbox"/> NB1: Neighborhood Business District 1 | <input type="checkbox"/> FHAOD: Flood Hazard Area Overlay District | <input type="checkbox"/> DPD: Dunes Protection District |
| <input type="checkbox"/> NB2: Neighborhood Business District 2 | <input type="checkbox"/> WPD: Wetlands Protection District | <input type="checkbox"/> WSOD: Waterfront Scenic Overlay District |
| <input type="checkbox"/> PD1: Planned Development District 1 | <input checked="" type="checkbox"/> APOD: Aquifer Protection Overlay District | |
| <input type="checkbox"/> PD2: Planned Development District 2 | | |

Identify all sections of the Duxbury Protective Bylaw that apply to this Application:

610 Wireless Telecommunication Services Facility

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 BOARD OF APPEALS
 DUXBURY, MA 02332

Existing Use(s) of the Property:

Residential

APPLICANT AND OWNER CERTIFICATIONS

The undersigned hereby certifies that he/she has read and examined this Application, including all attachments hereto, and that the proposed project is accurately represented in the statements made in this Application. The undersigned also certifies that applications have been filed with the Planning Board, Conservation Commission, and Board of Health, as appropriate, and hereby requests a hearing before the Zoning Board of Appeals with reference to this Application.

Property Owner

I/we hereby acknowledge that the Applicant is authorized to act on my/our behalf and that any and all representations made by the Applicant will be binding on me/us as Owners of the property.

Signature: [Signature] Date: 2/24/20

Print: Stuart M. Lee By Francis D. Parisi, ESS, LOA

Signature: [Signature] Date: 2/24/20

Print: Stuart Leslie A. Lee By Francis D. Parisi, ESS, LOA

Applicant/Appellant

Signature: [Signature] Date: 2/24/20

Print: Vertex Tower Asset, LLC By Francis D. Parisi, ESS, Attorney

Signature: _____ Date: _____

Print: _____

Applicant is: Owner Tenant Agent/Attorney Purchaser Appellant

Building Inspector Review

This completed Application has been reviewed by the Building Inspector prior to filing with the Town Clerk.

[Signature]
Signature of Building Inspector

2/26/20
Date of Review

Supplemental Application Requirements

The Application must include one or more of the following supplemental pages, as applicable:

- A. Section 906.2 Findings (Required for All Special Permit Applications)
- B. Application to Extend or Alter a Non-Conforming Single-Family or Two-Family Dwelling
- C. Application to Extend or Alter Other Use or Structure
- D. Application for a Special Permit in the NB-1 or NB-2 District
- E. Application for a Residential Pier
- F. Application for a Special Permit in the WPOD
- G. Application for Variance
- H. Appeal of Building Inspector/Zoning Enforcement Officer Decision
- I. Application for a Comprehensive Permit under G.L. c. 40B

SUPPLEMENTAL APPLICATION REQUIREMENTS

A. Section 906.2 Findings; Required for All Special Permit Applications.

For each of the following special permit granting criteria, summarize the proposed project's benefits to the Town and explain how they will outweigh any adverse impacts on the Town or the vicinity of the site. If a given criterion does not apply to the Application or if there will be no adverse impact, briefly explain why. Attach additional sheets if necessary.

- 1) Suitability of the proposed location for this proposal, taking the following into consideration:
 - a) Nearby land uses, and whether they would be supported by or damaged by having the proposed use nearby.
 - b) Uses of the site which would be displaced by or preempted by this use.
 - c) Adequacy of roads, water, drainage and other public facilities serving the location.
 - d) Whether the site is more sensitive than are most similarly zoned sites to environmental damage from the proposal such as: erosion, siltation, potential groundwater or surface water contamination, especially if affecting public or private water supplies, habitat disturbance or loss of valuable natural vegetation.
 - e) Contribution to cumulative impact upon municipal water supplies, including consideration of nitrate-nitrogen loading, if within a defined Aquifer Protection Overlay District.

Applicant's Response: see Project Narrative

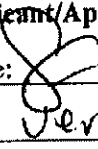
- 2) Activity type, mix and intensity, taking the following into consideration:
 - a) Whether the proposal contributes to the diversity of services available locally;
 - b) Seasonal consequences, including addition to peak period congestion;
 - c) Service to local, in preference to regional, markets;
 - d) For business developments, likelihood of employment opportunities being created for residents, and the quality of those opportunities; and
 - e) For residential developments, how substantially, if at all, the proposal contributes to housing diversity.

Applicant's Response: See Project Narrative

- 3) Building and site design, including consideration of the following:
- a) Whether scenic views from public ways and developed properties have been considerably treated;
 - b) Whether compatibility with neighborhood character has been considerably treated;
 - c) Whether reasonable efforts have been made to minimize visibility of parking and service areas from public streets;
 - d) Whether any traditional public access to or along shoreline has been maintained; and
 - e) Compliance with the criteria of Section 424.4 and/or Section 615 under Site Plan Approval.
 - f) Compliance with Section 404.20, "Determination of Suitability of Piers" and Section 404.50, "Waterfront Scenic Area Overlay District," if applicable.

Applicant's Response: See Project Narrative

By Applicant/Appellant

Signature: 

Date:

2/24/20

Print:

Vertex Tower Assets, LLC By Francis D. Parisi, ESQ

Authorized Agent

**DUXBURY ZONING BOARD OF APPEALS
SUPPLEMENTAL APPLICATION REQUIREMENTS**

G. Variance Request

- 1) Applicant requests a variance under Section 906.3 of the Zoning Bylaw for the following reason(s), and the project is not eligible for a special permit:

Condition	Check if Applicable
Lot does not meet the district's minimum lot frontage or shape requirements, or has an odd layout for other reasons.	✓
Lot consists of poor soils or topographic conditions unique to the lot and not generally found in the surrounding area within the same district.	✓
Existing building or structure cannot reasonably be used for purposes permitted in the district.	✓
Existing use of the property is subject to a variance previously granted by the Board.	✓
Proposed use is prohibited in the district. <i>Special Permit required</i>	✓

- 2) How long have you owned the property? N/A (years) _____ (months) (lessee)

- 3) What is its current use?

residential

- 4) How was the property used by previous owners?

residential

- 5) What are the surrounding land uses (e.g., residential, farm, commercial, religious or educational, other)?

residential / undevelopable wetlands / highway

- 6) In order to grant a variance, the Board must make a series of findings required under the Zoning Act, G.L. c. 40A, § 10. To assist the Board in this process, provide a response to each of the following questions. Attach additional pages if necessary.

- a) How is your lot adversely affected by unique soil conditions, shape, or topography - conditions that make your land fundamentally different from surrounding land in the same zoning district? What reasonable, economic alternatives have you considered that would conform to the Town's existing requirements?

see attached project narrative

- b) What are the unique circumstances affecting the structure(s) on your lot (if applicable)? What reasonable, economic alternatives have you considered that would conform to the Town's existing requirements?

See attached project narrative

- c) If the Board denies a variance after considering the specific conditions you described above, what would be the substantial hardship?

see attached project narrative

- d) The variance may be granted only if it does not cause a substantial detriment to the public good *and* does not substantially derogate from the intent or purpose of the Zoning Bylaw. How or why will your proposed use or structure address both of these standards? What evidence do you have to support your claim?

see attached project narrative

By Applicant/Appellant

Signature:



Date:

2/24/20

Print:

Vertex Tower Asset, LLC By: Francis D Parisi, ESQ
Authorized Agent

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LETTER OF AUTHORIZATION

We, Stuart M. Lee and Leslie A. Lee, are owners of a certain parcel of land located at 421 Elm Street, Duxbury, Plymouth County, Massachusetts, recorded at the Plymouth County Registry of Deeds in Book 12583, Page 229 and depicted as Lot 43 on Assessor's Map 60.

As owners of the above-referenced property, we hereby authorize Vertex Tower Assets, LLC and any of its designated agents or assigns, to apply for all necessary municipal, state, federal and other permits necessary to accommodate the installation of a wireless telecommunication facility on our property.



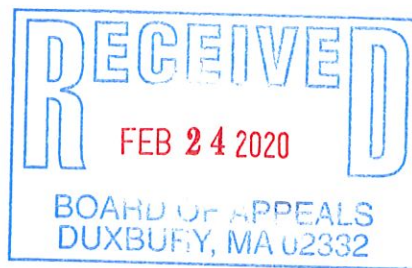
Sign: Stuart M. Lee
Stuart M. Lee, Owner

Date: 11/13/18

Sign: Leslie A. Lee
Leslie A. Lee, Owner

Date: 11/13/18

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PLAPC

PARISI LAW ASSOCIATES, P.C.

**APPLICATION FOR
SPECIAL PERMIT AND VARIANCES
(Zoning Board of Appeals)
FOR
WIRELESS TELECOMMUNICATIONS SERVICES FACILITY**

Applicant: Vertex Tower Assets, LLC
Site Id: VT-MA-0115A
Property Address: 421 Elm Street, Duxbury, MA 02332
Tax Assessors: 060/043/000
Property Owner: Stuart M. Lee and Leslie A. Lee
Date: February 24, 2020



**PROJECT NARRATIVE
INTRODUCTION**

The Applicant Vertex Tower Assets, LLC, a Massachusetts limited liability company (“Vertex”) is a telecommunications infrastructure developer. Vertex develops, manages and owns telecommunications facilities in strategic locations across the country. The Vertex team has been working in the industry since the industry was founded and has the experience and expertise to navigate the challenges of the most complex markets.

Vertex is sometimes herein referred to as the “Applicant”.

The Applicant’s proposed Wireless Telecommunications Services Facility is shown on plans submitted with this Application (the “Plans”). At The Applicant proposes to construct a 120’ tall monopole style tower (126’ to top of lightning rod) at 421 Elm Street, Duxbury, MA 02332 Tax Assessors Parcel 060/043/000 (the “Property”) that will structurally accommodate at least 4 wireless broadband telecommunications carriers and associated antennas, electronic equipment and cabling; and fence in the base of the tower to accommodate ground based telecommunications equipment. As shown on the Plans that accompany this Application, it is anticipated that various telecommunications companies, including AT&T Wireless, Verizon Wireless, T-Mobile/SprintPCS and other wireless communications companies will place panel style antennas and required electronic equipment at heights of approximately 115’, 105’, 95’, and 85’ (centerline) on the tower, and each will place telecommunications equipment and backup batteries inside equipment shelter(s) and/or weatherproof cabinets to be located immediately adjacent to the base of the tower. Power/telephone cabinets will be installed just outside the fenced in compound. Applicant’s Wireless Telecommunications Service Facility is similar to other telecommunication facilities already located in the surrounding area and has been designed in accordance with the Town’s Bylaw as much as possible.

The Property is a 2.09 acre parcel in the RC Residential Compatibility District and Aquifer Protection Overlay District and abuts undevelopable wetlands and State Highway Route 3.

The Applicant respectfully requests a SPECIAL PERMIT from the Zoning Board of Appeals.

The Facility has been designed to be the minimum height necessary to achieve the coverage objective, facilitate co-location of multiple carriers and minimize the number of new towers in town. Given the height and density of the area tree canopy and the area terrain and topography relative to the height and structural capacity of the existing utility infrastructure and as well at the technical requirements and limitations of wireless carriers, the Facility represents the only technically viable alternative to achieve the coverage objectives and satisfy all of the other requirements of the Bylaw, including co-location. Because the Facility will be more than 100' tall, the Applicant also respectfully requests a VARIANCE from this provision from the Zoning Board of Appeals.

Moreover, in order to move the Facility closer to Route 3 and undevelopable wetlands and away from other residential abutters, the Facility will not be set back from adjacent lot lines in an amount equal to the height of the Facility. Accordingly, the Applicant also respectfully requested a VARIANCE from this provision from the Zoning Board of Appeals.

The Facility was previously approved by the Town of Duxbury Zoning Board of Appeals on April 4, 2011 for a Special Permit and (setback) Variance, Case No. 10-20, and received Administrative Site Plan Approval by the Town of Duxbury Planning Board on May 23, 2011. The Site Plans submitted herewith are identical to the Site Plans approved by the Zoning Board of Appeals and the Planning Board in 2011, other than a 20' increase in tower height required to fill gaps in wireless coverage because of technology changes and the location / development of other wireless infrastructure in the Town of Duxbury since 2011.

As is indicated throughout this Project Narrative, the Applicant is a wireless infrastructure developer, but is not a "licensed telecommunications carrier". As a wireless infrastructure developer, the Applicant encourages co-location and has relationships with all of the existing wireless telecommunications carriers licensed in this market and intends to provide space on the proposed Facility at commercially reasonable rates, which will minimize the total number of towers in the community.

Section 704 of the Telecommunications Act of 1996 or "TCA", which is codified at 47 USC §332(c)(7), is a federal law that regulates the siting of wireless facilities. The Applicant is engaged in the business of developing "personal wireless communications facilities" for the deployment of "personal wireless services" as defined by the TCA at 47 USC §332(c)(7)(C)(i). Under 47 USC §332(c)(7)(C)(i), the term 'personal wireless services' is defined as "commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services." Under 47 USC §332(c)(7)(C)(ii), the term 'personal

wireless service facilities' is defined as "facilities for the provision of personal wireless services." Its facility, like those of other independent wireless infrastructure developers, are an integral component of the wireless communications industry, recognized by the FCC, and used by licensed providers of "personal wireless services" as that term is defined by the same federal statute.

The Applications that were previously approved by the Zoning Board of Appeals and the Planning Board included a "licensed telecommunications carrier" as an applicant who is still providing wireless services in this market, but which has been precluded for business reasons from committing to co-locating on this site at this time. Other "licensed telecommunications carriers" have also acknowledged a need for this site, and the Affidavit of Radio Frequency Engineer that accompanies this Application supports this need. However, to the extent that the Zoning Board of Appeals does not believe that it can issue a Special Permit to the Applicant because it is not a "licensed telecommunications carrier", the Applicant respectfully requests a VARIANCE from this provision of the Zoning Bylaw.

THE PROJECT

Wireless telecommunications carriers are in the process of independently designing, constructing and upgrading wireless telecommunications networks to serve areas in and around the Town of Duxbury. Such a network requires a grid of radio transmitting and receiving cell sites located at varying distances depending on the location of existing and proposed installations in relation to the surrounding topography. The radio transmitting and receiving facilities require a path from the facility to the user on the ground. This requires the antennas to be located in a location above the tree line where the signal is not obstructed or degraded by buildings or topographical features.

Once constructed, the Facility will be unmanned and will involve only periodic maintenance visits. The only utilities required to operate the facility are electrical power as well as telephone service which are currently available at the property. The traffic generated by the facility will be one or two vehicle trips per month by maintenance and technical personnel to ensure the telecommunications site remains in good working order. These visits will not result in any material increase in traffic or disruption to patterns of access or egress that will cause congestion hazards or cause a substantial change in the established neighborhood character. The Applicant's maintenance personnel will make use of the access roads and parking to be constructed at the Property. The proposed Facility will not obstruct existing rights-of-way or pedestrian access and will not change the daily conditions of access, egress, traffic, congestion hazard, or character of the neighborhood. The installation will not require the addition of any new parking or loading spaces.

The construction of the Applicant's Facility will enhance service coverage in the Town of Duxbury and surrounding communities. The enhancement of service coverage in the Town of Duxbury is desirable to the public convenience for personal use of wireless services and for community safety in times of public crisis and natural disaster. Wireless communications service also provides a convenience to residents and is an attractive feature and service to businesses. In addition, the requested use at this location will not result in a change in the appearance of the surrounding neighborhoods. The use is passive in nature and will not generate any traffic, smoke, dust, heat, glare, discharge of noxious substances, nor will it pollute waterways or groundwater. Once constructed, the facility will comply with all applicable local, state and federal safety regulations.

Moreover and most importantly:

1. The proposed Facility will promote and conserve the convenience and general welfare of the inhabitants of Duxbury by enhancing telecommunications services within the Town.
2. The proposed Facility will lessen the danger from fire and natural disasters by providing emergency communications in the event of such fires and natural disasters.

3. The proposed Facility will preserve and increase the amenities of the Town by enhancing telecommunications services.
4. The proposed Facility will facilitate the adequate provision of transportation by improving mobile telecommunications for business, personal and emergency uses.

Wireless service is important to public safety and convenience. As of the end of 2016, there were an estimated 396 million mobile wireless subscribers in the United States. *See* FCC's *Twentieth Report to Congress on the State of Competition in the Commercial Mobile Radio Services Marketplace*, p. 5 (September 2017). There are now more wireless subscriptions than landline telephone subscriptions in the United States, and the number of landline telephone subscribers across the nation is declining each year while the number of wireless users increases. Moreover, it is forecasted that wireless connections will become more significant as network service providers facilitate increase connectivity directly between devices, sensors, monitors, etc., and their networks. *Id.*

For many Americans, wireless devices have become an indispensable replacement for traditional landline telephones. Even when Americans maintain both types of telephone service, Americans are opting increasingly to use wireless devices over their landline telephones. For Americans living in "wireless-only" homes and for those others while away from their homes, cell phones are often their only lifeline in emergencies. Over 95% of Americans now own a cellphone of some kind and more than 77% own smartphones; more importantly, more than 50 percent of American households are now "wireless only." <http://www.pewinternet.org/fact-sheet/mobile/> The FCC estimates that approximately 70% of the millions of 911 calls made daily are placed from cell phones, and that percentage is growing. *See* <http://www.fcc.gov/guides/wireless-911-services>

**COMPLIANCE WITH SITING CRITERIA
FOR WIRELESS TELECOMMUNICATIONS SERVICES FACILITIES**

610 WIRELESS TELECOMMUNICATIONS SERVICES FACILITIES

610.1 Purpose

The purpose of this section is to regulate the design and location of wireless telecommunications service facilities in a manner that minimizes the visual and environmental impacts of such facilities consistent with both the requirements of the Federal Telecommunications Act of 1996, 47 U.S. C. sec 332(c) et seq., and rights conferred to local government thereby. The standards set forth herein are intended to preserve the safety, character, appearance, property values, natural resources and historic structures of the Town; mitigate adverse visual effects through proper design, location and screening; encourage co-location of antennas on a structure where feasible in order to minimize the number of sites and structures required; encourage location of antennas on existing towers; and protect the Town from the effects of uncontrolled development and location of wireless telecommunications towers, wireless service facilities and accessory structures, while recognizing federally granted rights of carriers to provided necessary and marketable telecommunications services and the desire of the public and the Town departments to access and utilize new technologies.

The proposed Facility has been designed to fulfill the purpose and intent goals of the Town's Bylaw as much as possible. The location of the proposed Facility is on a parcel bordered on one side by undevelopable wetlands and on another side by State Highway Route 3, on a substantially undeveloped and heavily treed lot. There are no other structures of sufficient height anywhere near the Property which would provide the requisite telecommunications coverage. As a wireless infrastructure developer, Vertex encourages co-location and has relationships with all of the existing wireless telecommunications carriers licensed in this market and intends to provide space on the proposed Facility at commercially reasonable rates, which will minimize the total number of towers in the community. Once constructed, the proposed Facility will have no adverse impact on the Town's scenic and historic assets, safety, health, environment, general welfare, values and quality of life, and will facilitate the provision of telecommunications services throughout the municipality and enhance the ability of wireless carriers to provide telecommunications services to the community quickly, effectively and efficiently.

610.2 Scope

In addition to any applicable sections of the Protective Bylaw, Section 610 shall apply to all wireless telecommunications service antennas and tower related equipment, fixtures and enclosures, including any modifications to any of these, but shall not apply to Police, Fire, ambulance or any other communications systems used

by the Town, amateur ham radio or citizens band radio antennas, or non-transmitting television antennas.

No response required.

610.3 Definitions

Intentionally omitted.

610.4 Use Regulations

A wireless telecommunications service facility shall require a building permit in all cases and may be permitted as follows:

1. A wireless telecommunications service facility antenna may be attached to any existing lattice tower, monopole, utility pole, electric utility transmission tower or water tank in any zoning district, except on towers supporting antennas used for citizen's bands, amateur radio, or television receiving antennas, provided that the installation of the new facility does not substantially alter the size or increase the height of the existing structure. Issuance of a building permit for such installations shall require prior site plan approval by the Planning Board in accordance with the applicable requirements and determinants under Section 615. The installation of a wireless telecommunications service facility attached to such existing structure may exceed the height of the existing structure by no more than ten (10) feet, subject to the issuance of a Special Permit by the Board of Appeals and prior site plan approval by the Planning Board.

Not applicable.

2. A wireless telecommunications service facility antenna may be installed within any existing church steeple in any zoning district, provided such antenna and accessory equipment is completely enclosed and not visible from outside the structure.

Not applicable.

3. A wireless telecommunications service facility antenna may be installed within any structure used exclusively for business in a business district, provided such antennas are completely enclosed and not visible from any adjacent street. Issuance of a building permit for such installations shall require prior site plan

approval by the Planning Board in accordance with the applicable requirements and determinants under Section 615.1. The installation of an exterior wireless communication facility antenna on a structure used exclusively for business in a business district shall not exceed the existing height of the building by more than ten (10) feet, subject to the issuance of a Special Permit by the Board of Appeals and prior site plan approval by the Planning Board.

Not applicable.

4. A wireless telecommunications service facility tower and accessory equipment shelter(s) may be constructed provided the maximum tower height shall be one- hundred (100) vertical feet above ground level. Whip antennas may extend a maximum of ten (10) feet above the top of a tower. Such facilities shall require a Special Permit by the Board of Appeals and prior site plan approval by the Planning Board. Guyed towers are prohibited. No more than one such tower may be located on a lot.

The Applicant respectfully requests a Special Permit from the Zoning Board of Appeals.

The Facility has been designed to be the minimum height necessary to achieve the coverage objective, facilitate co-location of multiple carriers and minimize the number of new towers in town. Given the height and density of the area tree canopy and the area terrain and topography relative to the height and structural capacity of the existing utility infrastructure and as well at the technical requirements and limitations of wireless carriers, the Facility represents the only technically viable alternative to achieve the coverage objectives and satisfy all of the other requirements of the Bylaw, including co-location. Because the Facility will be more than 100' tall, the Applicant also respectfully requests a VARIANCE from this provision from the Zoning Board of Appeals.

Moreover, in order to move the Facility closer to Route 3 and undevelopable wetlands and away from other residential abutters, the Facility will not be set back from adjacent lot lines in an amount equal to the height of the Facility. Accordingly, the Applicant also respectfully requested a VARIANCE from this provision from the Zoning Board of Appeals.

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and the location / development of other wireless infrastructure in the Town of Duxbury since 2011.

- 5. Wireless telecommunications service facilities and antennas shall not be located:**
- a) Within or on residences, business structures within which there is a dwelling unit, schools, nursing homes, or structures of historic significance, and except as otherwise permitted under Section 610.5(2);**
 - b) Within one-hundred (100) feet, or such greater distance at which radio frequency emissions therefrom can be detected and determined unacceptable by the Duxbury Board of Health, of a dwelling unit, school, nursing home, or structure of historic significance, except where a greater separation is required under Section 610.6(3);**
 - c) Within any area in which the Telecommunications Specialist has determined that the applicant has adequate coverage and capacity measured by the minimum FCC standards for such coverage and capacity;**
 - d) In the Dunes Protection District and Wetlands Protection Overlay District or in wetlands, wetland buffer areas or other environmentally sensitive natural areas that are subject to the jurisdiction of the Conservation Commission under the Massachusetts Wetlands Protection Act, the Duxbury Wetlands Bylaw or this Bylaw, without approval of the Conservation Commission. All proposals shall be subject to review by the Conservation Commission as authorized by state and local regulations.**

The proposed Facility will not be located within or near any of the aforementioned uses or protection districts.

610.5 Dimensional Requirements

1. Height

- a) Height shall be one-hundred (100) vertical feet above ground level. Whip antennas may extend a maximum of ten (10) feet above the top of a tower. The maximum height of any equipment shelter shall be twelve (12) feet above ground level.**

The Facility has been designed to be the minimum height necessary to achieve the coverage objective, facilitate co-location of multiple carriers and minimize the number of new towers in town. Given the height and density of the area tree canopy and the area terrain and topography relative to the height and structural capacity of the existing utility infrastructure and as well at the technical requirements and limitations of wireless carriers, the Facility represents the only technically viable alternative to achieve the coverage objectives and satisfy all of the other requirements of the Bylaw, including

co-location. Because the Facility will be more than 100' tall, the Applicant respectfully requests a VARIANCE from this provision from the Zoning Board of Appeals.

b) Existing structures. New wireless telecommunication service antennas may be attached to any existing tower, monopole, utility pole, electric transmission tower or water tank in any zoning district, except on towers supporting antennas used for citizen's bands, amateur radio, or television receiving antennas, provided that such structure is not increased in vertical height or substantially altered except for strengthening and maintenance. Installation of a wireless service facility on such existing structure may exceed the height of the original structure by up to ten (10) vertical feet, subject to a Special Permit by the Board of Appeals and prior site plan approval by the Planning Board.

Not applicable.

c) Business District. The installation of a wireless telecommunication service facility antenna on a business structure shall not exceed the maximum vertical height of the original structure by more than ten (10) feet, subject to issuance of a Special Permit by the Board of Appeals and prior site plan approval by the Planning Board.

Not applicable.

2) Setback from Side Lot Lines and Street. Any wireless telecommunications service tower shall be set back from adjacent lot lines and any street line by the sum of its vertical height above ground level and the height of the highest attached whip antenna above the structure, or by its fall zone, whichever is greater.

In order to move the Facility closer to Route 3 and undevelopable wetlands and away from other residential abutters, the Facility will not be set back from adjacent lot lines in an amount equal to the height of the Facility. Accordingly, the Applicant respectfully requested a VARIANCE from this provision from the Zoning Board of Appeals.

The Facility was previously approved by the Town of Duxbury Zoning Board of Appeals on April 4, 2011 for a Special Permit and (setback) Variance, Case No. 10-20, and received Administrative Site Plan Approval by the Town of Duxbury Planning Board on May 23, 2011. The Site Plans submitted herewith

are identical to the Site Plans approved by the Zoning Board of Appeals and the Planning Board in 2011, other than a 20' increase in tower height required to fill gaps in wireless coverage because of technology changes and the location / development of other wireless infrastructure in the Town of Duxbury since 2011.

3) Setback from Nearest Dwelling Unit. The minimum distance from the center of the tower base of any wireless telecommunications service tower to a dwelling unit located on adjacent or nearby property shall be four hundred (400) feet.

There are no dwelling units on adjacent or nearby properties withing 400' of the proposed Facility.

4. Equipment Shelters. An equipment shelter accessory to a tower shall not exceed an aggregate of eight hundred (800) square feet in structure footprint. No more than one (1) such above-ground auxiliary structure shall be constructed.

The Applicant is not proposing any accessory structures; all electronic equipment will be located inside weatherproof equipment cabinets within the fenced in compound. To the extent any carrier requires an equipment shelter in the future, such shelter shall not exceed 800 square feet in structure footprint.

610.6 Approval Standards

Approval Standards. In addition to the standards for Special Permits under Section 906.2 of the Bylaw, all wireless telecommunications service facilities and any equipment shelters shall meet the following standards:

1. Federal and State Requirements. Wireless telecommunications service facilities and equipment shelter shall be constructed, installed, maintained and used in compliance with all applicable Federal and State laws, rules and regulations.

The proposed Facility has been designed to comply, and once constructed will comply, with all applicable local, state and federal safety regulations.

2. Visibility. Wireless telecommunications service facilities shall be as unobtrusive as possible and, if mounted on a business structure, shall be compatible with the style and color of the structure upon which it is located.

a) Camouflage. Where a wireless telecommunications service facility

extends over the roof height of a business structure on which it is mounted, every reasonable effort shall be made to conceal the facility within or behind architectural features to limit its visibility from streets and adjacent properties. Facilities mounted on a roof shall be stepped back from the front fascade in order to mitigate impact on the building silhouette. Wireless telecommunications service facilities that are side-mounted shall blend with the existing structure's architecture and, if over five (5) square feet, shall be painted or screened with material that is consistent with the design features and materials of the building.

Not applicable.

b) Color. Wireless telecommunications service facilities that are side-mounted or top-mounted on business structures shall be painted or constructed of materials to match the color of the building material to which they are attached. All other facilities including towers shall be painted or finished in light gray/ blue hue that blends with sky and clouds, shall not be lighted, and shall not be painted with hazard paint.

The proposed Facility will be made of a non-reflective galvanized steel to minimize the visual impact of the Facility as much as possible. The proposed Facility will not require FAA marking or lighting under current FAA regulations.

c) Existing on-site vegetation shall be preserved to the maximum extent practicable.

Other than what is necessary for the construction of the fenced in compound and extension of the existing driveway to the base of the compound, all existing on-site vegetation shall be preserved to the maximum extent practicable.

3. Co-Location. To the extent feasible, licensed carriers and Town communication systems shall co-locate on a single wireless telecommunications service monopole or tower. The Town shall reserve the right to place its communications antenna(s) within the top twenty (20) percent of the vertical height above ground level of any monopole or tower in order to accommodate its communications needs. It shall remain the licensed carrier's responsibility to ensure that the installation or location of other antenna(s) on the monopole or tower does not cause interference with the Town's communications system. Such facility shall be designed insofar as is reasonable to structurally accommodate foreseeable future users. A new tower or monopole facility shall be considered only

upon a finding that existing or approved structures or facilities cannot accommodate the equipment planned for the proposed facility.

As a wireless infrastructure developer, Vertex encourages co-location and has relationships with all of the existing wireless telecommunications carriers licensed in this market and intends to provide space on the proposed Facility at commercially reasonable rates, which will minimize the total number of towers in the community. The Applicant agrees to reserve the Town's reasonable requirements for antenna space above top of the tower and reasonable requirements for space within the fenced in compound for the Town's ground based equipment to serve the needs of the Town's emergency service providers, subject to the execution by the Town of Applicant's form of municipal tower use agreement with terms and conditions satisfactory to Applicant in all respects.

4. Fencing. Fencing at least eight (8) feet in height shall be erected around the base of any wireless telecommunications service tower or monopole and any equipment shelter sufficient to prevent public entry to the facility. Barbed wire is prohibited.

As proposed, the Facility will be surrounded by a 6' tall stockade fence without barbed to prevent public entry to the Facility and also provide an additional visual buffer.

5. Plantings. A dense hedge of fast-growing, evergreen material shall be planted and maintained around the exterior of required fencing. This material shall not be less than four (4) feet in height when planted. The Board of Appeals may require that evergreen trees and/or other suitable material be planted between a wireless telecommunications tower facility and residential units

As is shown on the aerial rendering that is included in the Site Plans, the proposed Facility will be surrounded by a dense vegetative buffer as well as a stockade fence. Accordingly, no additional landscaping is required.

6. Signs. No exterior signs shall be installed on a wireless telecommunications service tower, equipment shelter, surrounding property or fence, except as necessary for security, safety, and to identify the property.

There will be no signage or advertising on the tower. Signage shall be limited to small signs at the base of the Facility to identify the property and owners, and to comply with applicable safety standards, and will comply with sign

limitations of the Duxbury Zoning Bylaw in all respects.

7. Lighting. Lighting of an equipment shelter or a wireless telecommunications service tower is prohibited except insofar as required for security and maintenance purposes at ground story level. Such lighting shall be shielded from adjacent properties by a total cutoff of light at the property line, and foot-candle measurements at the property line shall be 0.0 foot-candles when measured at grade.

The proposed Facility will not require FAA lighting or marking under current FAA regulations, nor is any lighting proposed at ground level.

8. Noise. Ground-mounted equipment for wireless telecommunication service facilities shall not generate noise in excess of fifty (50) dB at the property line. Roof-mounted or side-mounted equipment for wireless telecommunications service facilities shall not generate noise in excess of fifty (50) dB at ground level at the base of the building closest to the antenna.

No noise-generating equipment is proposed, and the Facility will comply with the Town's noise limitations in all respects.

9. Radio Frequency Radiation (RFR) Standards. All equipment proposed for a wireless telecommunications service facility shall be authorized in accordance with the FCC Guidelines for Evaluating the Environmental Effects of Radio Frequency Radiation.

As is evidenced by the Site Emissions Report which accompanies this Application, the proposed Facility will comply in all respects with all applicable radio frequency emission standards.

10. Fumes and Hazardous Waste. The generation of noxious fumes and the storage or disposal of hazardous waste on the site of a wireless telecommunications service facility is prohibited.

The proposed Facility will not generate noxious fumes or involve the storage or disposal of hazardous waste.

11. Access. Any driveway required to construct and maintain a wireless telecommunications service tower shall not be paved and shall minimize cut and fill and vegetation removal to the maximum extent practicable.

The Applicant proposes to utilize the existing access driveway on the Property. The extension of the existing driveway to the base of the Facility will not be paved and has been designed to minimize cut and fill and vegetation removal to the maximum extent practicable.

12. Utilities. Any utility lines to serve a wireless telecommunications tower facility shall be placed underground.

All utility lines servicing the Facility outside of the fenced in compound shall be placed underground.

610.7 Administration

1 Special Permit Granting Authority. The Special Permit granting authority shall be the Board of Appeals, which shall review and decide applications for wireless telecommunication service facilities that require the issuance of a Special Permit under Section 610.4 Use Regulations, in accordance with the procedures and standards set forth in Sections 906.2 and 906.4, the requirements and standards of Section 610, and the findings and conclusions of the Planning Board pursuant to Section 615.

The Applicant respectfully requests a SPECIAL PERMIT from the Zoning Board of Appeals.

The Facility was previously approved by the Town of Duxbury Zoning Board of Appeals on April 4, 2011 for a Special Permit and (setback) Variance, Case No. 10-20, and received Administrative Site Plan Approval by the Town of Duxbury Planning Board on May 23, 2011. The Site Plans submitted herewith are identical to the Site Plans approved by the Zoning Board of Appeals and the Planning Board in 2011, other than a 20' increase in tower height required to fill gaps in wireless coverage because of technology changes and the location / development of other wireless infrastructure in the Town of Duxbury since 2011.

2 Site Plan Approval. The site plan approval authority shall be the Planning Board, which shall report its findings and conclusions under Section 615, and any regulations it may adopt, to the Zoning Enforcement Officer within twenty-five (25) days of receipt of an application for a building permit for a wireless telecommunications service facility antenna that does not require a Special Permit under Section 610.5. For those wireless telecommunication service facilities that require a Special Permit under Section 610.4, the Planning Board shall report its findings and conclusions under Section 615, and any regulations it may adopt, to the Board of Appeals five (5) days prior to the public hearing on the Special Permit application.

The Facility was previously approved by the Town of Duxbury Zoning Board of Appeals on April 4, 2011 for a Special Permit and (setback) Variance, Case No. 10-20, and received Administrative Site Plan Approval by the Town of Duxbury Planning Board on May 23, 2011. The Site Plans submitted herewith are identical to the Site Plans approved by the Zoning Board of Appeals and the Planning Board in 2011, other than a 20' increase in tower height required to fill gaps in wireless coverage because of technology changes and the location / development of other wireless infrastructure in the Town of Duxbury since 2011.

3 Submission Requirements

a) An application for a building permit for the installation of a wireless telecommunications service facility antenna that does not require a Special Permit under Section 610.4 shall include for submission to the Zoning Enforcement Officer seventeen (17) copies of a site plan(s) that shall meet the applicable requirements of Section 615, and shall provide such other information as is necessary to show compliance with the applicable provisions and standards of Section 610 and any regulations adopted by the Planning Board. Such plan(s) shall also be submitted by the applicant to the Planning Board.

Not applicable.

b) An application for a Special Permit for the construction of a wireless telecommunications service facility shall, in addition to the above submission requirements, include for submission to the Board of Appeals seventeen (17) copies of the following:

(i) The name, address, telephone number, and original signature of any applicant(s), who shall include a licensed telecommunications carrier.

As is indicated throughout this Project Narrative, the Applicant is a wireless infrastructure developer, but is not a "licensed telecommunications carrier". As a wireless infrastructure developer, the Applicant encourages co-location and has relationships with all of the existing wireless telecommunications carriers licensed in this market and intends to provide space on the proposed Facility at commercially reasonable rates, which will minimize the total number of towers in the community.

Section 704 of the Telecommunications Act of 1996 or "TCA", which is codified at 47 USC §332(c)(7), is a federal law that regulates the siting of wireless facilities. The Applicant is engaged in the business of

developing “personal wireless communications facilities” for the deployment of “personal wireless services” as defined by the TCA at 47 USC §332(c)(7)(C)(i). Under 47 USC §332(c)(7)(C)(i), the term ‘personal wireless services’ is defined as “commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services.” Under 47 USC §332(c)(7)(C)(ii), the term ‘personal wireless service facilities’ is defined as “facilities for the provision of personal wireless services.” Its facility, like those of other independent wireless infrastructure developers, are an integral component of the wireless communications industry, recognized by the FCC, and used by licensed providers of “personal wireless services” as that term is defined by the same federal statute.

Note also that the Facility was previously approved by the Town of Duxbury Zoning Board of Appeals on April 4, 2011 for a Special Permit and (setback) Variance, Case No. 10-20, and received Administrative Site Plan Approval by the Town of Duxbury Planning Board on May 23, 2011. The Site Plans submitted herewith are identical to the Site Plans approved by the Zoning Board of Appeals and the Planning Board in 2011, other than a 20’ increase in tower height required to fill gaps in wireless coverage because of technology changes and the location / development of other wireless infrastructure in the Town of Duxbury since 2011. The Applications that were previously approved included a “licensed telecommunications carrier” as an applicant who is still providing wireless services in this market, but which has been precluded for business reasons from committing to co-locating on this site at this time. Other “licensed telecommunications carriers” have also acknowledged a need for this site, and the Affidavit of Radio Frequency Engineer that accompanies this Application supports this need.

To the extent that the Zoning Board of Appeals does not believe that it can issue a Special Permit to the Applicant because it is not a “licensed telecommunications carrier”, the Applicant respectfully requests a VARIANCE from this provision of the Zoning Bylaw.

(ii) Identification of the subject property by name of nearest ways, street address, assessors map parcel number.

Accompanying this Application are detailed site plans providing all required information.

(iii) A map, to scale, showing lot lines of the subject property, the location of all buildings and accessory structures on all properties within 300 feet of the proposed wireless services facility and within 1000 feet of a proposed tower, property lines of all properties adjacent to the subject property within 300 feet of the subject property line, location of the proposed wireless telecommunication services facility and any equipment shelter, location of any existing ways on the subject property, and any proposed driveway for the wireless telecommunication service facility.

Accompanying this Application are detailed site plans providing all required information.

(iv) Proposed changes to the subject property, including grading, vegetation removal and drainage prepared by a registered civil engineer, and a landscaping plan prepared by a registered landscape architect.

Accompanying this Application are detailed site plans providing all required information. As is shown on the aerial rendering that is included in the Site Plans, the proposed Facility will be surrounded by a dense vegetative buffer as well as a stockade fence. Accordingly, no additional landscaping is required.

(v) Plans and elevations, dimensioned and to scale, and specifications of any proposed structure, mount, antennas, equipment shelter, signs, plant material, fencing and buffers, showing location on building façade or roof, height above building roof and existing grade, dimensions, materials, color and camouflage, parking area, and any other construction attendant to the facility.

Accompanying this Application are detailed site plans providing all required information.

(vi) A map showing the anticipated range of coverage for a proposed wireless telecommunications service facility and the location and range of coverage of any existing wireless telecommunications facility within six (6) miles of the subject property.

Accompanying this Application is an Affidavit of Radio Frequency Engineer and maps providing all of the required information. Representatives of the Applicant and its engineers will be available at the public hearing to answer any additional questions the Board may have with respect to the proposed Facility.

(vii) Where a wireless telecommunications tower is proposed, a map showing the farthest point from which the facility will be visible and eight (8) view lines in a one (1) mile radius from the subject property, beginning at True North and continuing clockwise at forty-five (45) degree intervals. Two (2) weeks prior to the public hearing, the Board of Appeals may require the applicant to float a balloon or use a crane test at the location of the facility, at its maximum proposed elevation, to demonstrate its height and visibility from Town ways and neighborhood dwelling units. The balloon shall be at least four (4) feet in diameter. The time and date of this demonstration, and a rain date, shall be advertised in a newspaper of general circulation in the Town one (1) week prior to the test, such advertisement to be paid for by the applicant.

After completion of the visibility demonstration (balloon test) required by this Section, the Applicant will provide a visibility analysis and photographic simulations of the proposed Facility from several public vantage points surrounding the proposed Facility.

(viii) An explanation shall be submitted as to the reasons and process used in selecting a site for the construction or installation of a wireless telecommunications service facility and other alternatives explored.

Accompanying this Application is an Affidavit of Site Acquisition Specialist providing all of the required information. Representatives of the Applicant and its engineers will be available at the public hearing to answer any additional questions the Board may have with respect to the proposed Facility.

(ix) Where a wireless telecommunications tower is proposed, a report shall be required for a registered structural engineer on safety aspects. The report shall include manufacturer's specifications for a proposed tower describing the reasons for its design, safety aspects, its capacity for co-location, including the location, number and type of antennas it can accommodate.

Accompanying this Application are detailed site plans providing all required information. Representatives of the Applicant and its engineers will be available at the public hearing to answer any additional questions the Board may have with respect to the proposed Facility.

(x) Where there are existing dwelling units within one thousand (1000) feet of a proposed wireless telecommunications tower or monopole, the

applicant shall submit sight line graphs or photographic superimpositions showing the appearance of the tower at completion from the three (3) dwellings that are closest or most significantly affected.

After completion of the visibility demonstration (balloon test) required by this Section, the Applicant will provide a visibility analysis and photographic simulations of the proposed Facility from several public vantage points surrounding the proposed Facility

(xi) Copies of submittals to all state and Federal agencies pertaining to licensing shall be submitted, and if a tower or monopole is proposed, documentation from the Federal Aviation Administration (FAA) must be submitted stating that it has determined that hazard lighting and paint are not required. Prior to the issuance of a building permit, copies of the FCC license, and any other required Federal or state licenses, shall be submitted to the Zoning Enforcement Officer.

Accompanying this Application are the results of an FCC TOWAIR database search, indicating that no FAA lighting or marking of the proposed Facility is required under current FAA regulations.

(xii) Any required environmental assessment under the National Environmental Policy Act (NEPA), and/or by the FCC, shall be submitted.

The Applicant has determined that no Environmental Assessment under the NEPA is required.

(xiii) Any materials proposed for use within a wireless telecommunications service facility that are considered hazardous under state, Federal, or local laws shall be listed by location, type, and amount, including trace elements.

The proposed Facility involve the use of any materials considered hazardous under state, Federal or local laws.

(xiv) An ambient emissions baseline reading and plan for continuous monitoring and certification by a radio frequency engineer, stating that radio frequency emission measurements are accurate and meet FCC and state guidelines, shall be submitted, as well as the maximum projected range of emissions from any wireless telecommunications facility.

Accompanying this Application is an Affidavit of Radio Frequency Engineer providing all of the required information. Representatives of

the Applicant and its engineers will be available at the public hearing to answer any additional questions the Board may have with respect to the proposed Facility.

(xv) If lighting at ground-story level is proposed for security and maintenance purposes, the applicant shall indicate the locations and types of lighting proposed and submit a manufacturer's computer-generated, point-to-point printout, indicating the horizontal foot-candles at grade within the site, and twenty-five (25) feet beyond the property lines.

No lighting at ground-story level is proposed.

4 Referral. The Board of Appeals shall refer a Special Permit application and all related submittals, plans, and statements to Town boards and commissions for their written comments and recommendations pursuant to Section 906.4.

No response required.

5 Telecommunications Specialists. The Planning Board and the Board of Appeals may each hire a telecommunications specialist as they deem necessary to assist with their respective reviews of an application for a building permit or Special Permit under this Bylaw. The boards may adopt regulations establishing a fee for such professional services to be paid by the applicant(s).

The Applicant agrees to comply with all reasonably and lawfully required procedural and other conditions generally or uniformly and lawfully imposed and applied by the Town with respect to this Application.

6 Monitoring and Maintenance. The owner/operator of any wireless telecommunications service facility shall annually, after the issuance of a certificate of zoning compliance by the Zoning Enforcement Officer under Section 904.2, submit calculations of cumulative radio frequency emissions levels to the Zoning Enforcement Officer and Board of Health. The calculations shall be signed and certified by a registered radio frequency engineer and shall include a statement that they meet the emissions standards of the FCC and Massachusetts Department of Health. The owner/operator shall maintain a facility in good appearance and operating condition including structural repair, painting of the facility and equipment shelter, and maintenance of fencing, screening, and landscaping.

The Applicant agrees to comply with all reasonably and lawfully required procedural and other conditions generally or uniformly and lawfully imposed and applied by the Town with respect to the Facility.

7. Fees.

a) A performance bond equal to the removal cost of the proposed wireless telecommunications service facility and restoration of the site may be required as a condition of approval, such bond to be submitted to the Zoning Enforcement Officer prior to issuance of a building permit, and held by the Town Treasurer.

The Applicant agrees to comply with all reasonably and lawfully required procedural and other conditions generally or uniformly and lawfully imposed and applied by the Town with respect to the Facility.

b) In addition to a building permit fee, a monitoring fee to be determined by the Zoning Enforcement Officer shall be required and used to create and maintain an inventory of all wireless telecommunications service antennas in the Town and to monitor emissions and maintenance.

The Applicant agrees to comply with all reasonably and lawfully required procedural and other conditions generally or uniformly and lawfully imposed and applied by the Town with respect to the Facility.

8 Proof of Continued Operation. The owner/operator or successor shall, prior to January 1 of each year subsequent to the date of issuance of a certificate of zoning compliance for a wireless telecommunications service facility, file a signed affidavit with the Zoning Enforcement Officer and Town clerk stating that the facility is in operation. Failure to do so shall be construed as meaning the facility is no longer in use.

The Applicant agrees to comply with all reasonably and lawfully required procedural and other conditions generally or uniformly and lawfully imposed and applied by the Town with respect to this Application.

9 Amendment of Special Permit. If at any time after the issuance of a Special Permit, the FAA notifies the owner/operator that hazard lighting and paint are required for a wireless telecommunications service tower, the owner/operator shall notify the Zoning Enforcement Officer and Board of Appeals, and shall file a request for an amendment to the Special Permit. The Board of Appeals shall, after a public hearing, determine whether the Special Permit should be rescinded, or amended to require a reduction in the height of such tower, sufficient for a determination by the FAA that hazard lighting and paint are not required.

The Applicant agrees to comply with all reasonably and lawfully required procedural and other conditions generally or uniformly and lawfully imposed

and applied by the Town with respect to the Facility.

10 Abandonment. All wireless telecommunications service facilities and equipment shelters not in use for a period of one (1) year shall be dismantled and removed at the owner/operator's expense following notification by the Zoning Enforcement Officer to the owner/operator. The site shall be restored to its pre-construction condition to the extent practicable, with the exception of landscaping improvements. Absent such removal and restoration after notification, the Zoning Enforcement Officer shall initiate action to dismantle a facility and restore the site.

The Applicant agrees to comply with all reasonably and lawfully required procedural and other conditions generally or uniformly and lawfully imposed and applied by the Town with respect to Facility, including removing all unused above-ground facilities and equipment.

610.8 Validity

The invalidity of any provision of this section shall not render invalid any other provision of this section.

No response required.

COMPLIANCE WITH THE CRITERIA FOR SPECIAL PERMITS

906.2 Special Permits

To hear and decide applications for Special Permits as provided in this Bylaw, subject to any general or specific rules therein contained, and including authority to impose appropriate terms, conditions and safeguards in its decisions.

Applications shall be approved only upon the Board's written determination that the proposal's benefits to the Town will outweigh any adverse effects for the Town or vicinity after consideration of the following, among other things, were germane:

1. Suitability of the proposed location for this proposal, taking the following into consideration:

- a) Nearby land uses, and whether they would be supported by or damaged by having the proposed use nearby.
- b) Uses of the site which would be displaced by or preempted by this use.
- c) Adequacy of roads, water, drainage and other public facilities serving the location.
- d) Whether the site is more sensitive than are most similarly zoned sites to environmental damage from the proposal such as: erosion, siltation, potential groundwater or surface water contamination, especially if affecting public or private water supplies, habitat disturbance or loss of valuable natural vegetation.
- e) Contribution to cumulative impact upon municipal water supplies, including consideration of nitrate-nitrogen loading, if within a defined Aquifer Protection Overlay District.

2. Activity type, mix and intensity, taking the following into consideration:

- a) Whether the proposal contributes to the diversity of services available locally;
- b) Seasonal consequences, including addition to peak period congestion;
- c) Service to local, in preference to regional, markets;
- d) For business developments, likelihood of employment opportunities being created for residents, and the quality of those opportunities; and
- e) For residential developments, how substantially, if at all, the proposal contributes to housing diversity.

3. Building and site design, including consideration of the following:

- a) Whether scenic views from public ways and developed properties have been considerably treated;
- b) Whether compatibility with neighborhood character has been considerably treated;
- c) Whether reasonable efforts have been made to minimize visibility of parking and service areas from public streets;
- d) Whether any traditional public access to or along shoreline has been maintained; and
- e) Compliance with the criteria of Section 424.4 and/or Section 615 under Site Plan Approval.
- f) Compliance with Section 404.20 entitled, "Determination of Suitability of Piers."

As has been discussed throughout this Project Narrative, the proposed Facility has been designed to comply with all of the criteria Special Permits. Once constructed, the Facility

will be unmanned and will involve only periodic maintenance visits. The only utilities required to operate the facility are electrical power as well as telephone service which are currently available at the property. The traffic generated by the facility will be one or two vehicle trips per month by maintenance and technical personnel to ensure the telecommunications site remains in good working order. These visits will not result in any material increase in traffic or disruption to patterns of access or egress that will cause congestion hazards or cause a substantial change in the established neighborhood character. The Applicant's maintenance personnel will make use of the existing access driveway which will be extended to the base of the Facility. The proposed Facility will not obstruct existing rights-of-way or pedestrian access and will not change the daily conditions of access, egress, traffic, congestion hazard, or character of the neighborhood. The installation will not require the addition of any new parking or loading spaces.

The Facility will enhance service coverage in the Town of Duxbury and surrounding communities. The enhancement of service coverage in the Town of Duxbury is desirable to the public convenience for personal use of wireless services and for community safety in times of public crisis and natural disaster. Wireless communications service also provides a convenience to residents and is an attractive feature and service to businesses. In addition, the requested use at this location will not result in a change in the appearance of the surrounding neighborhoods. The use is passive in nature and will not generate any traffic, smoke, dust, heat, glare, discharge of noxious substances, nor will it pollute waterways or groundwater. There will be only a de minimus increase in impervious surfaces, and removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. There will be no signage on the tower. Signage shall be limited to those needed at the base of the facility to identify the property and owners, and to comply with applicable safety standards. Once constructed, the Facility will comply with all applicable local, state and federal safety regulations.

COMPLIANCE WITH CRITERIA FOR VARIANCES

906.3 Variances

To grant upon appeal or upon petition with respect to particular land or structures a variance including a use variance from the terms of this Bylaw where the Board of Appeals specifically finds that, owing to circumstances relating to the soil conditions, shape or topography of such land or structures and especially affecting such land or structures but not affecting generally the zoning district in which it is located, a literal enforcement of the provisions of this Bylaw would involve substantial hardship, financial or otherwise, to the petitioner or appellant, and that desirable relief may be granted without substantial detriment to the public good and without nullifying or substantially derogating from the intent or purpose of this Bylaw.

The proposed Facility meets all of the requirements of a Variance under the Town of Duxbury Zoning Bylaw and respectfully requests that the Zoning Board of Appeals make the requisite findings to issue the requested Variances under those and such other provisions of the Bylaw, if any, that the Board deems necessary to approve the Facility as proposed.

Given technical limitations with respect to:

- (i) the location of the tower relative to the surrounding neighborhoods and other existing telecommunication sites in and around the Town of Duxbury;
- (ii) the topography of the surrounding area;
- (iii) the lack of viable alternatives in the area;
- (iv) the height restrictions of the tower imposed by the Bylaw;
- (v) the Town's requirement to accommodate multiple wireless communications companies;
- (vi) the demand for robust and reliable telecommunications coverage; and
- (vii) the requirement to accommodate rapidly evolving technologies;

the Applicant requires the requested Variances to permit construction of the Facility as proposed.

As the Plans indicate, the proposed Facility has been designed to accommodate the antennas at least 4 wireless broadband co-locators. There are no existing or previously approved telecommunications facilities in the area of the proposed Facility, nor are there existing structures of sufficient height in the area of the proposed Facility, that will

achieve the coverage objective of the proposed Facility. The Facility has been situated on the Property in such a way to achieve the objectives of the Bylaw as much as possible.

As has been shown throughout this Project Narrative, the granting of the Variances will not be detrimental to the public safety, health or welfare or injurious to other property and will promote the public interest. The Variances will substantially secure the objectives, standards and requirements of these regulations, and a particular hardship exists and special circumstances warrant the granting of the Variances.

In 1996, the U.S. Congress enacted the Telecommunications Act of 1996, Pub. L. No. 104-104, § 704; 110 Stat. 56 (1996) (the "TCA"). The intent of the TCA enacted by the U.S. Congress was to institute a framework to promote competition and innovation within this telecommunications industry. Under their respective licenses from the FCC, wireless telecommunications providers are obligated to provide a reliable "product" [i.e. wireless communications service] to the population in the metropolitan Boston region, which includes the Town of Duxbury. Likewise, consumer expectations for increasingly robust and reliable service requires competing service providers to identify and remedy existing gaps in reliable network coverage, or gaps that result from increasing subscriber voice and data traffic beyond the limits of existing network infrastructure. A carrier's failure to remedy network gaps in a timely fashion can result in a significant loss of subscribers to competing telecommunications carriers. The proposed Facility and corresponding relief requested are necessary to remedy a gap in reliable service coverage within the various wireless carriers' existing network infrastructure.

The Applicant has investigated alternative sites in and around the defined geographic area within which engineers determined that a facility must be located to fill the gap in service coverage and to function effectively within the network of existing and planned facilities. No existing structure or property in or near the vicinity of the proposed Facility is feasible to accommodate the coverage network requirements.

Accordingly, a literal enforcement of the provisions of the Bylaw would prevent the Applicant from eliminating an existing gap in reliable service coverage, resulting in a potential loss of subscribers and the inability to effectively compete for subscribers with FCC licensed competitors in the market, contrary to the intent of the Bylaw and the U.S. Congress in enacting the TCA.

Moreover, this hardship is owing to the circumstances relating to topography of the surrounding area. The property is a large, commercially used parcel abutting business and industrial zones and undevelopable wetlands. The surrounding area is provides no other feasible location in which to install and operate a wireless telecommunications facility. Existing structures and buildings in the area are insufficient in height to allow wireless carriers to operate thereon and provide adequate coverage to this significant gap in its network. The property provides a unique opportunity, given the existing tower as well as the location and area topography surrounding the Facility, to minimize any

adverse visual impacts to the surrounding area. The proposed design conforms to the existing characteristics of the Property, and utilizes the existing structures on the property to screen the proposed Facility, thereby minimizing potential impacts.

The wireless communications systems being developed by the various telecommunications carriers operating in the Duxbury area have been designed employing the most sophisticated radio frequency engineering methods available. Radio frequency engineers determine the placement of network points-of-presence using computer engineering models that simultaneously evaluate topography and population patterns to identify specific geographic areas to be serviced by each antenna facility in the network. As a result of this modeling, combined with actual coverage data provided by existing "on air" facilities, the carriers' radio frequency engineers have identified a limited geographic area as a necessary location for a communications facility to remedy an existing gap in reliable service coverage in the general vicinity of the Property. Without the requested relief, there would remain a substantial "gap" in reliable service coverage in the carriers' respective networks. Radio frequency coverage maps confirm that a telecommunications facility located at the Property is required to remedy the existing gap in the wireless network coverage in the area. The requested height has been determined by engineers to be the minimum height necessary to connect coverage from the proposed Facility with coverage from adjacent cell sites in the carriers' respective networks (i.e. to remedy the existing "gap" in service and to effect reliable handoffs between adjacent cell sites as a subscriber travels through the area).

Additionally, the Applicant will allow future carriers to co-locate on the Facility hereby minimizing the number of new facilities needed to provide coverage to the Town.

In the context of a utility service where the critical criteria in the development of each facility is its ability to integrate with a network of surrounding sites and subsequently, for each cluster of sites to function within a regional/national network, there is an underlying premise that each site chosen by the Applicant for a facility possesses a unique location and topographical characteristics.

Finally, as noted in *Nextel Communications of the Mid-Atlantic, Inc. v. Town of Wayland*, 231 F.Supp. 2d 396, 406-407 [D. Mass. 2002], the "need for closing a significant gap in coverage, in order to avoid an effective prohibition of wireless services, constitutes another unique circumstance when a zoning variance is required." No existing structure or property in an allowed zoning district is technically suitable to resolve the existing gap in the wireless service coverage in the area. In addition, the existing structures located near the Property are not at a height sufficient to provide adequate coverage to this significant gap in its network. The Facility will be the minimum height necessary to provide coverage for multiple wireless carriers. Given the location and size of the Property, as well as the proposed design of the Facility, the proposed installation will have a minimal visual impact to the surrounding neighborhood while achieving the carriers' requisite coverage.

- The proposed Facility will reduce the number of new structures ultimately needed to provide wireless communication services in the surrounding area by providing co-location potential;
- The proposed Facility is designed to be at the minimum height necessary to provide adequate coverage to the area and keep potential visual impacts to a minimum;
- The proposed Facility will comply in all respects with radio frequency emission standards established by the FCC;
- The proposed Facility will not have any adverse effect on the value of land and buildings in the neighborhood or on the amenities thereof. The proposed use is passive, requires no employees on the premises, and has no characteristics that are incompatible with the underlying zoning. Specifically, it will generate only about two vehicle trips per month by a service technician for routine maintenance, will be served by standard electrical and telephone service, and requires no water, septic or other town services;
- The proposed Facility will promote and conserve the convenience and general welfare of the inhabitants of the Town by enhancing telecommunications services within the town;
- The proposed Facility will lessen the danger from fire and natural disasters by providing emergency communications in the event of such fires and natural disasters;
- The proposed Facility will involve no overcrowding of land or undue concentration of population because it is an unmanned Facility;
- The proposed Facility will preserve and increase the amenities of the Town by enhancing the telecommunications services and will facilitate the adequate provisions of transportation by improving mobile telecommunications for business, personal and emergency uses;
- The proposed Facility will involve no adverse effects on public and private water supplies and indeed will utilize no water at all;
- The proposed Facility will involve no adverse effects on drainage, schools, parks, open space, or other public requirements, and will involve no excessive noise or pollution to the environment;
- The proposed Facility will have no adverse effect on historic sites; and
- The proposed Facility will be an appropriate use of land within the Town.

Due to the unique size, shape, location and elevation of the subject Property and the topography of the surrounding area as well as the existing zoning of the property and surrounding area, unique circumstances exist to justify the granting of the requested Variance. Moreover, Applicant's proposed Facility will have no impact on adjoining properties and the surrounding neighborhood in that the proposed Facility will produce no objectionable noise, glare, dust, smoke, fumes, odors, of effluent, and will not have any impact of traffic or circulation.

Accordingly, the Applicant requests findings that

1. a literal enforcement of the provisions of this chapter would involve a substantial hardship to the Applicant.
2. The hardship is owing to circumstances relating to the soil conditions, shape or topography of such land or structures and especially affecting such land or structures but not affecting generally the zoning district in which it is located.
3. Desirable relief may be granted without nullifying or substantially derogating from the intent or purpose of the zoning bylaw.

In addition (or in the alternative), the Applicant requests a finding that strict compliance would cause a conflict with the TCA.

THE TELECOMMUNICATIONS ACT OF 1996

In 1996, the U.S. Congress enacted the Telecommunications Act of 1996, Pub. L. No. 104-104, § 704; 110 Stat. 56 (1996) (the “TCA” or the “Telecommunications Act”). The intent of the TCA as enacted by Congress was to institute a framework to promote competition and innovation within the telecommunications industry. Although this law specifically preserves local zoning authority with respect to the siting of wireless service facilities, it clarifies when the exercise of local zoning authority may be preempted by federal law. Section 704 of the TCA provides, in pertinent part, that

(7) PRESERVATION OF LOCAL ZONING AUTHORITY-

(A) GENERAL AUTHORITY- Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless service facilities.

(B) LIMITATIONS-

(i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof--

(I) shall not unreasonably discriminate among providers of functionally equivalent services; and

(II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

The intent of the TCA enacted by the U.S. Congress was to institute a framework to promote competition and innovation within this telecommunications industry. Under its respective licenses from the FCC, wireless telecommunications carriers are obligated to provide a reliable “product” [i.e. telecommunications service] to the population in western Massachusetts, which includes the Town of Duxbury. Likewise, consumer expectations for increasingly robust and reliable service requires competing service providers to identify and remedy existing gaps in reliable network coverage, or gaps that result from increasing subscriber voice and data traffic beyond the limits of existing network infrastructure. A carrier’s failure to remedy network gaps in a timely fashion can result in a significant loss of subscribers to competing telecommunications carriers. As demonstrated in the Application and supplemental materials provided by the Applicant, the proposed Facility and corresponding relief requested are necessary to remedy a gap in reliable service coverage within the existing network infrastructure. In Daniels v. Town of Londonderry, 157 N.H. 519 (2008), the New Hampshire Supreme Court upheld the grant of use and area variances for the construction of a cell tower in an agricultural-residential zone, noting that the Londonderry ZBA correctly treated the TCA as an “umbrella” that preempted local law under certain circumstances.

In a growing number of cases, the federal courts have found that permit denials violate the TCA, even if such denials would be valid under state law. For example, in Omnipoint Telecommunications Facility v. Town of Lincoln, 107 F. Supp. 2d 108 (D. Mass. 2000), the court found that denial of a variance for a location outside of the town's wireless overlay district violated the TCA and ordered the variance to issue despite an Bylaw provision prohibiting use variances. The court in Nextel Telecommunications Facility v. Town of Wayland, 231 F. Supp. 2d 396 (D. Mass 2002) reached the same result. In that case, the court stated: "Although the Board's statement [regarding its lack of authority to issue a use variance] may be correct statement in Massachusetts regarding variances, it is not controlling in the special case of Telecommunications facilities...Under the Telecommunications Act, the Board cannot deny the variance if in so doing it would have the effect of prohibiting wireless services." Wayland at 406-407. Most notably, in Omnipoint Holdings, Inc. v. Town of Cranston, No. 08-2491 (1st Cir. Nov. 3, 2009), the United States Court of Appeals for the First Circuit affirmed a judgment of the United States District Court for the District of Rhode Island, which found that the Cranston Zoning Board of Review violated the TCA by effectively prohibiting the provision of wireless services in Cranston when it denied an application for a special use permit and variance to construct a wireless facility in a residential area. The Court noted that "[t]he effective prohibition clause does not stand alone; it is also part of the TCA's larger goal of encouraging competition to provide consumers with cheaper, higher-quality wireless technology.... As cell phone use increases, carriers need to build more facilities, especially in populated areas, to continue providing reliable coverage, and local regulations can present serious obstacles." Cranston, p. 25. More recently, in New Cingular Wireless, LLC v. City of Manchester, Case No. 11-cv-334-SM (USDC D. NH Feb. 28, 2014), the United States District Court for the District of New Hampshire indicated that the City of Manchester impermissibly denied a variance to construct a telecommunications tower in a (non-permitted) residential zone, in that the tower addressed significant coverage gaps and provided competitive and reliable wireless services and there was no feasible alternative. The Court noted that the City must consider the public benefits of wireless services in determining whether to grant a zoning variance for a tower. Id.

The Applicant has investigated alternative sites in and around the defined geographic area within which its engineers determined that a facility must be located to fill the gap in service coverage and to function effectively within the wireless network of existing and planned facilities. No existing structure or property in or near the vicinity of the proposed Facility is feasible to accommodate the wireless network requirements. The proposed Facility is on large substantially undeveloped parcel and provides a substantial vegetative buffer. The wireless communications systems being developed by the various telecommunications carriers operating in the Duxbury area have has been designed employing the most sophisticated radio frequency engineering methods available. Radio frequency engineers determine the placement of network points-of-presence using computer engineering models that simultaneously evaluate are topography and population patterns to identify specific geographic areas to be serviced by each antenna facility in the network. As a result of this modeling, combined with actual coverage data provided by existing "on air" facilities, the carriers' radio frequency engineers have identified a limited geographic area as a necessary location for a communications facility to remedy an existing gap in reliable service coverage in the general vicinity of the Property. Without the requested relief, there would remain a substantial "gap" in reliable service coverage in the carriers' respective networks. Radio

frequency coverage maps confirm that a telecommunications facility located at the Property is required to remedy the existing gap in the wireless network coverage in the area. The requested height has been determined by engineers to be the minimum height necessary to connect coverage from the proposed Facility with coverage from adjacent cell sites in the carriers' respective networks (i.e. to remedy the existing "gap" in service and to effect reliable handoffs between adjacent cell sites as a subscriber travels through the area).

Accordingly, denial of a permit to construct the Facility would prevent the Applicant from eliminating an existing gap in reliable service coverage, resulting in a potential loss of subscribers for the carriers and the inability to effectively compete for subscribers with other FCC licensed competitors in the market, contrary to the intent of the Bylaw and the U.S. Congress in enacting the TCA.

SUMMARY

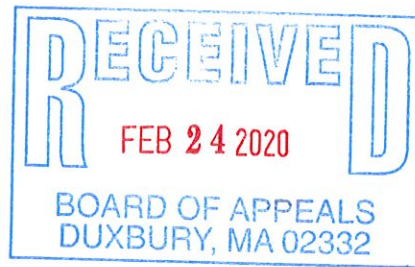
Because the proposed facility meets all of the requirements for a Wireless Telecommunications Services Facility under the Town of Duxbury Zoning Bylaw except for those provisions for which VARIANCES have been requested from the Zoning Board of Appeals, and pursuant to §704(a) of the Federal Telecommunications Act of 1996 which provides, among other things, that wireless facilities may not be prohibited in any particular area and that any denial of zoning relief must be based upon substantial evidence, the Applicant respectfully requests that the Zoning Board of Appeals GRANT THE SPECIAL PERMIT AND VARIANCES as requested, and the Town grant such other permits, relief or waivers deemed necessary by the Town of Duxbury under the current Bylaw and pending Bylaws amendments, if any, so that the Applicant may construct and operate the Facility as proposed.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'F. Parisi', written over a horizontal line.

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

6



TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

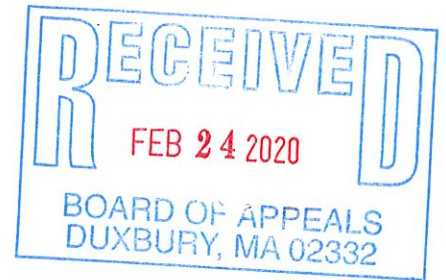
Latitude	42-01-33.5 north
Longitude	070-43-35.2 west

Measurements (Meters)

Overall Structure Height (AGL)	38.4
Support Structure Height (AGL)	36.6
Site Elevation (AMSL)	29.3

Structure Type

MTOWER - Monopole

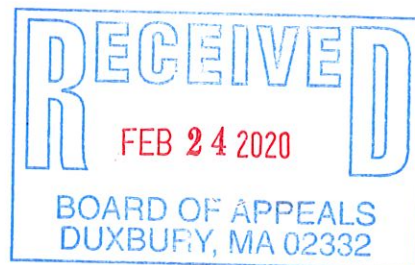


Tower Construction Notifications

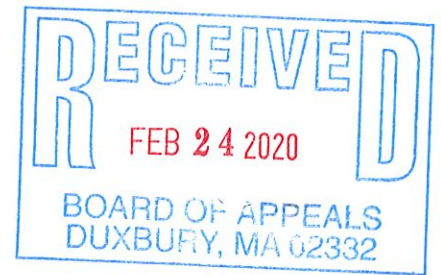
Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW

7



STATEMENT OF STEPHEN KELLEHER
Vertex Tower Assets, LLC



I, Stephen Kelleher, hereby state the following in support of the application submitted by Vertex Tower Assets, LLC for a multi-user Personal Wireless Service Facility (“PWSF”) to be located at 421 Elm Street consisting of a Monopole tower and related ground equipment contained within a fenced compound. (the “Site”).

1. My name is Stephen Kelleher and I am the Manager for Vertex Tower Assets, LLC.
2. I have worked in the telecommunications industry for 12 years overseeing and assisting in the leasing, zoning, permitting and construction of wireless facilities and specifically in the investigation of all feasible alternatives for the location of a wireless facility within a telecommunications provider’s search ring which would fill a significant gap in that carrier’s wireless coverage.
3. I have participated directly or through my present and past employment in the development of hundreds of such facilities, including wireless communication facilities similar to the facility proposed for the site.
4. The Site has been previously approved for the installation of a wireless communications tower by both the Planning and Zoning Board.
5. I have personally visited the Site and the area surrounding the Site on numerous occasions. I submit this affidavit based on my personal knowledge of the Site and the surrounding area working together with the experience and documentation provided by the civil and radio frequency engineers and environmental consultants and based on my professional experience in the development of wireless communication facilities.
6. Part of my site acquisition and development duties include identifying potential candidates within the areas identified as having a significant gap in coverage. The candidate identification process includes reviewing the applicable zoning ordinance with legal counsel, engineers, wetland scientists, and other professionals to identify areas where the proposed use is allowed and feasible. First, I explore to determine whether there are any viable candidates of existing structures of sufficient height from which an antenna installation can provide sufficient coverage. If there are no existing tall structures which will close the significant gap in coverage, I look to parcels located within the narrowly defined search area upon which a tower may be constructed to a sufficient height to close the gap. In order to be viable, a candidate must provide adequate coverage to the identified significant gap in coverage. In addition, all viable candidates must have a willing landowner with whom commercially reasonable lease terms may be negotiated. Preference is given to locations that closely comply with local zoning ordinances, or in the event no viable candidates are found within the search area, I attempt to identify other potentially suitable locations with preference always given to existing structures.

7. Based on my personal knowledge of the Site and the surrounding area, there are no potential alternative candidates located within this topography driven search ring that would be considered superior to the proposed Site. In addition, based on my experience, in my professional opinion, the proposed PWSF to be located at 431 Elm Street is the least intrusive and only available and viable alternative to adequately meet the coverage objective to fill this significant gap in coverage.

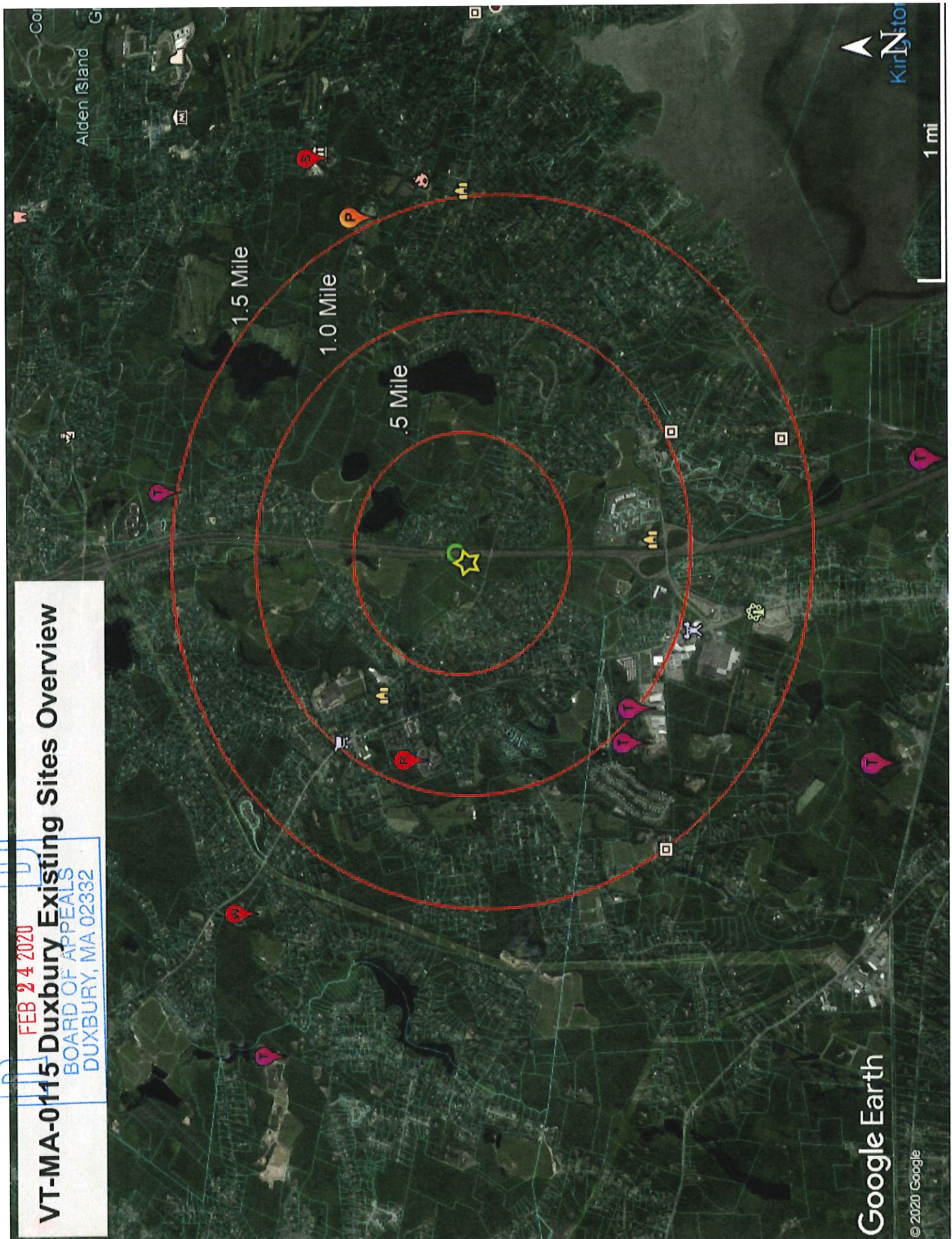
Executed this 18th day of February, 2020.



Stephen Kelleher
Vertex Tower Assets, LLC

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VT-MA-0115 Duxbury Existing Sites Overview
FEB 24 2020
BOARD OF APPEALS
DUXBURY, MA 02332



Google Earth
© 2020 Google

EXISTING SITES OVERVIEW MAP LEGEND

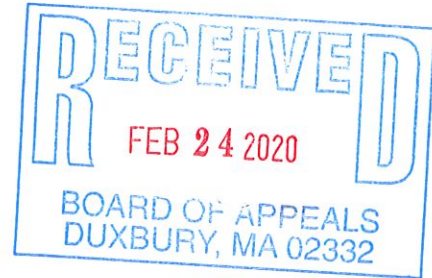
T. Existing Towers

R. Rooftop Installations

S. Steeple Installations

W. Water tank Installations

P Proposed/Approved New Tower



8

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FEB 24 2020
BOARD OF APPEALS
DUXBURY, MA 02332



AFFIDAVIT OF RF ENGINEER

I, Jose Hernandez hereby state the following in support of the application for Vertex Tower Holdings, LLC (“Vertex”) of proposed monopole located at 421 Elm St, Map 60 Lot 43: Duxbury, MA (the “Site”) and the attachment of antennas, cabling and other telecommunications equipment on and at the base of the monopole by various wireless broadband telecommunications carriers as proposed in the attached application (the “Facility”).

1. I am a currently an independent consultant Principal/Manager Radio Frequency Engineer. I have been involved with the wireless telecommunications industry for 20 years, and have held various technical, operational and supervisory positions with Nextel Communications, T-Mobile, AT&T Mobility and Sprint PCS.

2. In order to satisfy its obligations under its radio licenses acquired from the FCC and under the Code of Federal Regulations 47 C.F.R. § 27.14(a), wireless broadband telecommunications carriers must have in place a system of strategically deployed “cell sites” to provide wireless communications services to their subscribers’ throughout their licensed area. These cell sites generally consist of an antenna support structure such as a telecommunications tower, building, water tank, or other structures used to elevate the antennas to the height necessary for providing adequate service to the targeted area. The antennas are connected via cabling to radio equipment located near the antennas and/or at the base of the support structure. The cell sites operate by transmitting and receiving low power radio frequency signals to and from their subscribers’ portable wireless communication devices such as basic handheld phones, smartphones, PDA’s, tablets, and laptop aircards. These wireless voice and data signals are then transferred through ground telephone lines, fiber, microwave or other means of backhaul transport, and routed to their destinations by sophisticated electronic equipment.

3. Cell sites are a vital and necessary part of carriers’ network infrastructure. In order to maintain effective, uninterrupted service throughout a given area, there must be a series of cell sites, interconnected to each other with slightly overlapping coverage areas. This allows for the subscribers to move freely about a geographic area while maintaining a consistent and reliable wireless connection to the network.

4. A proposed cell site must consider the locations and coverage provided by the surrounding cell sites in the network, and must be located within a limited geographical area, which is defined by factors such as terrain, land use characteristics, and population density. By locating within this limited area and at a sufficient height, the cell site would have a high probability of meeting the targeted objectives, thereby providing reliable coverage and capacity throughout the cell.

5. In compliance with the requirements of its FCC licenses, carriers are actively building their respective networks to provide coverage throughout its licensed area. In order to meet the responsibility of providing seamless, uninterrupted service, carriers must continue to acquire

interest in sites for additional facilities, and is applying for and obtaining local governmental zoning approvals to construct its sites in order to eliminate deficient service areas due to gaps in coverage or insufficient capacity. Any delays severely curtail carriers' ability to satisfy both mandated time requirements, and to achieve a market position that will allow it to compete for customers with other similar companies also issued licenses to operate in this area.

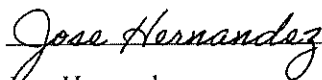
6. Using computer simulations to model radio frequency propagation, Vertex has determined that a wireless transmission facility located at or near to the proposed Facility would facilitate wireless communications within the local area along Pilgrims (Rt 3), Summer St (Rt 53) and surrounding areas of Duxbury. These simulations model characteristics such as antenna types, antenna height, output power, terrain, ground elevations and RF propagation effects of the frequency utilized.

7. In my opinion based upon substantial research and analysis, without a cell site located at or very near the proposed site, this area of Duxbury would not meet the typical coverage requirements for multiple wireless carriers, resulting in a substantial gap in wireless coverage.

8. Based upon the technologies currently being deployed by wireless carriers, it is my opinion that the proposed Facility is at the minimum height necessary to satisfy the coverage objectives of multiple wireless carriers providing in the area.

9. All of the transmitter facilities to be located at the proposed location are required to comply, and when constructed and operational will comply with, all applicable regulations of the FCC regarding radio frequency (RF) exposure as detailed in FCC OET Bulletin 65, Edition 97-1.

Signed and sworn under the pains and penalties of perjury, February, 5, 2020.

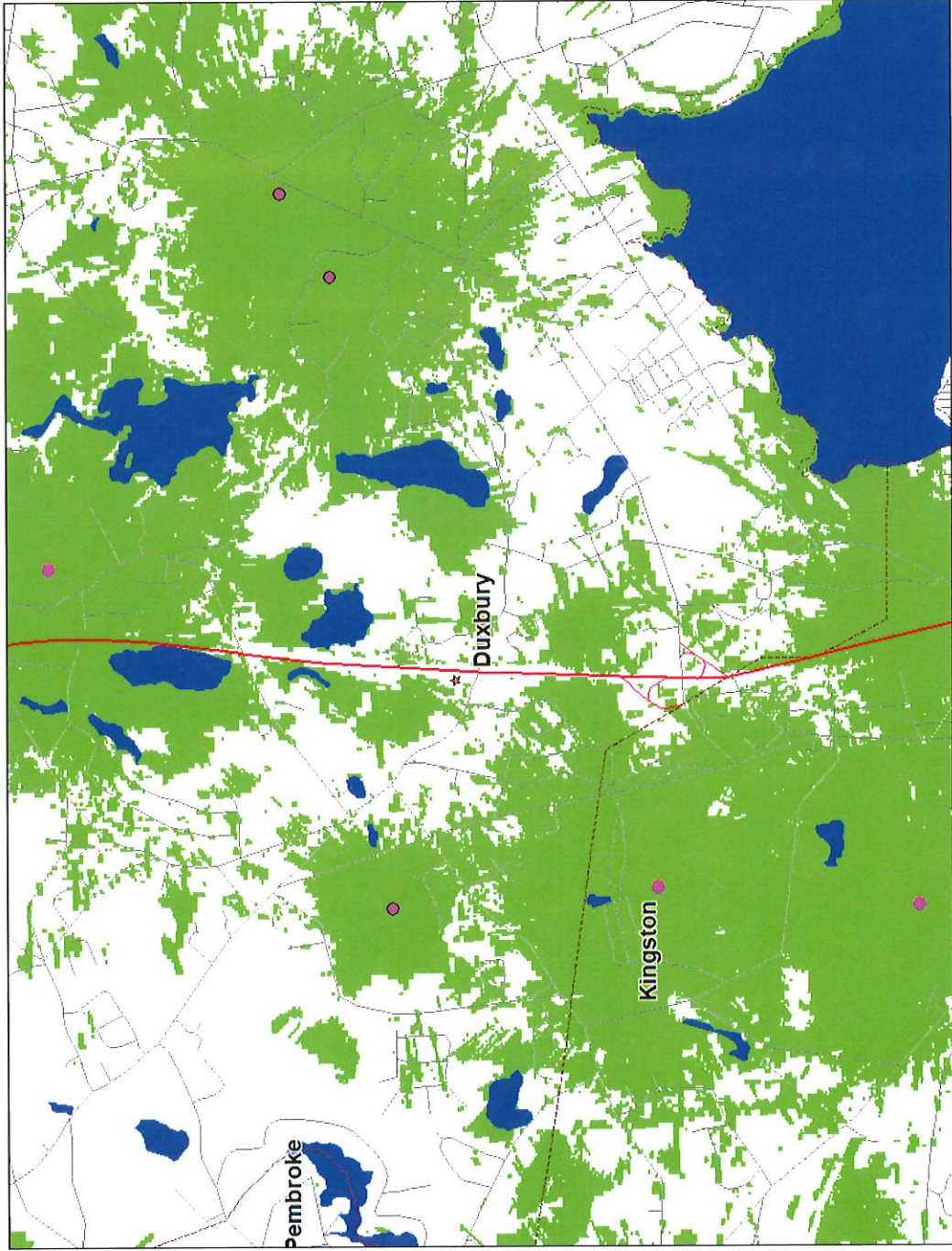


Jose Hernandez

JNaerowaves.Corp

President / Principal Radio Frequency Engineer

RF Existing Coverage without MA-0115A @115'



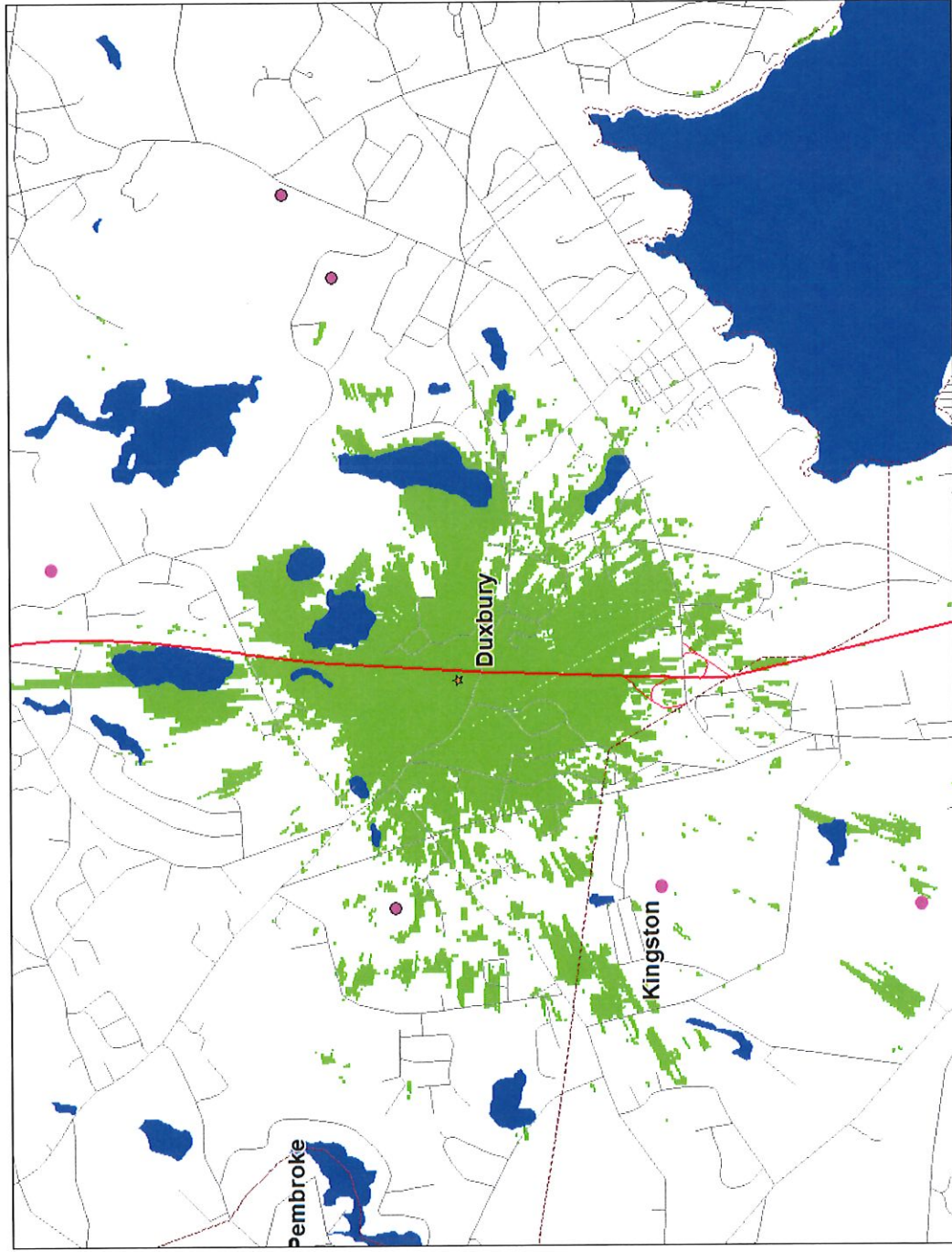
Legend

Minimum	Maximum	Label	Colour
-85	0	In-Bldg Res	

- Existing On-Air Site
- Proposed Vertex Towers



RF Proposed Coverage for MA-0115A @115'



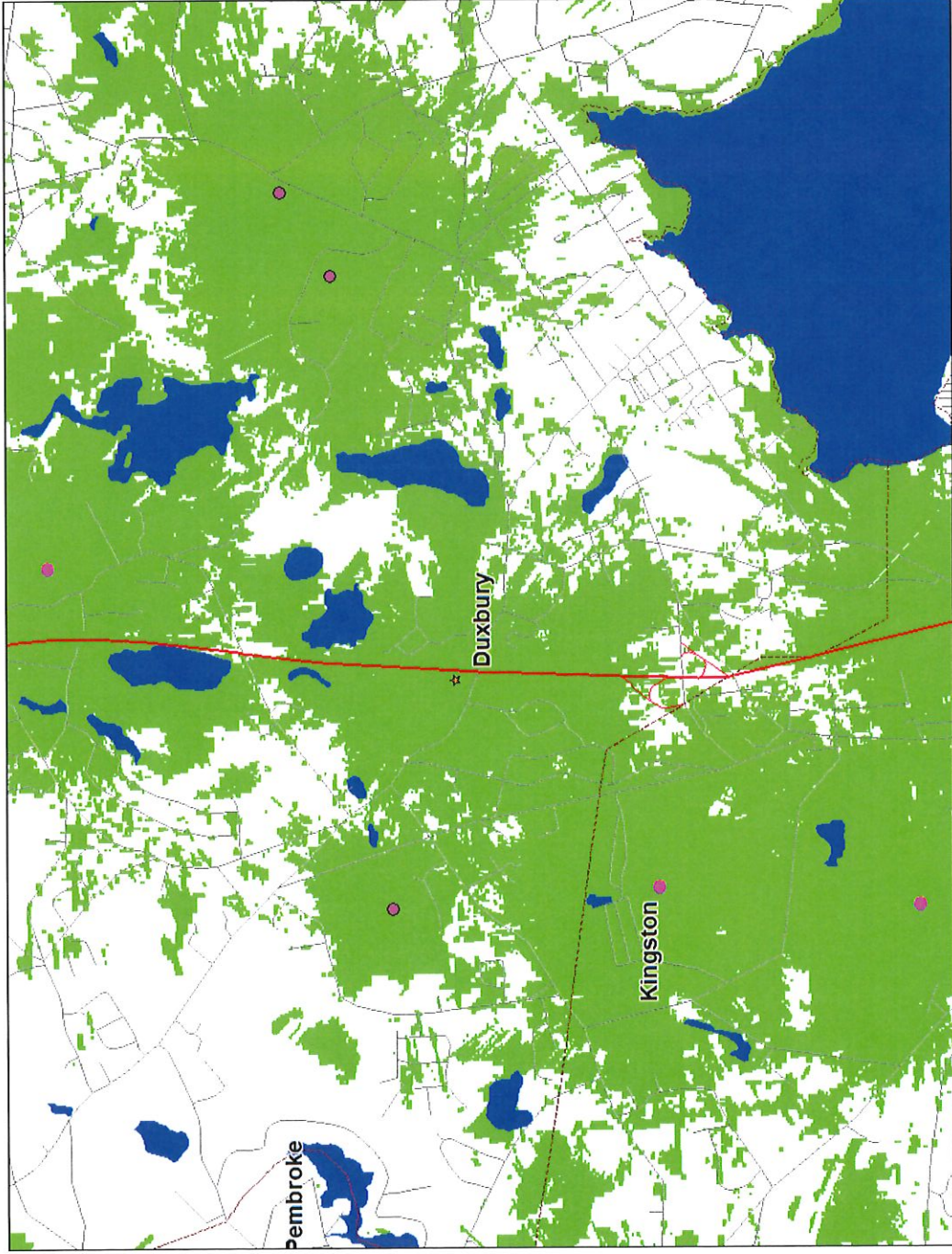
Legend

Minimum	Maximum	Label	Colour
-85	0	In-Bldg Res	Green

- Existing On-Air Site
- ★ Proposed Vertex Towers



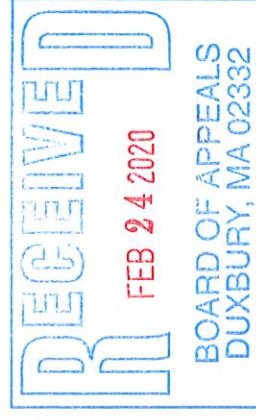
RF Existing Coverage with MA-0115A @115'



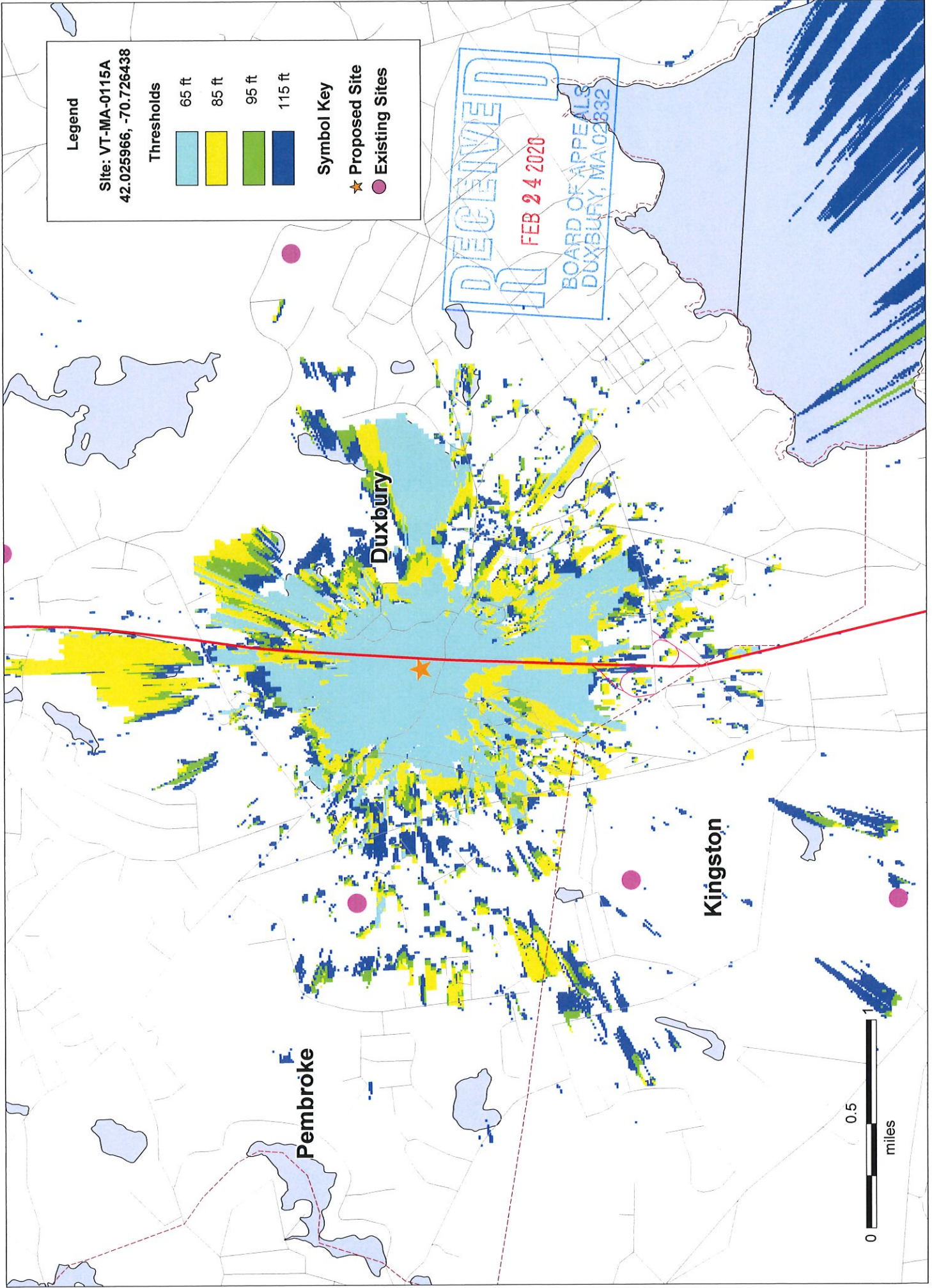
Legend

Minimum	Maximum	Label	Colour
-85	0	In-Bldg Res	

- Existing On-Air Site
- ★ Proposed Vertex Towers



VT-MA-0115A Duxbury MA - Height Analysis -85dBm

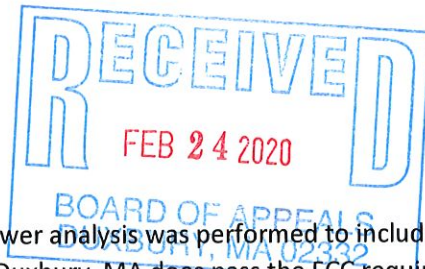


9

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DUXBURY, MA 02332

Site Emissions Report For Duxbury, MA

Date Performed: 02/4/2020



This site emissions analysis was created for Vertex Towers, LLC. The tower analysis was performed to include all 4 major carriers. According to the analysis, this tower, located at 421 Elm St in Duxbury, MA does pass the FCC requirements for Radio Frequency emissions. The FCC requirements used in this report were determined from the FCC OET65 documentation and calculations.

The tower assumes the worst-case scenario which would not occur in the real world. It assumes that all 4 carriers are using all frequency bands and are all on the lowest height of the tower.

The approach taken for calculations takes into account the typical antenna used, since a Cell Site antenna is directional and has different gains at different angles.

At the lowest height of 85ft, the highest emissions do not go above 1.9244 $\mu\text{W}/\text{cm}^2$ which is **0.255%** of the Maximum Permissible Emissions requirements, which is less than 1% of the MPE requirements.

Site Name: VT-MA-01115A

Coordinates: (42.029233 / -70.74241)

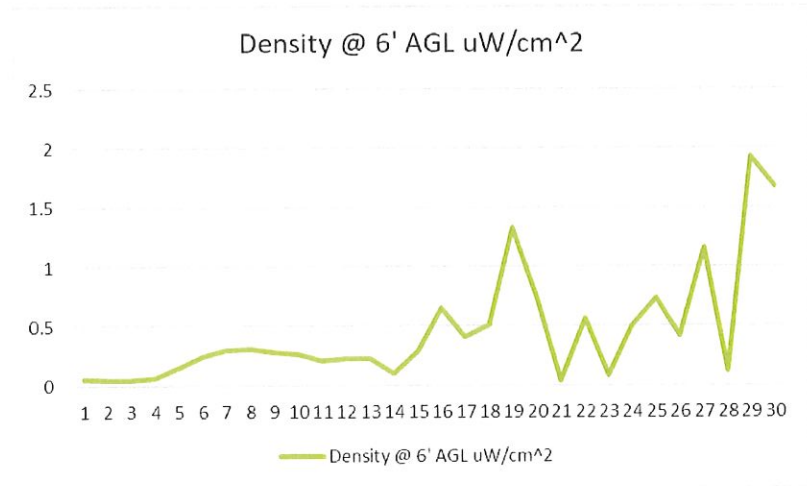
Location: 421 Elm St, Duxbury, MA

Carrier Available Heights (ft): 95, 85

Equation for Predicting RF Fields:

$$S = \frac{EIRP}{4\pi R^2} \quad (4)$$

where: EIRP = equivalent (or effective) isotropically radiated power
 S = power density (in appropriate units, e.g. mW/cm^2)
 Reference: OET Bulletin 65



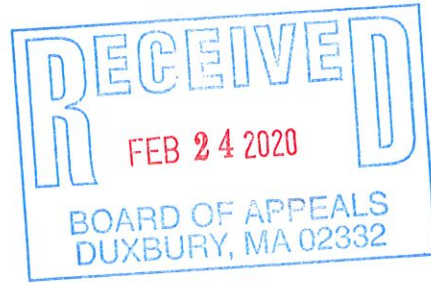
Data used for calculation		
Wireless Service Provider	Frequency Band	ERP (Watts)
Carrier 1	1900MHz	1250
Carrier 1	700MHz	1000
Carrier 1	850MHz	1000
Carrier 1	2100MHz	2500
Carrier 2	1900MHz	2000
Carrier 2	700MHz	1000
Carrier 2	850MHz	1000
Carrier 2	2100MHz	1000
Carrier 3	1900MHz	1360
Carrier 3	2100MHz	1360
Carrier 3	700MHz	1000
Carrier 4	850MHz	400
Carrier 4	1900MHz	1360

Analysis Performed by: _____

Jose Hernandez – President / Principal. RF Engineer – Jnaerowaves.corp

Jose Hernandez is an independent Radio Frequency Engineer with 20 years of experience as an engineer in the Wireless Telecommunications field. Jose has performed numerous emissions reports for the Wireless Telecommunications Industry.

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VT-MA-0115A DUXBURY ROUTE 3

421 ELM STREET
DUXBURY, MA 02332
PLYMOUTH COUNTY

SITE NO: VT-MA-0115A

SITE TYPE: RAW LAND
DESIGN GUIDELINE: NSB



AEG PROJECT #: 2019-0230

DRAWN BY: DD

CHECKED BY: SNA

SUBMITTALS

REV#	DATE	DESCRIPTION
0	09/25/19	ISSUED FOR REVIEW
1	02/13/20	ISSUED FOR ZONING

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF VERTEX TOWER ASSETS, LLC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. APPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

DUXBURY ROUTE 3

421 ELM STREET
DUXBURY, MA 02332
PLYMOUTH COUNTY

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

PROJECT SUMMARY

SITE NUMBER: VT-MA-0115A
SITE NAME: DUXBURY ROUTE 3
SITE ADDRESS: 421 ELM STREET, DUXBURY, MA 02332
ASSESSOR'S PARCEL NO.: MAP: 060 BLK: 043 LOT: 000
CONSTRUCTION TYPE: NSB
PROPERTY OWNER: STUART & LESLIE LEE, 421 ELM STREET, DUXBURY, MA 02332
APPLICANT, LESSEE/LICENSEE, PROJECT OWNER: VERTEX TOWERS LLC, 155 SOUTH STREET, WRENTHAM, MA 02093
TOWER TYPE: MONOPOLE
TOWER HEIGHT: 120'± ABOVE GROUND LEVEL

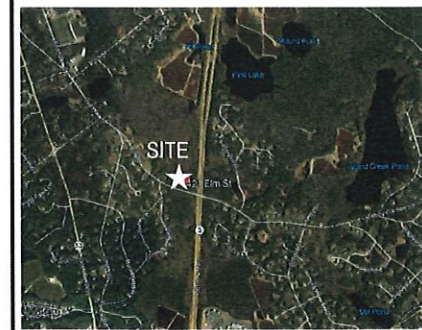
DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL NOTES

- THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH ALL LOCAL, STATE, FEDERAL, AND FEDERAL ORDINANCES, REGULATIONS, AND LOCAL AND STATE JURISDICTIONS, CODES, ORDINANCES, AND SPECIFICATIONS OF THE STATE, THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK, THE CONTRACTOR SHOULD BE AWARE OF ANY DISCREPANCIES OR OMISSIONS IN THE CONTRACT DOCUMENTS AND SHOULD NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY UPON DISCOVERY OF SUCH DISCREPANCIES OR OMISSIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND MARKS REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
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- ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORDS. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: GAS SYSTEM (GAS, MA, 800-452-4488), 1-888-344-7233 CALL BEFORE YOU DIG (CITY) 1-800-822-4488.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND MARKS REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- ALL DIMENSIONS SHOWN THERE AS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH CONTRADICT THE CONTRACT DOCUMENTS. CONSTRUCTION TO VERIFY ALL DIMENSIONS WITH PROJECT OTHER PRIOR TO CONSTRUCTION.
- NORTH ARROW SHOWN ON PLANS REFERS TO APPROXIMATE TRUE NORTH. PRIOR TO THE START OF CONSTRUCTION, OBTAIN OR PURCHASE AN AUTOMATIC LEVELING DEVICE. CONSULT WITH PROJECT OWNER'S SURVEYOR AND FIELD VERIFY ALL AUTOMATIC LEVELING DEVICES AND AUTOMATIC LEVELING.
- THE CONTRACTOR AND/OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AGENCY.
- ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREW EMPLOYED IN THE ASSEMBLY AND DIRECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.
- CONDUIT, CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE PROJECT OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF PROJECT OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE CONVEY 1). ALL OTHER MATERIALS TO BE PROVIDED BY THE CONTRACTOR. CONNECTION FRACTION SHALL BE STAINLESS STEEL.
- WHEN "THAT TO MATCH" IS SPECIFIED FOR ANTENNA CONSTRUCTION, THAT PRODUCT FOR ANTENNA MOUNTING SHALL BE SUREKON WILLIAMS CORPORATION'S SURFACE MOUNTING AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROJECT OWNER'S SCHEDULE.
- COORDINATION LEVELS AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRIC AND TELECOMMUNICATIONS SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EXISTING SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WORK EXISTING ON THE SITE SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER LOCATION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PILING DRILLING AREAS ON NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.

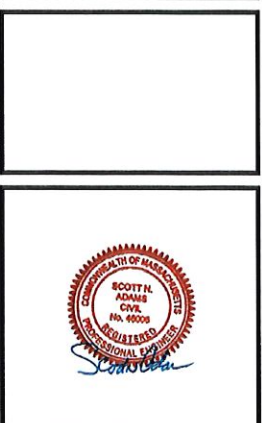
VICINITY MAP



VICINITY MAP
SCALE: NTS

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
C-1	EXISTING CONDITIONS/PLOT PLAN & NOTES	1
Z-1	1,000' RADIUS/ORTHO PLAN	1
Z-2	SITE PLAN & NOTES	1
Z-3	COMPOUND PLAN, ELEVATION & DETAILS	1



AEG PROJECT #: 2019-0230

DRAWN BY: DD

CHECKED BY: SNA

SUBMITTALS		
REV#	DATE	DESCRIPTION
0	09/25/19	ISSUED FOR REVIEW
1	02/13/20	ISSUED FOR ZONING

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DUXBURY ROUTE 3
 421 ELM STREET
 DUXBURY, MA 02332
 PLYMOUTH COUNTY

SHEET TITLE
 1,000' RADIUS/ORTHO PLAN

SHEET NUMBER
Z-1

LEGEND

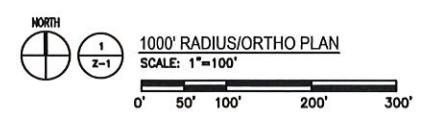
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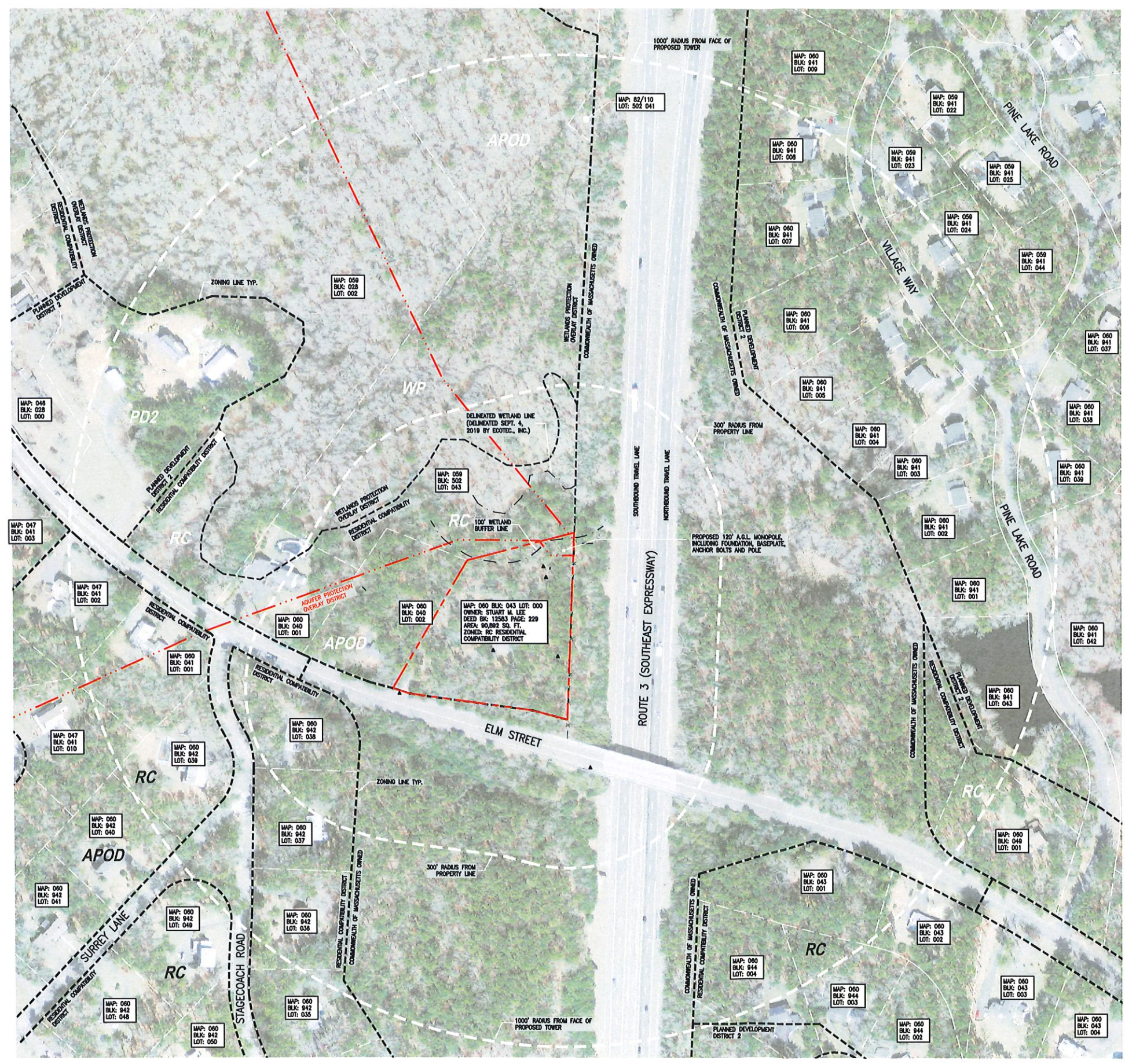
WP WETLAND PROTECTION OVERLAY DISTRICT
RC RESIDENTIAL COMPATIBILITY DISTRICT
PD2 PLANNED DEVELOPMENT DISTRICT 2
APOD AQUIFER PROTECTION OVERLAY DISTRICT

THE LOCUS PROPERTY FALLS ENTIRELY OUTSIDE THE WETLANDS PROTECTION OVERLAY DISTRICT FOR THE TOWN OF DUXBURY WETLANDS PROTECTION OVERLAY DISTRICTS ZONING MAP DATED MARCH 2009 & THE TOWN OF DUXBURY, MA WETLANDS AND WATERSHED PROTECTION DISTRICTS, DATED 03-04-71

PROTECTION OVERLAY DISTRICT - ELEVATION 90.0' NOV029 (ELEVATION ENTIRELY OFF LOCUS)
 ORIGINAL MARCH 4, 1971 DESIGN PLANS ARE BASED UPON NOV029 DATUM AND USGS CONTOURS.
 DATUM CONVERSION - 90.0' NOV029 = 89.2' NOV088 (ELEVATION ENTIRELY OFF LOCUS)



- NOTES:**
1. PLOT PLAN BASED ON TAX ASSESSOR'S MAP FROM THE TOWN OF DUXBURY, PLAN ENTITLED "PLAN OF LAND IN DUXBURY, MASS." DATED MARCH 2, 1991, PREPARED BY ROBERT B. DELANO AND DIGITAL PARCEL MAPPING DATA FROM MASSGIS.
 2. SETBACKS ARE TAKEN FROM FACE OF PROPOSED TOWER TO PROPERTY LINES.
 3. A METES AND BOUNDS SURVEY WAS NOT CONDUCTED BY ADVANCED ENGINEERING GROUP, P.C.



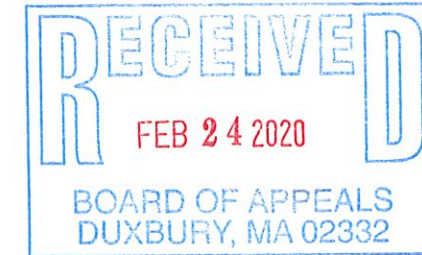
VT-MA-0115A

DUXBURY ROUTE 3

421 ELM STREET
DUXBURY, MA 02332
PLYMOUTH COUNTY

SITE NO: VT-MA-0115A

SITE TYPE: RAW LAND
DESIGN GUIDELINE: NSB



AEG PROJECT #: 2019-0230

DRAWN BY: DD

CHECKED BY: SNA

SUBMITTALS

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DUXBURY ROUTE 3

421 ELM STREET
DUXBURY, MA 02332
PLYMOUTH COUNTY

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

PROJECT SUMMARY

SITE NUMBER: VT-MA-0115A
SITE NAME: DUXBURY ROUTE 3
SITE ADDRESS: 421 ELM STREET, DUXBURY, MA 02332
ASSESSOR'S PARCEL NO.: MAP: 060 BLK: 043 LOT: 000
CONSTRUCTION TYPE: NSB
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APPLICANT, LESSEE/LICENSEE, PROJECT OWNER: VERTEX TOWERS LLC, 155 SOUTH STREET, WRENTHAM, MA 02093
TOWER TYPE: MONOPOLE
TOWER HEIGHT: 120'± ABOVE GROUND LEVEL

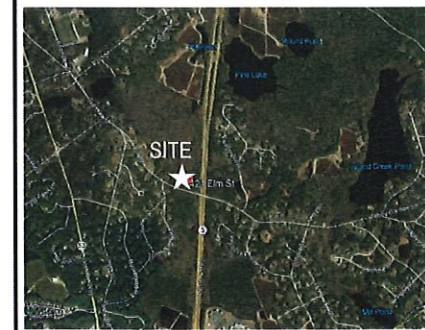
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GENERAL NOTES

- THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH ALL LOCAL, STATE, FEDERAL, AND FEDERAL ORDINANCES, REGULATIONS, AND LOCAL AND STATE JURISDICTIONS, CODES, ORDINANCES, AND SPECIFICATIONS OF THE STATE, THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK, THE CONTRACTOR SHOULD BE AWARE OF ANY DISCREPANCIES OR OMISSIONS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT CONSTITUTE CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR OWNER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING IN WRITING THE LICENSEE/ENGINEER OF ANY COMPLETE OMISSIONS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF OMISSIONS THE CONTRACTOR SHALL MAKE THE WORK CORRECT OR EXTENSIVE WORK UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY COVERED BY THE CONSTRUCTION DOCUMENTS / CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR BREAK LOCAL CODES OR ORDINANCES TO THE CONTRARY.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPON THE LATEST REVISIONS AND ACCORDANCE OR CONTINUOUSLY AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION WORK, METHODS, TECHNIQUES, PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEY, ESTABLISHING AND MAINTAINING ALL LINES AND MARKERS REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, UTILITIES, POWER, CABLES, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REMOVE ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND NEIGHBORHOODS AT ALL TIMES. DEBRIS, RUBBISH AND REMOVED EQUIPMENT NOT SPECIFIED AS REMAINS ON THE PROPERTY. RUBBISH SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM SPILL, STAIN, OR SHADOWS OF ANY KIND.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE LICENSEE/ENGINEER IMMEDIATELY IN WRITING IF A DISCREPANCY OR OMISSION OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO OBTAIN MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
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- NORTH ARROW SHOWN ON PLANS REFERS TO APPROXIMATE TRUE NORTH. PRIOR TO THE START OF CONSTRUCTION, OBTAINING OR PURCHASING AN ANTI-MAGNETIC COMPASS SHALL CONSULT WITH PROJECT OWNER'S OF ENGINEER AND FIELD VERIFY ALL ANTI-MAGNETIC LOCATIONS AND ANTI-MAGNETIC.
- THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREW SUPERVISED BY THE ARCHITECT/ENGINEER.
- CONDUIT, CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE PROJECT OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF PROJECT OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE CONVEY 3). ALL OTHER MATERIALS TO BE PROVIDED BY THE CONTRACTOR. CONNECTION FRACTIONS SHALL BE STRAIGHT STEEL.
- WHEN "THAT TO MATCH" IS SPECIFIED FOR ANTI-MAGNETIC CONDUIT, THAT PRODUCT FOR ANTI-MAGNETIC SHALL BE SURESH WILLIAMS CORPORATION'S SURFACE FINISHING AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROJECT OWNER'S QUALITY.
- COORDINATION LEVELS AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRIC AND TELECOMMUNICATIONS SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EXISTING SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WORK EXHIBITED IN THE WORK SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER LOCATION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTENSIVE CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PILING DRILLING AREAS ON NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
- ALL (CONCRETE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES) WHICH INTERFERE WITH THE LOCATION OF THE WORK, SHALL BE RELOCATED AND/OR COVERED, PLACED OR OTHERWISE RELOCATED AT POINTS WHICH WILL NOT INTERFERE WITH THE LOCATION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERS. THE AREA OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, SHOWN ON THE PLANS, SHALL BE RELOCATED TO A UNIFORM SLOPE, FERTILIZED, SEEDS AND COVERED WITH MULCH UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES.
- DURING CONSTRUCTION, PER FCC MANDATE, EMERGENCY (911) SERVICE IS REQUIRED TO MEET NATIONAL STANDARDS.
- FOR WIRELESS COMMUNICATIONS SYSTEMS, PROJECT OWNER'S IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY SHOWN ON THIS PLAN ATTACHED TO OR LOCATED IN CLOSE PROXIMITY TO THE SITE AND CONSTRUCTION. PROJECT OWNER RESERVES THE RIGHT TO MAKE REASONABLE ADJUSTMENTS TO EXISTING EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.
- SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, AND, 16TH EDITION, TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-A, STRUCTURAL STANDARDS FOR STEEL;
ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES, REFER TO ELECTRICAL DIVISIONS FOR SPECIFIC ELECTRICAL STANDARDS.
- FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REFERRED MATERIAL, METHOD OF CONSTRUCTION OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHEN THERE IS A CONFLICT BETWEEN A NATIONAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.
- APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ACCEPTED BY THE LOCAL AUTHORITY FROM JURISDICTION (MA) FOR THE LOCATION. THE EXTENT OF THE MA ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE:
MASSACHUSETTS STATE BUILDING CODE 780 CMR, 8TH EDITION, ELECTRICAL CODE MASSACHUSETTS 807 CMR 12.00 (REV 2017) WITH 70A, 2017

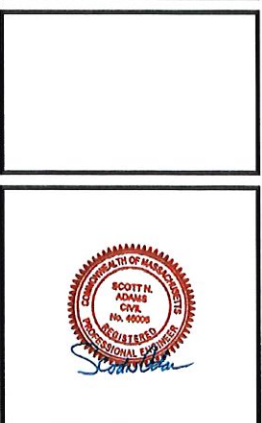
VICINITY MAP



VICINITY MAP
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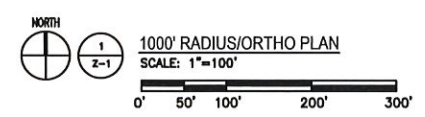
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