Application for Special Permit and Site Plan Approval

Utility Pole #50-1 Within Town Right of Way of Main Street

15 Chestnut Street, 4th Floor
Worcester, MA 01609

Paula Foley
Network Real Estate / Regulatory

June 29, 2022

Planning Board
Town of Sturbridge
308 Main Street
Sturbridge, MA 01566

Re:	APPLICANT:	Cellco Partnership d/b/a Verizon Wireless
	PROPERTY:	Utility Pole # 50-1 in ROW near 179 Main Street
	OWNER:	Verizon and National Grid
	RELIEF SOUGHT:	Special Permit and Site Plan Approval under Article IX, Sections 300-9.1 – 300-1.10 of the Sturbridge Zoning Bylaws

Dear Members of the Board:

Pursuant to G.L. c. 166, Sections 21, 22, 25A and the above-referenced sections of the Sturbridge Zoning Bylaws, Cellco Partnership d/b/a Verizon Wireless ("Verizon Wireless") requests a special permit and site plan approval for the installation of a small antenna and associated equipment (known as a "small cell") on an existing utility pole in the public right of way ("ROW") near 179 Main Street.

Verizon Wireless' radio frequency engineers targeted the proposed location due to the high traffic and data demands on Verizon's network in the area. Verizon's existing macro and small cell sites are not providing adequate data capacity in this location due to population, vehicular traffic, multiple wireless devices being used simultaneously and other contributing factors. This small cell site will work to offload the demand of the macro sites and will allow for increased data capacity and speed within the vicinity of the proposed small cell location.

The small cell equipment will be installed using standard commercially acceptable methods in accordance with all applicable federal, state and local laws and regulations. The proposed attachment is to a utility pole jointly owned by National Grid and Verizon. Verizon has entered into a pole attachment agreement with National Grid and is authorized to attach its wireless facilities to the utility pole.

As shown on the attached detailed plans, the small cell installation on the utility pole will include fiber optic cables, an unobtrusive top-mount antenna measuring 35.4" in height and 14" in diameter; a remote radio head unit, conduits and cable protectors, and an electric meter with a shut-off switch. The attached plans show the proposed location, pole height, mounting height, equipment specifications and utility plan.

verizon

The Telecommunications Act of 1996

The Telecommunications Act of 1996 (the "Act") imposes restrictions affecting the standard for granting the requested relief, specifically (1) no laws or actions by any local government or planning or zoning board may prohibit, or have the effect of prohibiting, the placement, construction, or modification of communications towers, antennas or other wireless facilities in any particular geographic area, see 47 USC § 332(c)(7)(B)(i); (2) local government or planning or zoning boards may not unreasonably discriminate among providers of functionally equivalent service, see 47 USC § 332(c)(7)(B)(i); (3) health concerns may not be considered so long as emissions comply with the applicable standards of the FCC, see 47 USC § 332(c)(7)(B)(iv); and (4) decisions must be rendered within a reasonable period of time, see 47 USC § 332(c)(7)(B)(ii). The presumptively reasonable period of time established by the FCC for in this instance is 60 days from the submission of a complete small cell petition, see 47 CFR § 1.6003(c)(1)(i).

Summary

Verizon Wireless requests the issuance of a special permit and site plan approval to attach a small cell to an existing utility pole in the public right of way. The benefits to the Town and the public provided by high quality 4G LTE wireless voice and data transmission service is in harmony and compliance with the zoning regulations and their general purpose and intent without adverse effects to the Town.

Very truly yours,

Paula Foley

Paula Foley
Network Real Estate / Regulatory
M: 508.269.0172
Paula.foley@verizonwireless.com

cc: Jean Bubon, Town Planner

TOWN OF STURBRIDGE

NARRATIVE IN SUPPORT OF

APPLICATION

FOR

SPECIAL PERMIT

AND SITE PLAN APPROVAL

APPLICANT: Cellco Partnership d/b/a Verizon Wireless

SMALL CELL LOCATION: On existing utility pole # 50-1 located in the public right of way on Main Street, Sturbridge, MA

This Narrative in Support of the Application for Special Permit and Site Plan Approval for the installation of small cell equipment on an existing utility pole located in the Town right of way is respectfully submitted by Cellco Partnership d/b/a Verizon Wireless ("Verizon" or "Applicant") to the Town of Sturbridge Planning Board (the "Board).

I. <u>Detailed Explanation of Request</u>:

Verizon has entered into a Pole Attachment License with National Grid, the joint owner (with Verizon) of the utility pole to attach the small cell equipment. National Grid has provided full and complete authorization to Verizon and its representatives to apply for all necessary zoning permits, petitions or other necessary approvals for the proposed small cell equipment installation.

See Exhibit 1, Letter of Authorization

The proposed small cell installation will include installing one (1) canister style antenna mounted on top of the utility pole at a maximum height of 28.4' above ground level, two (2) remote radio heads, and associated wires, cable, fiber demarc, A/C converter, diplexer and electric meter to a utility pole with an overall installed height of approximately 31.6' as shown on the attached Plans titled STURBRIDGE_SC01_MA prepared by Nexius with a last revision date of 6/23/22.

Similar to a telephone or cable company's utility pole equipment, the proposed small cell attachments consist of a single antenna and small radios that will be mounted on the utility pole that carries electric and communications services. The Verizon equipment will draw power by connecting to the existing electrical service on the pole. It will also tie into the fiber already on the pole to make a backhaul connection to an existing equipment room. The installation will not include any ground equipment or ground disturbance.

See Exhibit 2, Site Drawings

The small cell facility will operate as an integral part of the Verizon network and will improve the reliability of wireless service for Sturbridge residents and businesses. The small cell facility will provide

improved service to an area where wireless service is currently unavailable or unreliable because the wireless signal is dissipated by the distance from the nearest macro (i.e., tower) facility, obstructed by intervening terrain, or diverted by high demand. In order to upgrade service, Verizon will need to attach the proposed small cell to utility pole #50-1 which is located in the Town right of way on Main Street that will address both gaps in reliable coverage and enhance system performance.

See Exhibit 3, Affidavit of Radio Frequency Engineer
See Exhibit 4, Radio Frequency Emission Compliance

II. <u>Because of the reasons set forth below, the special permit request will be in harmony with the intent and purpose of the Zoning Ordinance/Bylaw</u>:

Small cell technology provides for the continued deployment of Verizon's network in Sturbridge and the greater Commonwealth. The small size and unique design of small cell units allows Verizon to strategically install antennas in high demand locations while mitigating visual impact and increasing wireless performance in targeted areas.

In contrast to conventional, single-location, multi-function macro wireless facilities, small cell technology provides site-specific network solutions in small, visually unobtrusive units. Verizon uses small cell antennas to combine transmission and processing in a single canister style unit allowing antenna placement and signal creation without the need for ground equipment. This type of signal processing is highly advantageous in high demand locations where network capacity is an issue during periods of peak use. Subsequently, municipalities can experience substantially improved wireless coverage by the use of this state of the art and discreet antenna technology.

Verizon proposes the attachment of one (1) small cell unit on existing utility pole #50-1 located on Main Street. This installation consists of a 14" D x 35.4" H canister antenna top mounted on the utility pole and resembles a common electric transformer. This antenna complies with all applicable FCC radio frequency emissions standards and regulations, and requires minimal maintenance. Subsequently, the antenna will not impact utilities, schools, traffic or other municipal resources in the Town of Sturbridge.

This facility complies with the Town of Sturbridge Zoning Bylaws. Verizon lists (*italicized*) and addresses relevant sections of the Sturbridge Zoning Bylaw § 300-18.2(B) below.

The special permit granting authority may authorize the issuance of said special permit in accordance with MGL c. 40A, §§ 9 and 17, provided all the requirements are met and provided that:
***<u>[1]</u>** Such use is not detrimental to the permitted uses in the zone in which it is located.*

> Utility pole # 50-1 is located in the Town right of way on Main Street in the Commercial District. The proposed small cell will greatly improve wireless connectivity in the vicinity of the antenna in the least disruptive manner possible and thus facilitate benefits to nearby residents and businesses as well as enhanced access to 911 and emergency services.

***<u>[2]</u>** The nature of the operations shall be such that it will not be hazardous or create any danger to public health and safety.*

The proposed small cell will not be hazardous or create a danger to public health or safety. The small cell will not create any noise, vibration, odors, fumes, smoke, dust, harmful fluids, danger of fire or explosion, or any other objectionable feature detrimental to public health or safety. The proposed small cell will comply with all applicable local, state and federal safety codes.

[3] *The use shall be consistent, insofar as practicable, with the Comprehensive Plan for the future development of the area.*

Upon information and belief, Verizon is not aware of any proposed future development of this area that is inconsistent with attachment of the small cell to the existing utility pole in the right of way.

[4] *Provision for roads and parking areas shall be laid out so as to prevent traffic hazards and nuisances.*

Verizon is not proposing any changes to the roads and is not proposing any parking areas. Once installed, the small cell will not require further visits by Verizon personnel with the exception of infrequent maintenance inspections.

[5] *The location, nature and height of buildings, walls, fences and landscaping shall be such that the use will not hinder or discourage the appropriate development of adjacent land or adversely affect the character of the zone in which it is located.*

Verizon is not proposing buildings, walls, fences or landscaping. The small cell equipment will be attached to an existing utility pole in the right of way and will resemble equipment on other utility poles in the vicinity, such as electric transformers or junction boxes.

[6] *If the rights authorized by a special permit are not exercised within three years of the date of grant, such special permit shall lapse. Any subsequent special permit must adhere to current bylaws then in effect.*

Verizon acknowledges this requirement.

III. Because of the reasons set forth below, the special permit request will meet the additional requirements of the Zoning Ordinance/Bylaw as follows:

Article IX of the Sturbridge Zoning Bylaw includes requirements specific to Wireless Communications Facilities. Verizon lists (*italicized*) and addresses relevant sections of the Sturbridge Zoning Bylaw §§ 300-9.3 – 300-9.6 below.

§ 300-9.3. Use regulations.
No wireless communication facility shall be placed, constructed or modified except as set forth below:
A. Mounts attached to existing buildings or structures.
(1) Pursuant to site plan approval obtained in accordance with these bylaws, a wireless communication facility may employ an existing building or structure, provided that the mount shall not increase the height of the existing structure.
(2) Pursuant to site plan approval and a special permit granted by the Planning Board in accordance with these bylaws, a mount attached to a building or structure (other than a tower) may extend above the

height of that building or structure if the Planning Board finds that the mount is appropriately camouflaged and/or screened from view, or the mount is otherwise compatible with the context of the site on which it is located; provided that no such mount may extend more than 12 feet above the building or structure.

Verizon is proposing to attach a small wireless facility to an existing utility pole in the Sturbridge right of way on Main Street. The small antenna will be mounted of the top of the utility pole, extending 3'-2" (including mount) above the top of the pole. The antenna will look like a short extension of the utility pole and therefore is compatible with the context of the site upon which it is located.

B. Mounts of any type within the tree canopy.
(1) A new wireless communication facility, which may extend up to 15 feet in height above the average tree canopy elevation, may be located in the following zoning districts: Commercial, Commercial II, Commercial/Tourist, Special Use, General Industrial and Industrial Park, pursuant to a special permit and site plan approval issued by the Planning Board in accordance with these bylaws.
(2) A new wireless communication facility, which may extend up to 15 feet in height above the average tree canopy elevation, may be located in a Residential District pursuant to a special permit and site plan approval issued by the Planning Board in accordance with these bylaws, provided the Planning Board finds that the applicant has exhausted all reasonable alternatives for placing the facility in a nonresidential district and provided that any wireless communication facility placed in a residential district shall not present a dominant visual feature to residential users within the district, and may utilize significant wooded isolation, topographical isolation and/or or camouflage consistent with its surroundings, as determined acceptable by the Planning Board, to achieve this result.
(3) Any new wireless communication facility located under this section shall be camouflaged in a manner that is compatible with its surroundings as determined by the Planning Board with reference to visual impact analysis and simulations.

Not applicable; the proposed small cell is not within the tree canopy.

C. A new wireless communication facility up to 130 feet in height from grade may be located in the Wireless Communication Overlay District pursuant to a special permit and site plan approval issued by the Planning Board in accordance with these bylaws. A freestanding monopole without camouflage may be allowed, at the Planning Board's discretion, in the overlay district under this section.

Not applicable; Verizon's proposed small cell is located within the Town right of way on Main Street.

D. No wireless communication facility shall be located in a local, state or national historic district unless the Planning Board finds that the wireless communication facility:
(1) Is hidden or otherwise camouflaged to the satisfaction of the Planning Board;
(2) Cannot be located outside such district; and
(3) Is demonstrated to be compliant with the National Historic Preservation Act.

Not applicable; the proposed small cell is not in a historic district.

E. New lattice-style towers are not allowed in any district, unless the Planning Board makes a finding that the benefit of employing a particular such tower outweighs the detriments to the community.

Not applicable; Verizon is not proposing a new lattice style tower.

F. Whenever feasible, wireless communication facilities shall be located on existing structures, including but not limited to buildings, water towers, existing telecommunication facilities, utility and light poles and towers, and related facilities, provided that such installation preserves the character and integrity of those structures. In particular, applicants are urged to consider use of existing telephone and electric utility structures as sites for one or more wireless communication facilities. The applicant shall have the burden of proving that there are no feasible existing structures upon which to locate.

Verizon is proposing use of an existing structure, specifically an existing utility pole in the Sturbridge right of way on Main Street. The installation will preserve the character and integrity of the utility pole which will continue to be used for communications and electrical purposes.

G. Site-sharing. Carriers shall share wireless communication facilities and sites where feasible and appropriate, thereby reducing the number of stand-alone facilities. All applicants for a special permit for a wireless communication facility shall demonstrate a good faith effort to site-share with other carriers. In determining whether site-sharing is appropriate, the Planning Board may consider whether the addition of a wireless communication facility to a site with existing facilities may be more detrimental due to the density of use than beneficial due to reduction of multiple facility sites. In the event an applicant determines that site-sharing is not feasible, it shall submit a written statement of the reasons for the infeasibility to the permit granting authority in sufficient detail to allow the permit granting authority to properly assess such feasibility.

Verizon's proposed small cell is located in an area of capacity and coverage need as determined by Verizon network engineers. Small cells are designed to provide coverage in discreet areas that are otherwise not adequately served by macro or rooftop facilities. For these reasons, it is not possible to locate the small cell to a site with other existing communications facilities. The utility pole is only capable of supporting the small cell equipment of a single service provider.

H. Average tree canopy elevation waiver. In the event that the Planning Board finds that application of the average tree canopy elevation requirement is impracticable because there exists no alternative site at which a wireless communication facility can be located to provide service in compliance with such requirement, the Planning Board may, at its discretion, grant a waiver to such requirement. The waiver may allow a wireless communication facility to extend up to 130 feet in height from grade, subject to all other applicable site plan approval and special permit criteria in these bylaws. To grant an average tree canopy elevation waiver, the Planning Board must also find that there are no alternative locations, including other parcels, where the grant of an average tree canopy elevation waiver would result in an outcome substantially more in keeping with the intent and purpose of the bylaw than at the proposed location.

Not applicable; Verizon is not seeking a tree canopy elevation waiver.

I. The Town may retain a technical expert in the field of RF engineering to peer review the applicant's claims and submittals and to provide advice on the need for the proposed facility and on any potential alternatives. The cost for such a technical expert will be borne by the applicant.

Because the application is limited to a proposal to attach a single small cell antenna to an existing utility pole in the Sturbridge right of way, Verizon believes that use of a technical expert to conduct a peer review will not provide substantive assistance to the Planning Board and therefore requests a waiver from any such requirement.

J. In no case shall any facility of the type in § 300-9.3C above be located closer than one mile to any other such facility unless the Planning Board makes a finding that site-sharing on such facilities is infeasible or does not address the coverage objective of the applicant.

Not applicable; Verizon's proposed small cell is located within the Town right of way on Main Street.

K. All facilities shall be designed to be constructed at the minimum height necessary to accommodate the anticipated and future use.

Verizon's proposed small cell antenna will be located on the top of the existing utility pole at an overall height of 31.6'. This height is the minimum height necessary to achieve optimal coverage in the area.

L. In order to ensure public safety, the minimum distance from the base of any ground mounted facility to any property line, road, habitable dwelling, business or institutional use, or public recreational areas shall be 120% of the height of the facility, inclusive of any appurtenant devices. A fall zone shall be maintained around the facility as per the definition.

Not applicable; Verizon is not proposing a ground mounted facility. Verizon's proposed small cell will be attached to an existing utility pole in the Sturbridge right of way on Main Street.

M. Wireless communication facilities shall be painted or otherwise screened or camouflaged to minimize their visibility to abutters, adjacent streets and residential neighborhoods. Existing on-site vegetation shall be preserved to the maximum extent practicable for screening purposes. All towers and mounts shall be positioned and designed to minimize their visibility to residential abutters, adjacent streets and residential neighborhoods.

Verizon's proposed small cell will be attached to an existing utility pole in the Sturbridge right of way on Main Street. The size, color and overall appearance of the small cell equipment will resemble equipment on other utility poles in the vicinity. The antenna will be located at the top of the pole and will look like an extension of the pole.

N. Equipment shelters. Equipment shelters for wireless communication facilities shall be designed consistent with their surroundings as determined by the context of their location, such as by requiring traditional colonial Sturbridge architectural styles and materials, with a pitched roof and wood clapboard or shingle siding or commercial or industrial styling where consistent with surrounding development; and/or screened by an effective year-round landscape buffer and/or natural fence, equal to the height of the proposed building or equipment compound and/or wooden fence.

Not applicable; Verizon is not proposing an equipment shelter. All of the small cell equipment will be attached to the utility pole with no ground attachments or ground disturbance.

O. Lighting shall be limited to minimal security lighting and that required by the Federal Aviation Administration (FAA) only. The Planning Board may require an applicant to consider alternatives that do not require FAA navigation lighting or painting.

Not applicable; there will be no lighting associated with the proposed small cell.

P. There shall be at least one parking space at each facility, to be used in connection with the maintenance of the facility and the site, and not to be used for storage of vehicles or other items.

Verizon is not proposing a parking space. As the utility pole is in the Sturbridge right of way, a parking space would interfere with traffic flow and is not needed. Therefore, Verizon requests a waiver from this requirement.

Q. All outdoor wireless communication facilities and related equipment shall be surrounded by a security barrier.

Verizon is not proposing a security barrier. As the utility pole is in the Sturbridge right of way, a security barrier would interfere with traffic flow and is not needed. Therefore, Verizon requests a waiver from this requirement.

R. No signage of any kind, including carrier identification signs, shall be mounted on telecommunications towers except signs less than 10 feet above ground that identify the tower, its owner, its emergency contact number and other relevant information and hazard communication signs.

Not applicable; Verizon is not proposing a tower.

§ 300-9.4. Safety standards.

A. Applicants shall demonstrate their facilities are designed to operate in compliance with applicable federal and state requirements regarding human exposure to RFE (ref. 47 CFR 1.1307 et seq. and 105 CMR 122) and shall maintain compliance at all times.

See Exhibit 3, Affidavit of Radio Frequency Engineer
See Exhibit 4, Radio Frequency Emission Compliance

B. Applicants shall demonstrate compliance with National Environmental Policy Act and local environmental requirements.

Verizon's proposed small cell is a collocation on existing infrastructure and is exempt from NEPA review. Upon information and belief, there are no local environmental requirements triggered by Verizon's proposed attachment of small cell equipment to an existing utility pole in the Sturbridge right of way on Main Street.

C. Equipment shelters and outdoor equipment for wireless communication facilities shall together not generate noise in excess of 50 Dba Le at the property line. Applicants must include a demonstration of how a proposed facility or modification, together with all existing facilities at the site, will comply with this requirement. The Town may hire an acoustical engineer to verify noise levels at the carrier's expense.

Verizon's proposed small cell equipment does not emit noise. Verizon is not proposing an equipment shelter. Because the application is limited to a proposal to attach a single small cell antenna to an existing utility pole in the Sturbridge right of way, Verizon believes that use of an acoustic engineer to verify noise levels will not provide substantive assistance to the Planning Board and therefore requests a waiver from any such requirement.

§ 300-9.5. Review and approval procedures.

In addition to the usual procedures and information required to file for a special permit under § 300-18.2B(2) of this bylaw, the following shall also be required:

A. A report prepared by one or more suitably qualified RF engineers providing the following information:

(1) Demonstration that the proposed wireless communication equipment shall be installed, erected, maintained and used in compliance with all applicable federal, state and local regulations, including, but not limited to: the radio frequency emissions regulations established by the FCC, applicable regulations administered by the Federal Aviation Administration (FAA), Federal Communications Commission (FCC), MassDOT Aeronautics Division and the Massachusetts Department of Public Health.

(2) A description of the facility and the technical and other reasons for the proposed location, height and design, including reasons for not co-locating on other existing facilities or structures.

(3) A description of the capacity of the facility, including total the number and type of panels, antenna, other carriers' facilities and related gear that it can accommodate.

See Exhibit 2, Site Drawings
See Exhibit 3, Affidavit of Radio Frequency Engineer
See Exhibit 4, Radio Frequency Emission Compliance

B. A locus plan at a scale of one inch equals 200 feet or other such scale as appropriate to the context of the parcel, which shall show all property lines, the exact location of the proposed facilities, streets, landscape features and all buildings within 500 feet of the facility shall be submitted.

See Exhibit 2, Site Drawings

C. A color photograph or rendition of the facility with its antennas and/or panels at the proposed site.

See Exhibit 2, Site Drawings

D. A view test to be conducted utilizing balloons or other means to document the extent of visual impact. The Planning Board may require the applicant to conduct a publicly noticed balloon test during the conduct of the public hearing. Photographs and photo simulations of the view test showing the impact of the proposed facility on abutting streets, adjacent property owners and residential neighborhoods shall be submitted.

Verizon is proposing to attach small cell equipment to an existing utility pole in the Sturbridge right of way on Main Street. Due to the nature of the location and the size and scope of the proposed facility on an existing structure, Verizon suggests that a balloon

test or other type of view test is not required and that the photo simulation contained in the Site Plans is sufficient. Therefore, Verizon request a waiver of this requirement.

E. The Town, acting through its Planning Board, may require the applicant to pay reasonable fees for review of the applicant's proposal by a radio frequency engineer or other qualified professionals.

Because the application is limited to a proposal to attach a single small cell antenna to an existing utility pole in the Sturbridge right of way, Verizon believes that use of a third party radio frequency engineer or other qualified professional to review Verizon's proposal will not provide substantive assistance to the Planning Board and therefore requests a waiver from any such requirement.

§ 300-9.6. Monitoring and maintenance.

A. After the wireless communication facility is operational, the applicant shall submit, within 90 days of beginning operations, a verification of compliance of RFE emissions with applicable regulations employing methods appropriate to the circumstances as guided by FCC Office of Engineering and Technology Bulletin 65.

Because the application is limited to a proposal to attach a single small cell antenna to an existing utility pole in the Sturbridge right of way, Verizon respectfully requests that the Planning Board waive post-installation RFE reporting. As shown in **Exhibit 4, Radio Frequency Emission Compliance**, the proposed small cell is well within federal emissions requirements. In addition, federal law precludes overly burdensome and unreasonable safety requirements relating to proof of compliance. *See* 47 U.S.C. § 332(c)(7)(B) (providing that "[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions").

B. The applicant shall maintain the wireless communication facility in good condition. Such maintenance shall include, but shall not be limited to, painting, structural integrity of the mount and any security barrier, and maintenance of the buffer area and landscaping.

Verizon agrees to maintain the small cell equipment in good condition.

EXHIBIT 1

Letter of Authorization

nationalgrid

June 23, 2022

Attn: Sturbridge MA Planning Board

To Whom It May Concern:

National Grid, as owner of certain utility poles in public rights-of-way in Sturbridge, MA, is aware and authorizes Verizon Wireless to complete the process of permitting for the installation of necessary telecommunications equipment and corresponding aerial fiber optic cable on National Grid-owned utility poles at the following location:

STURBRIDGE_SC01	179 Main Street	Pole # 50-1

Accordingly, National Grid hereby submits its authorization for Verizon Wireless to install its antennae and appurtenant equipment and aerial fiber routes to National Grid poles at the above locations. Please be advised that the undersigned has entered into a master lease agreement authorizing Verizon Wireless to install, attach, maintain, repair, upgrade and use wireless communications equipment and appurtenances on certain utility poles. The installations on National Grid utility poles will be subject to the underlying terms and conditions of the aforementioned agreement by and between National Grid and Verizon Wireless, as the same may be in effect from time to time.

Sincerely,

Keith Amelin
National Grid

EXHIBIT 2

Site Drawings

SITE NAME:

STURBRIDGE_SC01_MA

LOCATION CODE:

395284

SITE ADDRESS:

UTILITY POLE NO.: 50-1
179 MAIN STREET
STURBRIDGE, MA 01766

APPROX. NORTH

1 KEY PLAN
SCALE: 1" = 50'

50 0 50 100 200

GRAPHIC SCALE: 1:50 (IN FEET)

	LATITUDE (NAD83)	LONGITUDE (NAD83)
POLE COORDINATES	N 42.096527° ±	W 72.072308° ±
	N 42° 05' 47.50"	W 72° 04' 20.31"
GROUND ELEVATION	717'± A.M.S.L. (NAVD88)	

SHEET INDEX	
SHEET NO.	SHEET DESCRIPRION
LE-1	KEY PLAN
LE-2	PHOTO DETAIL & ELEVATION
LE-3	EQUIPMENT PLAN, ANTENNA PLAN & MOUNTING DETAILS
LE-4	ANTENNA & EQUPMENT SPECS, WIRING DIAGRAM

LEASE EXHIBIT
(NOT FOR CONSTRUCTION)

PREPARED BY:

nexius
TRANSFORM YOUR BUSINESS...THROUGH WIRELESS

A&E OFFICE:
4 MACARTHUR AVENUE
DEVENS, MA 01434

PRESIDING POWER COMPANY:

nationalgrid

PROFESSIONAL STAMP:

COMMONWEALTH OF MASSACHUSETTS
JIAZHU HU
No. 53146
REGISTERED PROFESSIONAL ENGINEER

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	01/14/22	FOR REVIEW	AA
1	06/23/22	REVISED PER STAMP	AA

SITE INFO:

SITE NAME:
STURBRIDGE_SC01_MA

SITE ADDRESS:

U/P NO.: 50-1
179 MAIN STREET
STURBRIDGE, MA 01766

CHECKED BY: KB

DATE: 06/23/22

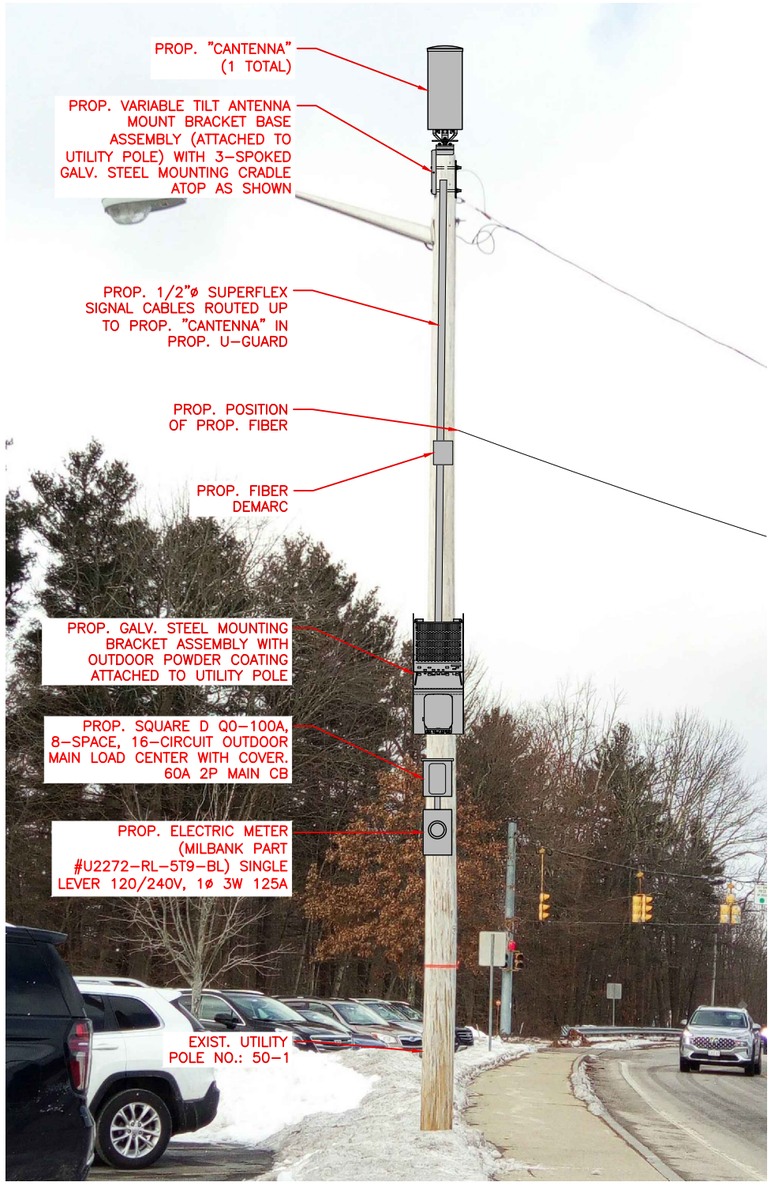
PROJECT NUMBER:
20212312107

SHEET NUMBER:

LE-1

GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION, SIZE AND ORIENTATION OF THE PROPOSED WIRELESS TELECOMMUNICATIONS EQUIPMENT INSTALLATION ON THE UTILITY POLE AND ARE NOT SPECIFICALLY INTENDED FOR CONSTRUCTION.
2. VERIZON WIRELESS SHALL PLACE WEATHER RESISTANT PHENOLIC PLACARDS ON UTILITY POLE AND ANCILLARY EQUIPMENT TO IDENTIFY EQUIPMENT OWNERSHIP AND CONTACT INFORMATION TO BE UTILIZED IN THE CASE OF EMERGENCY.
3. AN ANALYSIS OF THE CAPACITY OF THE EXISTING UTILITY POLE TO SUPPORT THE PROPOSED LOADING HAS NOT BEEN COMPLETED BY NEXIUS AND THUS, THESE DRAWINGS ARE SUBJECT TO CHANGE PENDING THE OUTCOME OF A STRUCTURAL ANALYSIS (TO BE PERFORMED BY OTHERS).
4. VERIZON WIRELESS' GENERAL CONTRACTOR SHALL EXTEND EFFORTS TO ENSURE THAT ALL PROPOSED EQUIPMENT MEETS THE REQUIREMENTS OF THE EXISTING UTILITY COMPANY OR COMPANIES CURRENTLY OCCUPYING THE UTILITY POLE AND THE 2017 NATIONAL ELECTRICAL SAFETY CODE.



1 PHOTO DETAIL
N.T.S.

ANTENNA AND MOUNT NOTE:

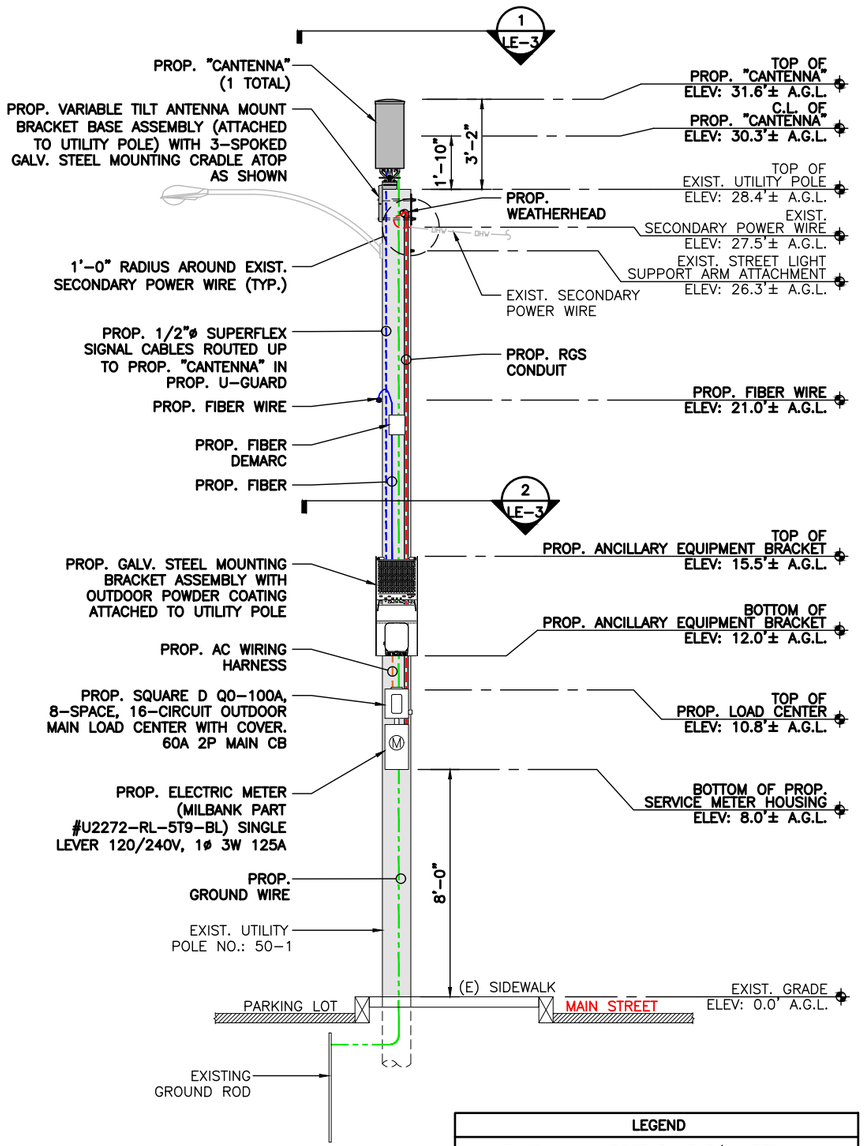
CONTRACTOR SHALL POSITION/ROTATE PROP. ANTENNA MOUNT/BRACKET IN SUCH A WAY SO AS TO NOT INTERFERE WITH EXIST. STREET LIGHT, PRIMARY POWER CROSSARM(S) (IF PRESENT), BRACKETS, BRACES, SECONDARY POWER SUPPORTS OR ANY OTHER MISCELLANEOUS APPURTENANCES AND RELATED SUPPORT BRACKETS ENCOUNTERED LOCATED ON THE EXIST. UTILITY POLE.

EQUIPMENT AND MOUNT NOTE:

CONTRACTOR SHALL POSITION/ROTATE PROP. EQUIPMENT AND ASSOCIATED MOUNT/BRACKETS IN SUCH A WAY SO AS TO NOT INTERFERE WITH EXIST. WIRES/PANELS ETC. OR ANY OTHER MISCELLANEOUS APPURTENANCES AND RELATED SUPPORT BRACKETS ENCOUNTERED LOCATED ON THE FACE OF THE EXIST. UTILITY POLE.

NOTE:

UTILITY POLE, EXIST. APPURTENANCES AND DETAILS OF PROP. INSTALLATION SHOWN SCHEMATICALLY.



LEGEND

BLUE	= FIBER BUNDLE/JUMPER
RED	= AC POWER
ORANGE	= DC POWER
GREEN	= GROUND
BLUE	= 1/2"ø SUPERFLEX SIGNAL CABLES

2 ELEVATION
SCALE: 3/16" = 1'–0"

0 2'–8" 5'–4" 10'–8"
GRAPHIC SCALE: 3/16"=1'–0"

LEASE EXHIBIT
(NOT FOR CONSTRUCTION)

PREPARED BY:

nexius
TRANSFORM YOUR BUSINESS...THROUGH WIRELESS

A&E OFFICE:
4 MACARTHUR AVENUE
DEVENS, MA 01434

PRESIDING POWER COMPANY:

nationalgrid

PROFESSIONAL STAMP:

COMMONWEALTH OF MASSACHUSETTS
JIAZHU HU
No. 53146
REGISTERED PROFESSIONAL ENGINEER

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	01/14/22	FOR REVIEW	AA
1	06/23/22	REVISED PER STAMP	AA

SITE INFO:

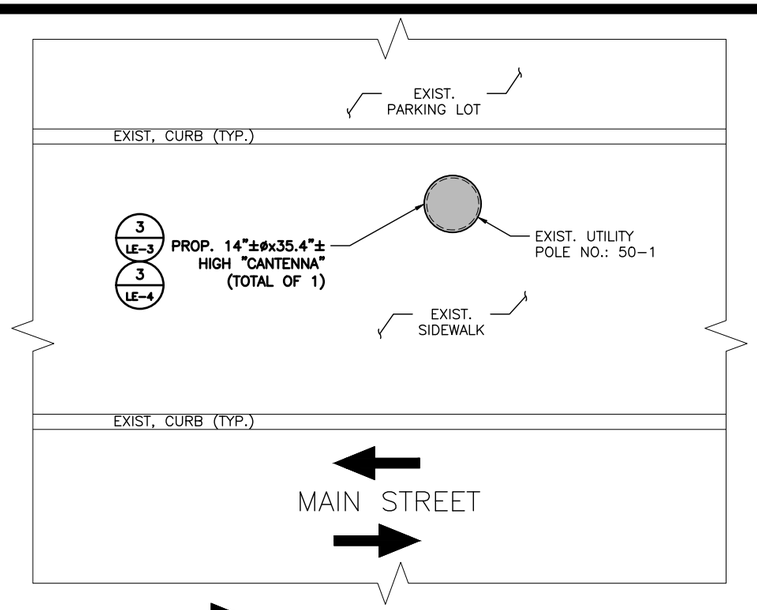
SITE NAME:
STURBRIDGE_SC01_MA

SITE ADDRESS:
U/P NO.: 50–1
179 MAIN STREET
STURBRIDGE, MA 01766

CHECKED BY: KB
DATE: 06/23/22

PROJECT NUMBER:
20212312107

SHEET NUMBER:
LE-2

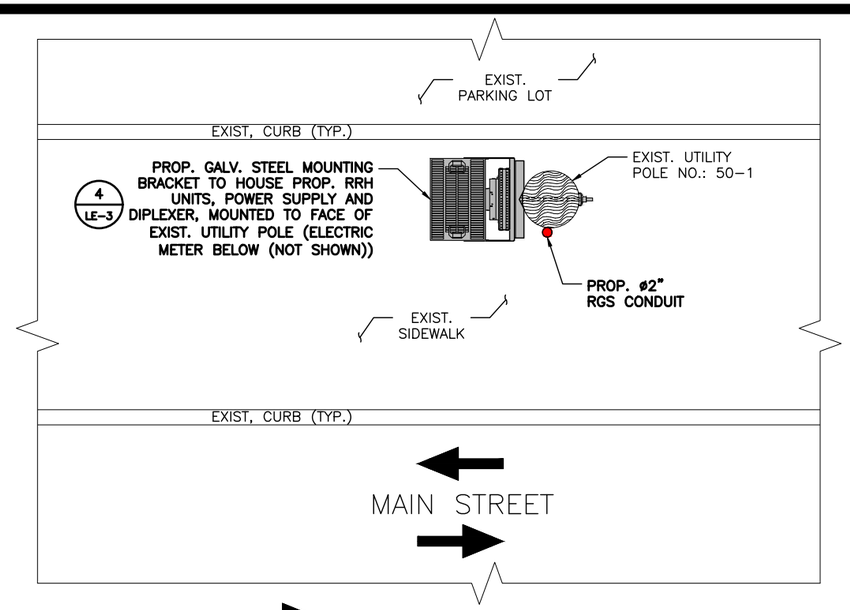


1 ANTENNA PLAN
SCALE: N.T.S.

APPROX. NORTH

NOTE:

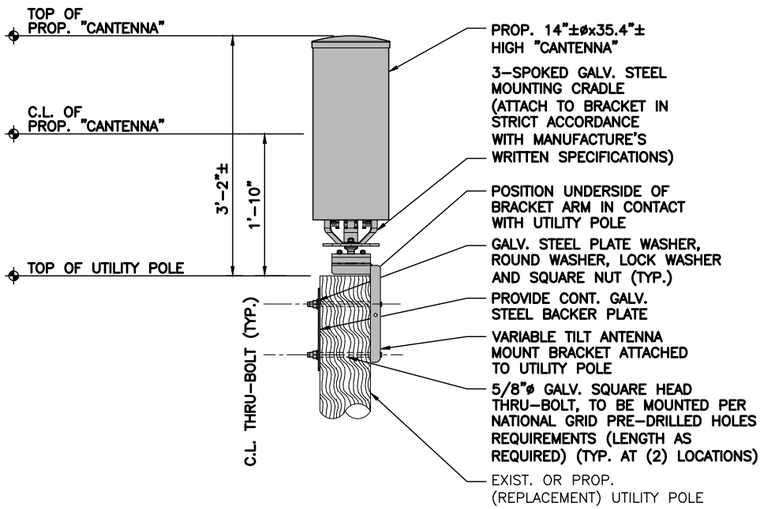
1. CONFIRM DOWNTILT REQUIREMENTS (IF ANY) AND AZIMUTH SPECIFICATIONS WITH VERIZON WIRELESS RF ENGINEER AT TIME OF CONSTRUCTIONS.
2. MOUNT SHALL BE INSTALLED IN SUCH A WAY TO ENSURE PLUMB INSTALLATION OF "CANTENNA".
3. UTILITY POLE APPURTENANCES NOT SHOWN FOR CLARITY.



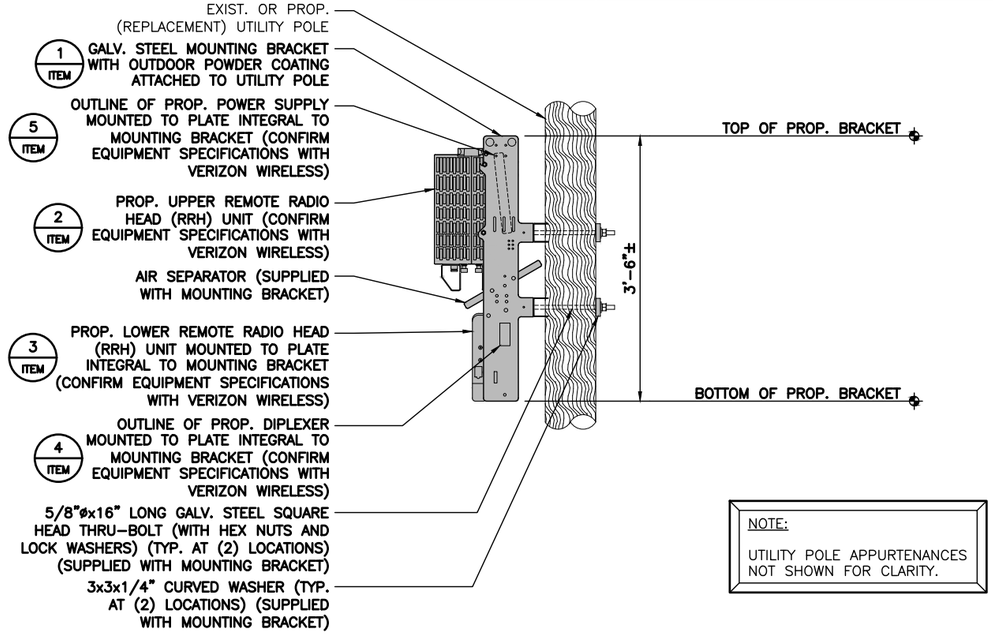
2 EQUIPMENT PLAN
SCALE: N.T.S.

APPROX. NORTH

ITEM ID (SEE DETAIL)	DESCRIPTION	WEIGHT (lbs)
1	MOUNTING BRACKET	32.2±
2	UPPER RRH UNIT	102.5±
3	LOWER RRH UNIT	21.4±
4	DIPLEXER	7.6±
5	POWER SUPPLY	25.6±
		TOTAL-189.3± (lbs) (SAY 190 lbs)



3 ANTENNA MOUNTING DETAIL
N.T.S.



NOTE:

UTILITY POLE APPURTENANCES NOT SHOWN FOR CLARITY.

4 EQUIPMENT MOUNTING DETAIL
N.T.S.

LEASE EXHIBIT
(NOT FOR CONSTRUCTION)

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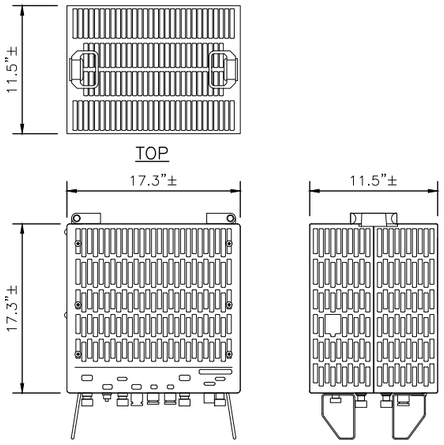
STURBRIDGE, MA 01766

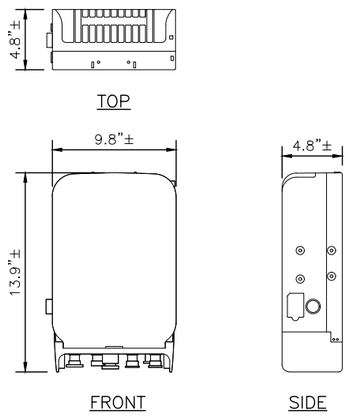
CHECKED BY:	DATE:
KB	06/23/22

PROJECT NUMBER:
20212312107

SHEET NUMBER:
LE-3

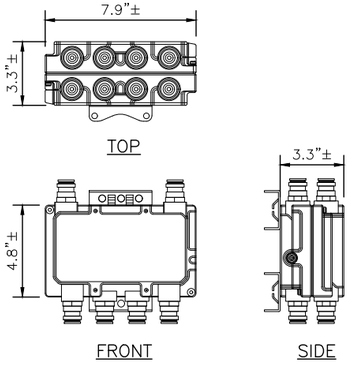


RRH SPECIFICATIONS	
DIMENSIONS	17.3"±H x 17.3"±W X 11.5"±D
WEIGHT	102.5± LBS
QUANTITY	TOTAL OF 1



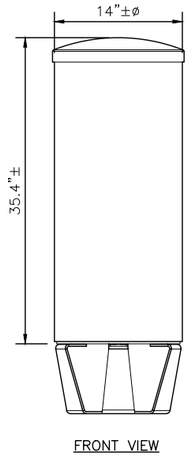
RRH SPECIFICATIONS	
DIMENSIONS	13.9"±H x 9.8"±W X 4.8"±D
WEIGHT	21.4± LBS
QUANTITY	TOTAL OF 1

1 RRH DETAILS
N.T.S.



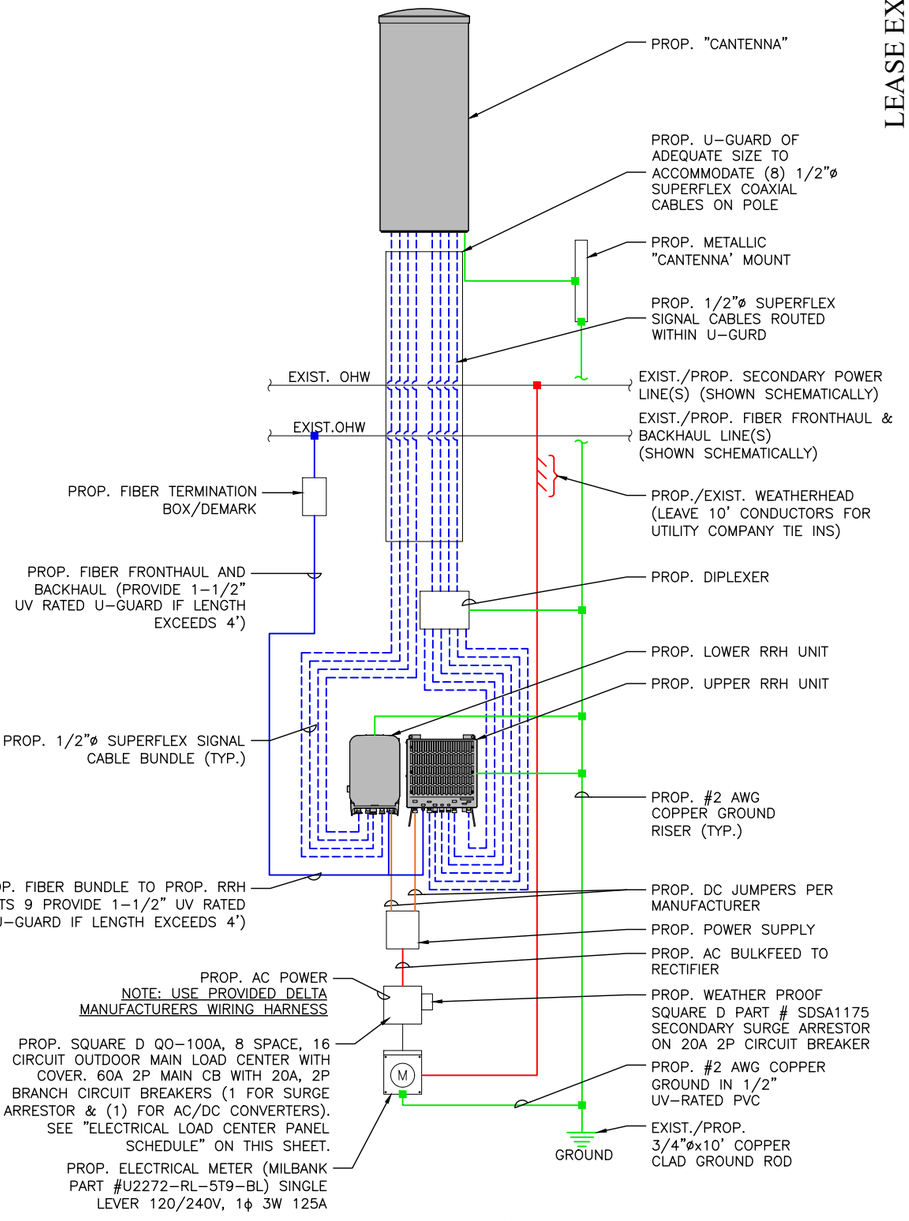
DIPLEXER SPECIFICATIONS	
DIMENSIONS	4.8"±H x 7.9"±W X 3.3"±D
WEIGHT	7.6± LBS
QUANTITY	TOTAL OF 1

2 DIPLEXER DETAIL
N.T.S.



ANTENNA SPECIFICATIONS	
DIMENSIONS	14"±ø x 35.4"±H
WEIGHT	35.0± LBS
QUANTITY	TOTAL OF 1

3 ANTENNA DETAIL
N.T.S.



WIRING DIAGRAM NOTES:

1. PROVIDE WEATHER TIGHT SEAL CONNECTORS ON ALL CONNECTIONS EACH SIDE OF ENCLOSURE HOUSING.
2. COORDINATE ANY FURTHER MISCELLANEOUS WIRING AND CONDUIT REQUIREMENTS WITH VERIZON WIRELESS AND ELECTRIC COMPANY.

LEGEND	
BLUE	= FIBER BUNDLE/JUMPER
RED	= AC POWER
ORANGE	= DC POWER
GREEN	= GROUND
BLUE	= 1/2"ø SUPERFLEX SIGNAL CABLES

4 GENERAL WIRING DIAGRAM
N.T.S.

LEASE EXHIBIT
(NOT FOR CONSTRUCTION)

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A&E OFFICE:
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DEVENS, MA 01434

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20212312107

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LE-4

EXHIBIT 3

Radio Frequency Engineer Affidavit

verizon

AFFIDAVIT OF RADIO FREQUENCY ENGINEER

The undersigned, in support of the application to install a small wireless communications facility (SWF) consisting of one antenna array and associated radio equipment on an existing utility pole located in the Town of Sturbridge, Massachusetts, states the following:

1. My name is Farhan Chaudhry. I have a Bachelor of Science degree in Electrical Engineering from the University of Engineering & Technology, Lahore, Pakistan. I have been employed by Verizon Wireless for eleven (11) months as an RF (Radio Frequency) Engineer. I am responsible for network design in the area of Massachusetts that includes the Town of Sturbridge, MA.

2. Verizon Wireless is a federally licensed provider of wireless communications services with a national footprint.

3. The proposed small wireless facility is within an area where Verizon Wireless has identified a need to install an additional facility in order to provide reliable wireless service for customers and emergency responders. The search area for the proposed facility was determined with reference to Verizon's existing network serving the Sturbridge area and by identifying those areas in need of improved service. Furthermore, it was determined that the areas served by the facility would interact well with those of existing and proposed facilities in the surrounding areas.

   The following table provides details of the proposed site:

Site Name	**Street Address**	**Pole #**
STURBRIDGE_MA_SC01	179 Main Street	50-1

4. Small cell deployments are intended to complement, not replace, macro network sites, and are typically target areas of heavy network usage (a.k.a "hotspots"). In doing so, small cells serve to offload the demand on the existing sites serving these hotspots. This not only improves service to the targeted area, but also improves overall system performance elsewhere in the network. In addition, small cells allow for Verizon's deployment of new technologies that will further enhance the network experience and reliability, including faster download time and lower latency.

5. Pursuant to its Federal Communications Commission (FCC) licenses, Verizon Wireless is required to ensure that all radio equipment operating at the proposed communications facilities and the resulting radio frequency exposure levels are compliant with FCC requirements as well as federal and state health and safety standards.

6. Providing wireless communications services is a benefit to the residents of the Town of Sturbridge, as well as to mobile customers traveling through the area. The proposed facilities reflect the locations and designs required to meet Verizon Wireless' network objectives with respect to capacity and coverage enhancement and deployment of new technologies, including 5G. Without the proposed facility, Verizon Wireless will be unable to provide reliable wireless communication

services in this area of Sturbridge; therefore, Verizon Wireless respectfully requests that the Town of Sturbridge act favorably upon the proposed facility.

Signed and sworn under the pains and penalties of perjury this 23rd day of June, 2022.

_____

Farhan Chaudhry
RF Design Engineer
Email: farhan.chaudhry@verizonwireless.com
Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492

EXHIBIT 4

Emission Compliance

June 23, 2022

To: Town of Sturbridge
Town Hall
308 Main Street
Sturbridge, MA 01566

RE: Verizon Wireless Small Cell Sites

Dear Town of Sturbridge,

Verizon is installing additional wireless telecommunications facilities in order to meet the growing demand for Verizon Wireless service by residents, businesses, visitors, and emergency responders.

To ensure general public safety, it is important that you contact Verizon Wireless personnel at least 24 hours in advance should general maintenance need to be performed in areas of potential concern as marked on the next page of this document. This is required to comply with FCC guidelines and ensure the environment is safe for general maintenance workers who may require RF Safety & Awareness training. With notification, Verizon Wireless is able to evaluate appropriate actions needed relating to the antennas and proximity of the work location.

Verizon has a process to deactivate power on small cells (regardless of whether the small cell is 4G or 5G) while work is being done on the pole (including joint use poles). The information needed to have a small cell powered down for work to occur on the pole (including contact numbers and pole identifiers) is provided at a safe distance from the small cell on the pole itself. Please contact Verizon Wireless personnel at least 24 hours in advance if you need to perform maintenance at that site. If you have any additional questions, our point of contact in that area is Luis Teves.

The Federal Communications Commission (FCC) has developed safety rules for human exposure to RF emissions in consultation with numerous other federal agencies, including the Environmental Protection Agency, the Food and Drug Administration, and the Occupational Safety and Health Administration. These rules can be found at 47 C.F.R § 1.1310. No matter which generation of technology we use, all Verizon equipment must comply with these safety requirements.

The FCC supported and adopted the standards after examining the RF research that scientists in the US and around the world conducted for decades. The research continues to this day, and agencies continue to monitor it. Based on that research, federal agencies have concluded that equipment that has been deployed in a manner that complies with the safety standards poses no known health risks. You can obtain further information about the safety of RF emissions from cell towers on the FCC's website, which you can access via this link: http://www.fcc.gov/oet/rfsafety/rf-faqs.html.

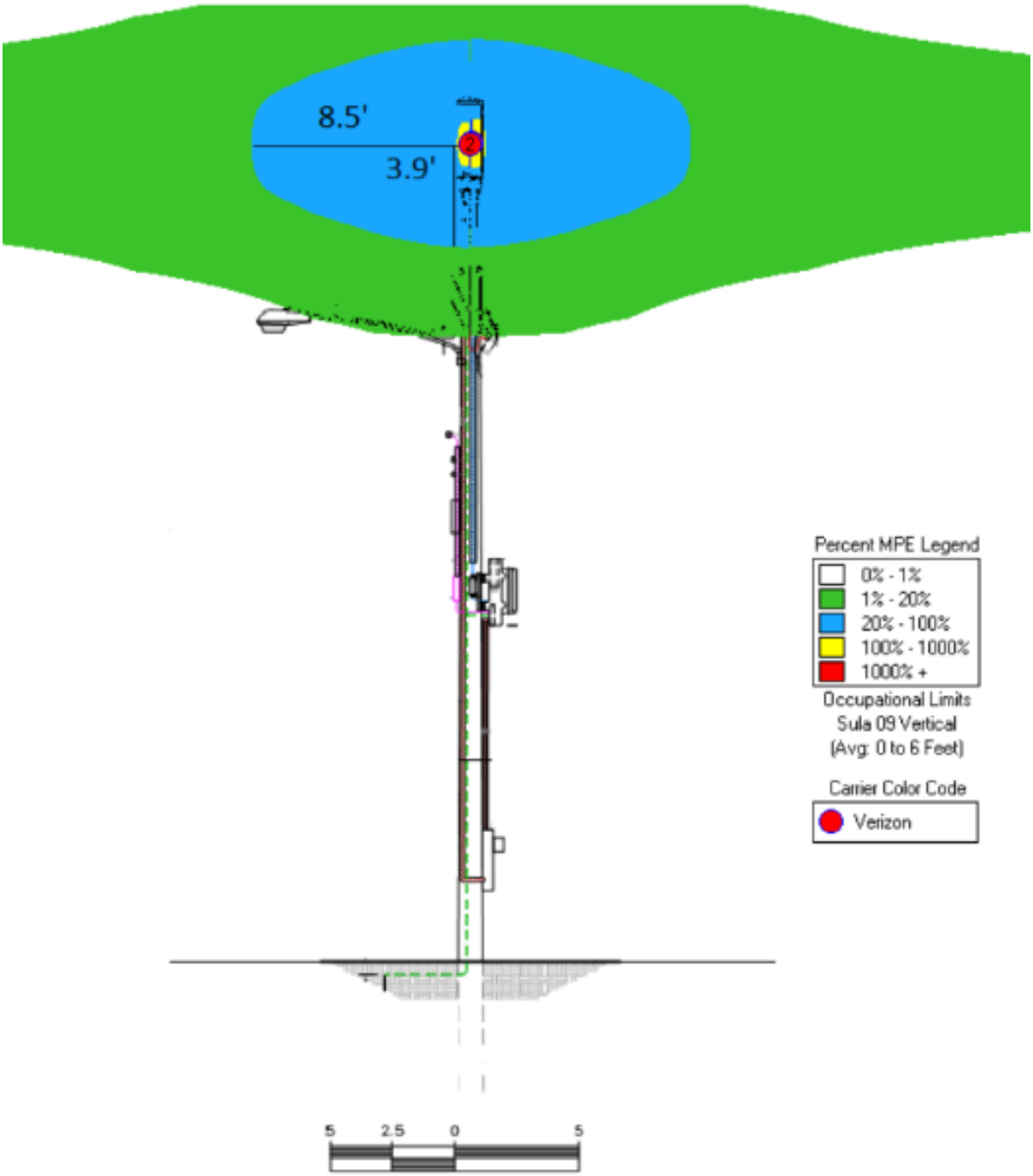
Thank you for reaching out to us regarding your concerns. We appreciate the chance to explain our activities regarding the wireless facility at issue. Questions related to compliance with federal regulations should be directed to VZWRFCompliance@verizonwireless.com. Please contact your local Verizon Wireless resource below if you have any additional questions.

Contact Name	Contact Email	Contact Phone
Luis Teves	**Luis.Teves@VerizonWireless.com**	**508-479-3197**

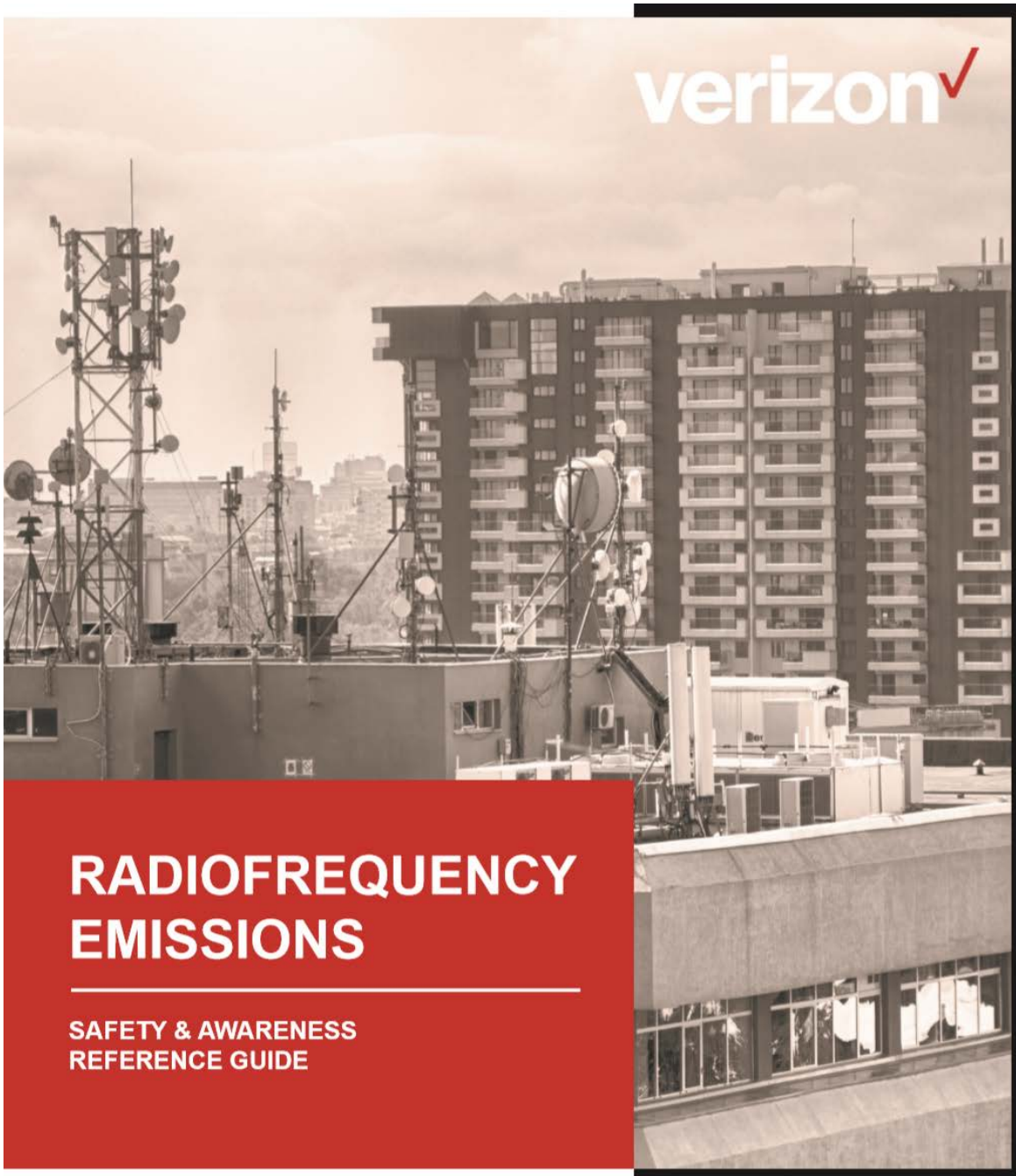
Sincerely,
Rabeya Ahmad
Manager - RF Design
Verizon Wireless

Verizon Wireless (VZW) Radiofrequency (RF) Emissions Map

The following site layout represents a current snapshot in time of the predicted Verizon Wireless RF emissions from transmitting antennas on this facility. Contact Verizon Wireless should maintenance need to be performed in any non-green areas.



Color	% Occupational MPE	Instructions
	0 to 20	Safe In Relation to VZW. Contact Other Carriers Before Entering This Area
	20 to 100	Contact VZW Before Accessing This Area
	Greater Than 100	
	Greater Than 1000	



verizon

RADIOFREQUENCY EMISSIONS

SAFETY & AWARENESS REFERENCE GUIDE

This handout is not intended to replace the FCC/OSHA mandated occupational requirement for RF Safety & Awareness Training

FEDERAL COMPLIANCE REQUIREMENTS

The Federal Communications Commission (FCC) has established safety guidelines relating to RF exposure from cell sites. The FCC developed those standards, known as Maximum Permissible Exposure (MPE) limits, in consultation with numerous other federal agencies, including the Environmental Protection Agency, the Food and Drug Administration, and the Occupational Safety and Health Administration.

The standards were developed by expert scientists and engineers after extensive reviews of the scientific literature related to RF biological effects. The FCC explains that its standards incorporate prudent margins of safety.

ENSURING COMPLIANCE WITH FCC GUIDELINES

Areas or portions of any transmitter site may be susceptible to high power densities that could cause personnel exposures in excess of the FCC guidelines. Wireless Licensees are required by law to implement the following:

- Restrict access
- Post notification signage on every access point to increase awareness of the potential for exposure BEFORE one enters an area with antennas.
- Place additional notification signage and visual in dicators in an area with antennas (beyond an access point) where RF exposure levels may start to exceed the FCC's limits.

CLASSIFICATIONS FOR EXPOSURE LIMITS

OCCUPATIONAL

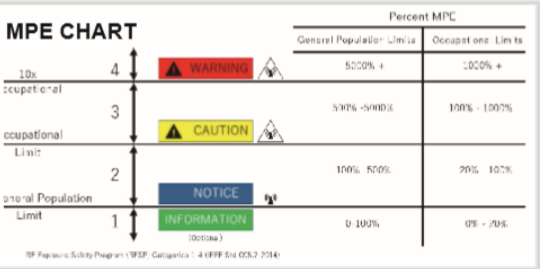
Persons are "exposed as a consequence of their employment" and are "fully aware of the potential for exposure and can exercise control over their exposure".

GENERAL POPULATION

Any persons that "may not be made fully aware of the potential for exposure or cannot exercise control over their exposure".

Those in this category do not require RF Safety & Awareness Training.

MPE CHART



EXPOSURE MANAGEMENT

- Assume that all antennas are active
- Obey all posted signs
- Do not stop in front of any antenna
- Recognize the type of antenna and approach at the safest angle
- Contact wireless operator to coordinate access if required
- Signage will indicate where potential RF conditions exist
- Understand pathways of safe egress
- If needed and possible wear personal protection equipment
- When using a personal monitor, remember the time averaging limits and monitor alarm thresholds if working in front of antennas
- If experiencing symptoms of heat exhaustion or nausea, remove yourself from the worksite and seek medical attention
- Power density decreases with distance so maintain distance between you and the antennas. The greater the distance you are from an antenna the bigger the reduction of RF exposure you will receive

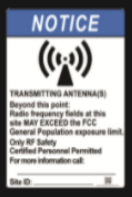
verizon

PROPERTY OWNER RESPONSIBILITIES (M.E.N.U.)

RF exposure safety and the protection of every licensee's infrastructure are very important. Property owners and licensees have a shared responsibility in maintaining a safe and secure RF environment. Property owners can help in this significant endeavor by:

- **M**aintaining all necessary wireless licensee contact information.
- **E**nforcing restricted access (help maintain a Controlled Environment). Ensuring all building/maintenance personnel are trained in RF Safety, aware that the potential for exposure exists, and follow all appropriate entry and safety procedures.
- **N**otifying all licensees when any non-carrier requests access to any area with antennas at least 24 hours in advance.
- **U**nderstanding that compliance with the FCC and OSHA can be achieved with RF Exposure levels above the applicable limit if the proper signage, physical/indicative barrier, and access restrictions are implemented. Commitment to compliance and willingness to cooperate are essential.

NOTIFICATION SIGNS



A blue Notice sign is posted when levels (beyond posted signage) may exceed General Population MPE limits.

A yellow Caution sign is posted when levels (beyond posted signage) may exceed Occupational MPE limits.

A orange Warning sign is posted when levels (beyond posted signage) exceed 10 times the Occupational MPE limits.

TYPES OF ANTENNAS

MICROWAVE ANTENNA

- Highly directional antenna model used for point to point communications
- Approach from the rear and sides. Do not stand or walk in front of microwaves as they transmit at a high frequency.

PANEL ANTENNA

- Range from 1 to 8 feet in length
- Sled mounted or to a support structure on site (Rooftop)
- Approach these antennas from the rear.

OMNI ANTENNA

- Omni antennas have the appearance of a rod-shaped pole and radiate in a 360° pattern around the pole.
- At the antenna level, there is no approach angle that is safer than another. Typically, emissions directly below the antenna are less than in front of the antenna.

QUASI-OMNI ANTENNA

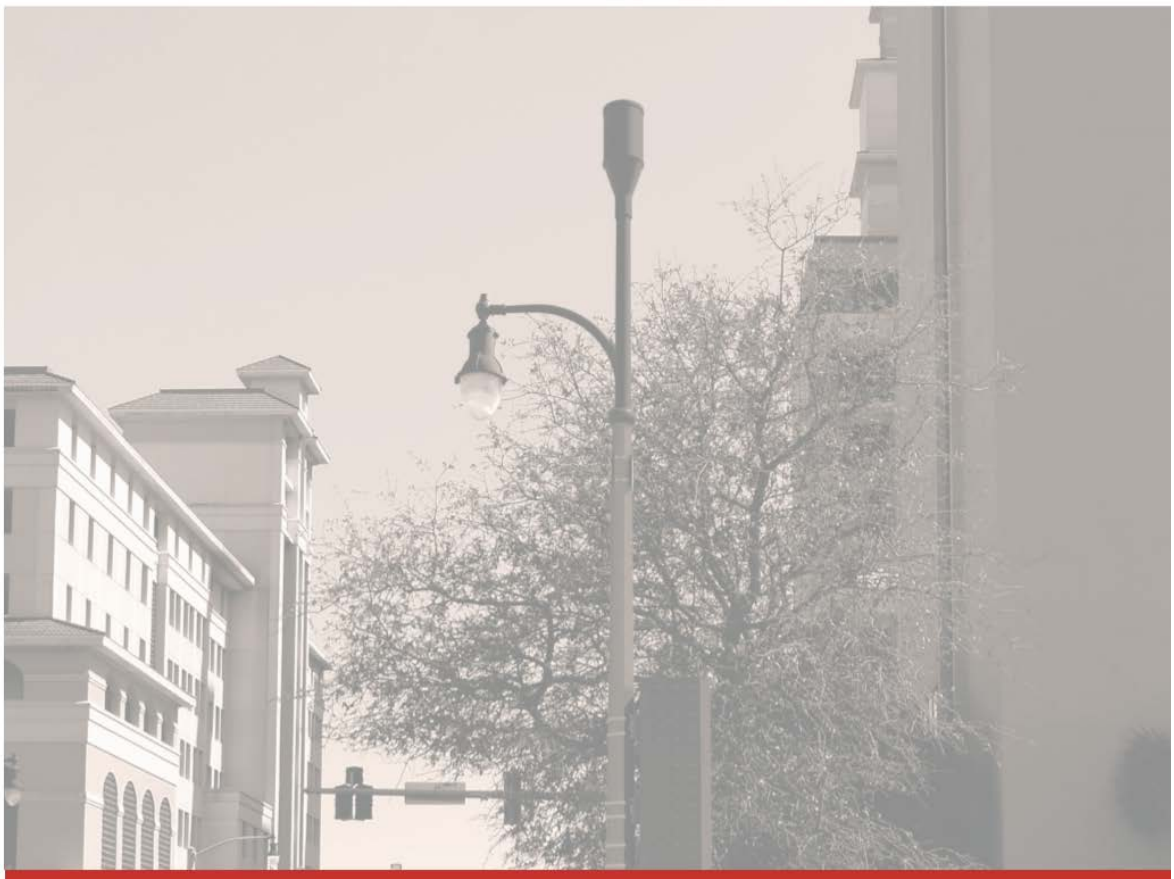
- Quasi-Omni antennas have the appearance of a cylinder and contain emitters that radiate in a 360°pattern around the pole.
- At the antenna level, there is no approach angle that is safer than another. Typically, emissions directly below the antenna are less than in front of the antenna.

YAGI ANTENNA

- Directional antenna model
- Approach from sides and rear.

RF SAFETY TRAINING CONTACTS

WATERFORD CONSULTANTS	www.waterfordconsultants.com
EBI	www.ebiconsulting.com
SITESAFE	www.sitesafe.com
DTECH COMMUNICATIONS	www.dtech.com



CONTACT US

Email: VZWRFCompliance@vzw.com
Subject: "ATTN:RF Compliance"

For Emergency Maintenance:
1-800-264-6620

verizon