



# CITY OF CAMBRIDGE

## BOARD OF ZONING APPEAL

831 Massachusetts Avenue, Cambridge MA 02139

617-349-6100

### BZA Application Form

BZA Number: 191234

#### General Information

The undersigned hereby petitions the Board of Zoning Appeal for the following:

Special Permit:   X  

Variance:           

Appeal:           

**PETITIONER:** Kendall Square Entity, Inc. C/O Michael R. Dolan, Esq., Brown Rudnick LLP

**PETITIONER'S ADDRESS:** 10 Memorial Boulevard, Providence, RI 02903

**LOCATION OF PROPERTY:** 141 Portland St., Cambridge, MA

**TYPE OF OCCUPANCY:** Offices, bank, wireless communications

**ZONING DISTRICT:** Industry B Zone

#### **REASON FOR PETITION:**

/Telecommunication Facility (antenna)/

#### **DESCRIPTION OF PETITIONER'S PROPOSAL:**

Administrative Review of an Eligible Facilities Request to Install Transmission Equipment on the existing 126' above ground level ("AGL") building (the "Building") located at 141 Portland Street (a/k/a 198 Broadway), Cambridge MA 02139 (Assessor's Parcel Identification Map 42, Lot 70), pursuant to Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 (the "Spectrum Act") and Special Permit pursuant to: Article 4, Section 4.32.g.i; Article 4, Section 4.40 (Footnote 49); and Article 10, Section 10.40 of the City of Cambridge Zoning Ordinance; Massachusetts General Laws, Ch 40A, Section 9; the Telecommunications Act of 1996 (the "TCA"), and the Spectrum Act, all rights reserved. As depicted on the Plans, DISH proposes to mount six (6) panel antennas (two (2) antennas per sector) concealed within six (6) fiberglass chimneys (two (2) chimneys per sector) on the main roof of the Building. The proposed antennas will be mounted at the antenna centerline heights of 133' AGL, extending to a top height of 136' AGL. The height of the proposed fiberglass chimneys and antennas will not exceed the height of any existing penthouse or any of the existing wireless communication services antennas on the roof of the Building. DISH will also install twelve (12) Remote Radio Units, and three (3) over voltage protection devices on the roof of the Building. Brown Rudnick LLP | brownrudnick.com 110 Memorial Boulevard, Providence, RI 02903 11.401.276.2600 Cambridge Board of Zoning Appeal August 18, 2022 Page 2 DISH will install equipment on a proposed equipment platform on the roof of the Building.

#### **SECTIONS OF ZONING ORDINANCE CITED:**

|                 |   |
|-----------------|---|
| Article: 4.000  | Section: 4.32.G.1 & Sec. 4.40 (Footnote 49) (Telecommunication Facility). |
| Article: 10.000 | Section: 10.40 (Special Permit).  |
| Article: 6409   | Section: (Federal Middle Class Tax Relief Act (Spectrum Act)).            |

Original

Signature(s):

(Petitioner (s) / Owner)

Michael R. Dolan, Esq.

(Print Name)

Brown Rudnick LLP

Address:

10 Memorial Boulevard, Providence, RI 02903

Tel. No.

401-276-2610

E-Mail Address:

mdolan@brownrudnick.com

Date:

September 7, 2022**BZA Application Form****DIMENSIONAL INFORMATION**Applicant: Kendall Square Entity, Inc.Present Use/Occupancy: Offices, bank, wireless communicationsLocation: 141 Portland St., Cambridge, MAZone: Industry B Zone

Phone: 401-276-2610

Requested Use/Occupancy: No change

|  |            | <u>Existing Conditions</u> | <u>Requested Conditions</u> | <u>Ordinance Requirements</u> |        |
|--|------------|----------------------------|-----------------------------|-------------------------------|--------|
| <u>TOTAL GROSS FLOOR AREA:</u>                             |            | 33053                      | No change                   | 0                             | (max.) |
| <u>LOT AREA:</u>   |            | 33053                      | 33053                       | 0000                          | (min.) |
| <u>RATIO OF GROSS FLOOR AREA TO LOT AREA:</u> <sup>2</sup> |            | existing                   | no change                   | 2.75                          |        |
| <u>LOT AREA OF EACH DWELLING UNIT</u>                      |            | N/A                        | N/A                         | N/A                           |        |
| <u>SIZE OF LOT:</u>  | WIDTH      | Existing                   | No change                   | None                          |        |
|  | DEPTH      | Existing                   | No Change                   | N/A                           |        |
| <u>SETBACKS IN FEET:</u>                                   | FRONT      | Existing                   | No change                   | None                          |        |
|  | REAR       | Existing                   | No change                   | None                          |        |
|  | LEFT SIDE  | Existing                   | No change                   | None                          |        |
|  | RIGHT SIDE | Existing                   | No change                   | None                          |        |
| <u>SIZE OF BUILDING:</u>                                   | HEIGHT     | 126                        | 136                         | 120                           |        |
|  | WIDTH      | Existing                   | No change                   | N/A                           |        |
|  | LENGTH     | Existing                   | No change                   | N/A                           |        |
| <u>RATIO OF USABLE OPEN SPACE TO LOT AREA:</u>             |            | Existing                   | No change                   | None                          |        |
| <u>NO. OF DWELLING UNITS:</u>                              |            | N/A                        | None                        | N/A                           |        |
| <u>NO. OF PARKING SPACES:</u>                              |            | Existing                   | 0                           | N/A                           |        |
| <u>NO. OF LOADING AREAS:</u>                               |            | Existing                   | 0                           | N/A                           |        |
| <u>DISTANCE TO NEAREST BLDG. ON SAME LOT</u>               |            | N/A                        | No change                   | N/A                           |        |

Describe where applicable, other occupancies on the same lot, the size of adjacent buildings on same lot, and type of construction proposed, e.g; wood frame, concrete, brick, steel, etc.:

Bank, offices and wireless communications. Proposed Eligible Facilities Request pursuant to the Spectrum Act.

1. SEE CAMBRIDGE ZONING ORDINANCE ARTICLE 5.000, SECTION 5.30 (DISTRICT OF DIMENSIONAL REGULATIONS).
2. TOTAL GROSS FLOOR AREA (INCLUDING BASEMENT 7'-0" IN HEIGHT AND ATTIC AREAS GREATER THAN 5')  
DIVIDED BY LOT AREA.
3. OPEN SPACE SHALL NOT INCLUDE PARKING AREAS, WALKWAYS OR DRIVEWAYS AND SHALL HAVE A MINIMUM  
DIMENSION OF 15'.

## BZA Application Form

### SUPPORTING STATEMENT FOR A SPECIAL PERMIT

Please describe in complete detail how you meet each of the following criteria referring to the property and proposed changes or uses which are requested in your application. Attach sheets with additional information for special permits which have additional criteria, e.g.; fast food permits, comprehensive permits, etc., which must be met.

**Granting the Special Permit requested for 141 Portland St , Cambridge, MA (location) would not be a detriment to the public interest because:**

**A)** Requirements of the Ordinance can or will be met for the following reasons:

DISH's Facility will comply with all applicable sections of the Ordinance as the proposed antennas will be concealed within fiberglass chimneys, will not increase the height of the Building, and will not exceed the height of the existing antennas on the Building.

**B)** Traffic generated or patterns of access or egress would not cause congestion hazard, or substantial change in established neighborhood character for the following reasons:

DISH's Facility will not result in any substantial change in the character of the neighborhood as there will be no significant increase in the amount of traffic to and from the Site, or any changes to existing patterns of access or egress to the Site. Trips to and from the Facility will average one or two per month by maintenance personnel.

**C)** The continued operation of or the development of adjacent uses as permitted in the Zoning Ordinance would not be adversely affected by the nature of the proposed use for the following reasons:

The continued operation of or the development of adjacent uses will not be adversely affected by DISH's equipment because DISH's Facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic.

**D)** Nuisance or hazard would not be created to the detriment of the health, safety, and/or welfare of the occupant of the proposed use or the citizens of the City for the following reasons:

DISH's Facility will not result in any nuisance or hazard to the detriment of the health, safety, or welfare of the citizens of the City because DISH's Facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic. As evidenced by the MPE Study submitted herewith, DISH's Facility will comply with all applicable regulations and guidelines pertaining to radio frequency emissions.

**E)** For other reasons, the proposed use would not impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this ordinance for the following reasons:

The proposed Facility will be in harmony with the purposes of the Ordinance because by collocating a wireless facility on an existing Building in a manner which does not increase the height of the Building or expand its footprint, potential visual impacts are minimized. Also, the proposed Facility will not produce any smoke, odors, waste, glare or significant amounts of traffic. The Cambridge Board of Zoning Appeal August 18, 2022 Page 6 Facility will have no negative impact on natural or undeveloped areas, wildlife, flora or endangered species.





# PUBLIC NOTICE

Federal Communications Commission  
445 12<sup>th</sup> St., S.W.  
Washington, D.C. 20554

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Internet: <http://www.fcc.gov>  
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## WIRELESS TELECOMMUNICATIONS BUREAU OFFERS GUIDANCE ON INTERPRETATION OF SECTION 6409(a) OF THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012

DA 12-2047  
January 25, 2013

On February 22, 2012, the Middle Class Tax Relief and Job Creation Act of 2012 (Tax Act)<sup>1</sup> became law. Section 6409(a) of the Tax Act provides that a state or local government “may not deny, and shall approve” any request for collocation, removal, or replacement of transmission equipment on an existing wireless tower or base station, provided this action does not substantially change the physical dimensions of the tower or base station.<sup>2</sup> The full text of Section 6409(a) is reproduced in the Appendix to this Public Notice.

To date, the Commission has not received any formal petition to interpret or apply the provisions of Section 6409(a). We also are unaware of any judicial precedent interpreting or applying its terms. The Wireless Telecommunications Bureau has, however, received informal inquiries from service providers, facilities owners, and state and local governments seeking guidance as to how Section 6409(a) should be applied. In order to assist interested parties, this Public Notice summarizes the Bureau’s understanding of Section 6409(a) in response to several of the most frequently asked questions.<sup>3</sup>

### What does it mean to “substantially change the physical dimensions” of a tower or base station?

Section 6409(a) does not define what constitutes a “substantial[] change” in the dimensions of a tower or base station. In a similar context, under the *Nationwide Collocation Agreement* with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers, the Commission has applied a four-prong test to determine whether a collocation will effect a “substantial increase in the size of [a] tower.”<sup>4</sup> A proposed collocation that does not involve a substantial increase in

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<sup>1</sup> Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, H.R. 3630, 126 Stat. 156 (enacted Feb. 22, 2012) (Tax Act).

<sup>2</sup> *Id.*, § 6409(a).

<sup>3</sup> Although we offer this interpretive guidance to assist parties in understanding their obligations under Section 6409(a), *see, e.g., Truckers United for Safety v. Federal Highway Administration*, 139 F.3d 934 (D.C.Cir. 1998), the Commission remains free to exercise its discretion to interpret Section 6409(a) either by exercising its rulemaking authority or through adjudication. With two exceptions not relevant here, the Tax Act expressly grants the Commission authority to “implement and enforce” this and other provisions of Title VI of that Act “as if this title is a part of the Communications Act of 1934 (47 U.S.C. 151 et seq.).” Tax Act § 6003.

<sup>4</sup> 47 C.F.R. Part 1, App. B, *Nationwide Programmatic Agreement for the Collocation of Wireless Antennas*, § I.C (*Nationwide Collocation Agreement*).

size is ordinarily excluded from the Commission's required historic preservation review under Section 106 of the National Historic Preservation Act (NHPA).<sup>5</sup> The Commission later adopted the same definition in the *2009 Declaratory Ruling* to determine whether an application will be treated as a collocation when applying Section 332(c)(7) of the Communications Act of 1934.<sup>6</sup> The Commission has also applied a similar definition to determine whether a modification of an existing registered tower requires public notice for purposes of environmental review.<sup>7</sup>

Under Section I.C of the *Nationwide Collocation Agreement*, a "substantial increase in the size of the tower" occurs if:

- 1) [t]he mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or
- 2) [t]he mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or
- 3) [t]he mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
- 4) [t]he mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

Although Congress did not adopt the Commission's terminology of "substantial increase in size" in Section 6409(a), we believe that the policy reasons for excluding from Section 6409(a) collocations that substantially change the physical dimensions of a structure are closely analogous to those that animated the Commission in the *Nationwide Collocation Agreement* and subsequent proceedings. In light of the Commission's prior findings, the Bureau believes it is appropriate to look to the existing definition of "substantial increase in size" to determine whether the collocation, removal, or replacement of equipment

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<sup>5</sup> See 16 U.S.C. § 470f, *see also* 47 C.F.R. § 1.1307(a)(4) (requiring applicants to determine whether proposed facilities may affect properties that are listed, or are eligible for listing, in the National Register of Historic Places).

<sup>6</sup> See Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance, WT Docket No. 08-165, *Declaratory Ruling*, 24 FCC Rcd. 13994, 14012, para. 46 & n.146 (2009) (*2009 Declaratory Ruling*), *recon. denied*, 25 FCC Rcd. 11157 (2010), *pet. for review denied sub nom. City of Arlington, Texas v. FCC*, 668 F.3d 229 (5<sup>th</sup> Cir.), *cert. granted*, 113 S.Ct. 524 (2012); 47 U.S.C. § 332(c)(7).

<sup>7</sup> See 47 C.F.R. § 17.4(c)(1)(B); National Environmental Policy Act Compliance for Proposed Tower Registrations, WT Docket No. 08-61, *Order on Remand*, 26 FCC Rcd. 16700, 16720-21, para. 53 (2011).

on a wireless tower or base station substantially changes the physical dimensions of the underlying structure within the meaning of Section 6409(a).

### **What is a “wireless tower or base station”?**

A “tower” is defined in the *Nationwide Collocation Agreement* as “any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities.”<sup>8</sup> The Commission has described a “base station” as consisting of “radio transceivers, antennas, coaxial cable, a regular and backup power supply, and other associated electronics.”<sup>9</sup> Section 6409(a) applies to the collocation, removal, or replacement of equipment on a wireless tower or base station. In this context, we believe it is reasonable to interpret a “base station” to include a structure that currently supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a base station.<sup>10</sup> Moreover, given the absence of any limiting statutory language, we believe a “base station” encompasses such equipment in any technological configuration, including distributed antenna systems and small cells.

Section 6409(a) by its terms applies to any “wireless” tower or base station. By contrast, the scope of Section 332(c)(7) extends only to facilities used for “personal wireless services” as defined in that section.<sup>11</sup> Given Congress’s decision not to use the pre-existing definition from another statutory provision relating to wireless siting, we believe the scope of a “wireless” tower or base station under Section 6409(a) is not intended to be limited to facilities that support “personal wireless services” under Section 332(c)(7).

### **May a state or local government require an application for an action covered under Section 6409(a)?**

Section 6409(a) states that a state or local government “may not deny, and shall approve, any eligible facilities request...” It does not say that a state or local government may not require an application to be filed. The provision that a state or local government must approve and may not deny a request to take a covered action, in the Bureau’s view, implies that the relevant government entity may require the filing of an application for administrative approval.

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<sup>8</sup> See *Nationwide Collocation Agreement*, § I.B.

<sup>9</sup> See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, WT Docket No. 10-133, *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, Fifteenth Report*, 26 FCC Rcd. 9664, 9481, para. 308 (2011).

<sup>10</sup> See also 47 C.F.R. Part 1, App. C, *Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process*, § II.A.14 (defining “tower” to include “the on-site fencing, equipment, switches, wiring, cabling, power sources, shelters, or cabinets associated with that Tower but not installed as part of an Antenna as defined herein”).

<sup>11</sup> 47 U.S.C. § 332(c)(7)(A). “Personal wireless services” is in turn defined to mean “commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services.” *Id.* § 332(c)(7)(C)(1).

**Is there a time limit within which an application must be approved?**

Section 6409(a) does not specify any period of time for approving an application. However, the statute clearly contemplates an administrative process that invariably ends in approval of a covered application. We believe the time period for processing these applications should be commensurate with the nature of the review.

In the *2009 Declaratory Ruling*, the Commission found that 90 days is a presumptively reasonable period of time to process collocation applications.<sup>12</sup> In light of the requirement of Section 6409(a) that the reviewing authority “may not deny, and shall approve” a covered request, we believe that 90 days should be the maximum presumptively reasonable period of time for reviewing such applications, whether for “personal wireless services” or other wireless facilities.

Wireless Telecommunications Bureau contact: Maria Kirby at (202) 418-1476 or by email: [Maria.Kirby@fcc.gov](mailto:Maria.Kirby@fcc.gov).

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<sup>12</sup> See *2009 Declaratory Ruling*, 24 FCC Rcd. at 14012-13, paras. 46-47.



## **APPENDIX**

### **SEC. 6409. WIRELESS FACILITIES DEPLOYMENT.**

#### **(a) FACILITY MODIFICATIONS.**

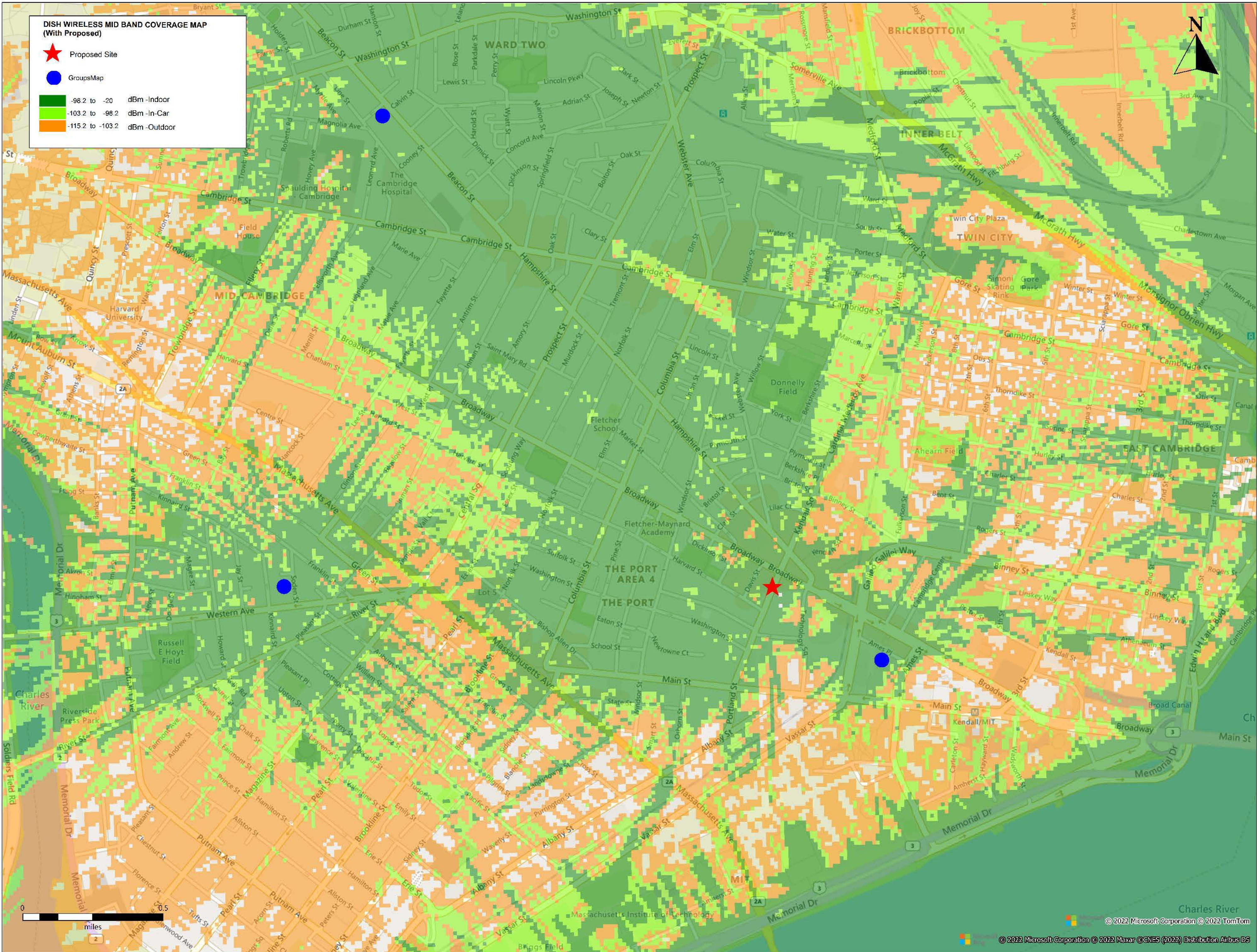
(1) **IN GENERAL.** Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.

(2) **ELIGIBLE FACILITIES REQUEST.** For purposes of this subsection, the term “eligible facilities request” means any request for modification of an existing wireless tower or base station that involves —

- (A) collocation of new transmission equipment;
- (B) removal of transmission equipment; or
- (C) replacement of transmission equipment.

(3) **APPLICABILITY OF ENVIRONMENTAL LAWS.** Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.







## **Subpart U—State and Local Government Regulation of the Placement, Construction, and Modification of Personal Wireless Service Facilities**

### **Contents**

#### **§1.6001 Purpose.**

#### **§1.6002 Definitions.**

#### **§1.6003 Reasonable periods of time to act on siting applications.**

#### **§1.6100 Wireless Facility Modifications.**

Source: 83 FR 51884, Oct. 15, 2018, unless otherwise noted.

#### **§1.6001 Purpose.**

This subpart implements 47 U.S.C. 332(c)(7) and 1455.

#### **§1.6002 Definitions.**

Terms not specifically defined in this section or elsewhere in this subpart have the meanings defined in this part and the Communications Act of 1934, 47 U.S.C. 151 et seq. Terms used in this subpart have the following meanings:

(a) *Action* or *to act* on a siting application means a siting authority's grant of a siting application or issuance of a written decision denying a siting application.

(b) *Antenna*, consistent with §1.1320(d), means an apparatus designed for the purpose of emitting radiofrequency (RF) radiation, to be operated or operating from a fixed location pursuant to Commission authorization, for the provision of personal wireless service and any commingled information services. For purposes of this definition, the term antenna does not include an unintentional radiator, mobile station, or device authorized under part 15 of this chapter.

(c) *Antenna equipment*, consistent with §1.1320(d), means equipment, switches, wiring, cabling, power sources, shelters or cabinets associated with an antenna, located at the same fixed location as the antenna, and, when collocated on a structure, is mounted or installed at the same time as such antenna.

(d) *Antenna facility* means an antenna and associated antenna equipment.

(e) *Applicant* means a person or entity that submits a siting application and the agents, employees, and contractors of such person or entity.

(f) *Authorization* means any approval that a siting authority must issue under applicable law prior to the deployment of personal wireless service facilities, including, but not limited to, zoning approval and building permit.

(g) *Collocation*, consistent with §1.1320(d) and the Nationwide Programmatic Agreement (NPA) for the Collocation of Wireless Antennas, appendix B of this part, section I.B, means—

- (1) Mounting or installing an antenna facility on a pre-existing structure; and/or
- (2) Modifying a structure for the purpose of mounting or installing an antenna facility on that structure.
- (3) The definition of “collocation” in §1.6100(b)(2) applies to the term as used in that section.

(h) *Deployment* means placement, construction, or modification of a personal wireless service facility.

(i) *Facility* or *personal wireless service facility* means an antenna facility or a structure that is used for the provision of personal wireless service, whether such service is provided on a stand-alone basis or commingled with other wireless communications services.

(j) *Siting application* or *application* means a written submission to a siting authority requesting authorization for the deployment of a personal wireless service facility at a specified location.

(k) *Siting authority* means a State government, local government, or instrumentality of a State government or local government, including any official or organizational unit thereof, whose authorization is necessary prior to the deployment of personal wireless service facilities.

(l) *Small wireless facilities*, consistent with §1.1312(e)(2), are facilities that meet each of the following conditions:

(1) The facilities—

- (i) Are mounted on structures 50 feet or less in height including their antennas as defined in §1.1320(d); or
- (ii) Are mounted on structures no more than 10 percent taller than other adjacent structures; or
- (iii) Do not extend existing structures on which they are located to a height of more than 50 feet or by more than 10 percent, whichever is greater;



- (2) Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of “antenna” in §1.1320(d)), is no more than three cubic feet in volume;
- (3) All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;
- (4) The facilities do not require antenna structure registration under part 17 of this chapter;
- (5) The facilities are not located on Tribal lands, as defined under 36 CFR 800.16(x); and
- (6) The facilities do not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1307(b).

(m) Structure means a pole, tower, base station, or other building, whether or not it has an existing antenna facility, that is used or to be used for the provision of personal wireless service (whether on its own or comingled with other types of services).

**§1.6003 Reasonable periods of time to act on siting applications.**

(a) *Timely action required.* A siting authority that fails to act on a siting application on or before the shot clock date for the application, as defined in paragraph (e) of this section, is presumed not to have acted within a reasonable period of time.

(b) *Shot clock period.* The shot clock period for a siting application is the sum of—

- (1) The number of days of the presumptively reasonable period of time for the pertinent type of application, pursuant to paragraph (c) of this section; plus
- (2) The number of days of the tolling period, if any, pursuant to paragraph (d) of this section.

(c) *Presumptively reasonable periods of time—*

(1) *Review periods for individual applications.* The following are the presumptively reasonable periods of time for action on applications seeking authorization for deployments in the categories set forth in paragraphs (c)(1)(i) through (iv) of this section:

- (i) Review of an application to collocate a Small Wireless Facility using an existing structure: 60 days.

(ii) Review of an application to collocate a facility other than a Small Wireless Facility using an existing structure: 90 days.

(iii) Review of an application to deploy a Small Wireless Facility using a new structure: 90 days.

(iv) Review of an application to deploy a facility other than a Small Wireless Facility using a new structure: 150 days.

(2) *Batching.*

(i) If a single application seeks authorization for multiple deployments, all of which fall within a category set forth in either paragraph (c)(1)(i) or (iii) of this section, then the presumptively reasonable period of time for the application as a whole is equal to that for a single deployment within that category.

(ii) If a single application seeks authorization for multiple deployments, the components of which are a mix of deployments that fall within paragraph (c)(1)(i) of this section and deployments that fall within paragraph (c)(1)(iii) of this section, then the presumptively reasonable period of time for the application as a whole is 90 days.

(iii) Siting authorities may not refuse to accept applications under paragraphs (c)(2)(i) and (ii) of this section.

(d) *Tolling period.* Unless a written agreement between the applicant and the siting authority provides otherwise, the tolling period for an application (if any) is as set forth in paragraphs (d)(1) through (3) of this section.

(1) For an initial application to deploy Small Wireless Facilities, if the siting authority notifies the applicant on or before the 10th day after submission that the application is materially incomplete, and clearly and specifically identifies the missing documents or information and the specific rule or regulation creating the obligation to submit such documents or information, the shot clock date calculation shall restart at zero on the date on which the applicant submits all the documents and information identified by the siting authority to render the application complete.

(2) For all other initial applications, the tolling period shall be the number of days from—

(i) The day after the date when the siting authority notifies the applicant in writing that the application is materially incomplete and clearly and specifically identifies the missing documents or information that the applicant must submit to render the application complete and the specific rule or regulation creating this obligation; until

(ii) The date when the applicant submits all the documents and information identified by the siting authority to render the application complete;

(iii) But only if the notice pursuant to paragraph (d)(2)(i) of this section is effectuated on or before the 30th day after the date when the application was submitted; or

(3) For resubmitted applications following a notice of deficiency, the tolling period shall be the number of days from—

(i) The day after the date when the siting authority notifies the applicant in writing that the applicant's supplemental submission was not sufficient to render the application complete and clearly and specifically identifies the missing documents or information that need to be submitted based on the siting authority's original request under paragraph (d)(1) or (2) of this section; until

(ii) The date when the applicant submits all the documents and information identified by the siting authority to render the application complete;

(iii) But only if the notice pursuant to paragraph (d)(3)(i) of this section is effectuated on or before the 10th day after the date when the applicant makes a supplemental submission in response to the siting authority's request under paragraph (d)(1) or (2) of this section.

(e) *Shot clock date.* The shot clock date for a siting application is determined by counting forward, beginning on the day after the date when the application was submitted, by the number of calendar days of the shot clock period identified pursuant to paragraph (b) of this section and including any pre-application period asserted by the siting authority; provided, that if the date calculated in this manner is a “holiday” as defined in §1.4(e)(1) or a legal holiday within the relevant State or local jurisdiction, the shot clock date is the next business day after such date. The term “business day” means any day as defined in §1.4(e)(2) and any day that is not a legal holiday as defined by the State or local jurisdiction.

#### **§1.6100 Wireless Facility Modifications.**

(a) [Reserved]

(b) *Definitions.* Terms used in this section have the following meanings.

(1) *Base station.* A structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network. The term does not encompass a tower as defined in this subpart or any equipment associated with a tower.

(i) The term includes, but is not limited to, equipment associated with wireless communications services such as private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(ii) The term includes, but is not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks).

(iii) The term includes any structure other than a tower that, at the time the relevant application is filed with the State or local government under this section, supports or houses equipment described in paragraphs (b)(1)(i) through (ii) of this section that has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, even if the structure was not built for the sole or primary purpose of providing such support.

(iv) The term does not include any structure that, at the time the relevant application is filed with the State or local government under this section, does not support or house equipment described in paragraphs (b)(1)(i)-(ii) of this section.

(2) *Collocation.* The mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

(3) *Eligible facilities request.* Any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving:

(i) Collocation of new transmission equipment;

(ii) Removal of transmission equipment; or

(iii) Replacement of transmission equipment.

(4) *Eligible support structure.* Any tower or base station as defined in this section, provided that it is existing at the time the relevant application is filed with the State or local government under this section.

(5) *Existing.* A constructed tower or base station is existing for purposes of this section if it has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, provided that a tower that has not been reviewed and approved because it was not in a zoned area when it was built, but was lawfully constructed, is existing for purposes of this definition.



(6) *Site*. For towers other than towers in the public rights-of-way, the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site, and, for other eligible support structures, further restricted to that area in proximity to the structure and to other transmission equipment already deployed on the ground. The current boundaries of a site are the boundaries that existed as of the date that the original support structure or a modification to that structure was last reviewed and approved by a State or local government, if the approval of the modification occurred prior to the Spectrum Act or otherwise outside of the section 6409(a) process.

(7) *Substantial change*. A modification substantially changes the physical dimensions of an eligible support structure if it meets any of the following criteria:

(i) For towers other than towers in the public rights-of-way, it increases the height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for other eligible support structures, it increases the height of the structure by more than 10% or more than ten feet, whichever is greater;

(A) Changes in height should be measured from the original support structure in cases where deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.

(ii) For towers other than towers in the public rights-of-way, it involves adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for other eligible support structures, it involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six feet;

(iii) For any eligible support structure, it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or, for towers in the public rights-of-way and base stations, it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10% larger in height or overall volume than any other ground cabinets associated with the structure;

(iv) It entails any excavation or deployment outside of the current site, except that, for towers other than towers in the public rights-of-way, it entails any excavation or deployment of transmission equipment outside of the current site by more than 30 feet in any direction. The site

boundary from which the 30 feet is measured excludes any access or utility easements currently related to the site;

(v) It would defeat the concealment elements of the eligible support structure; or

(vi) It does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in §1.40001(b)(7)(i) through (iv).

(8) *Transmission equipment.* Equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply. The term includes equipment associated with wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(9) *Tower.* Any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site.

(c) *Review of applications.* A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.

(1) Documentation requirement for review. When an applicant asserts in writing that a request for modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities.

(2) Timeframe for review. Within 60 days of the date on which an applicant submits a request seeking approval under this section, the State or local government shall approve the application unless it determines that the application is not covered by this section.

(3) Tolling of the timeframe for review. The 60-day period begins to run when the application is filed, and may be tolled only by mutual agreement or in cases where the reviewing

State or local government determines that the application is incomplete. The timeframe for review is not tolled by a moratorium on the review of applications.

(i) To toll the timeframe for incompleteness, the reviewing State or local government must provide written notice to the applicant within 30 days of receipt of the application, clearly and specifically delineating all missing documents or information. Such delineated information is limited to documents or information meeting the standard under paragraph (c)(1) of this section.

(ii) The timeframe for review begins running again when the applicant makes a supplemental submission in response to the State or local government's notice of incompleteness.

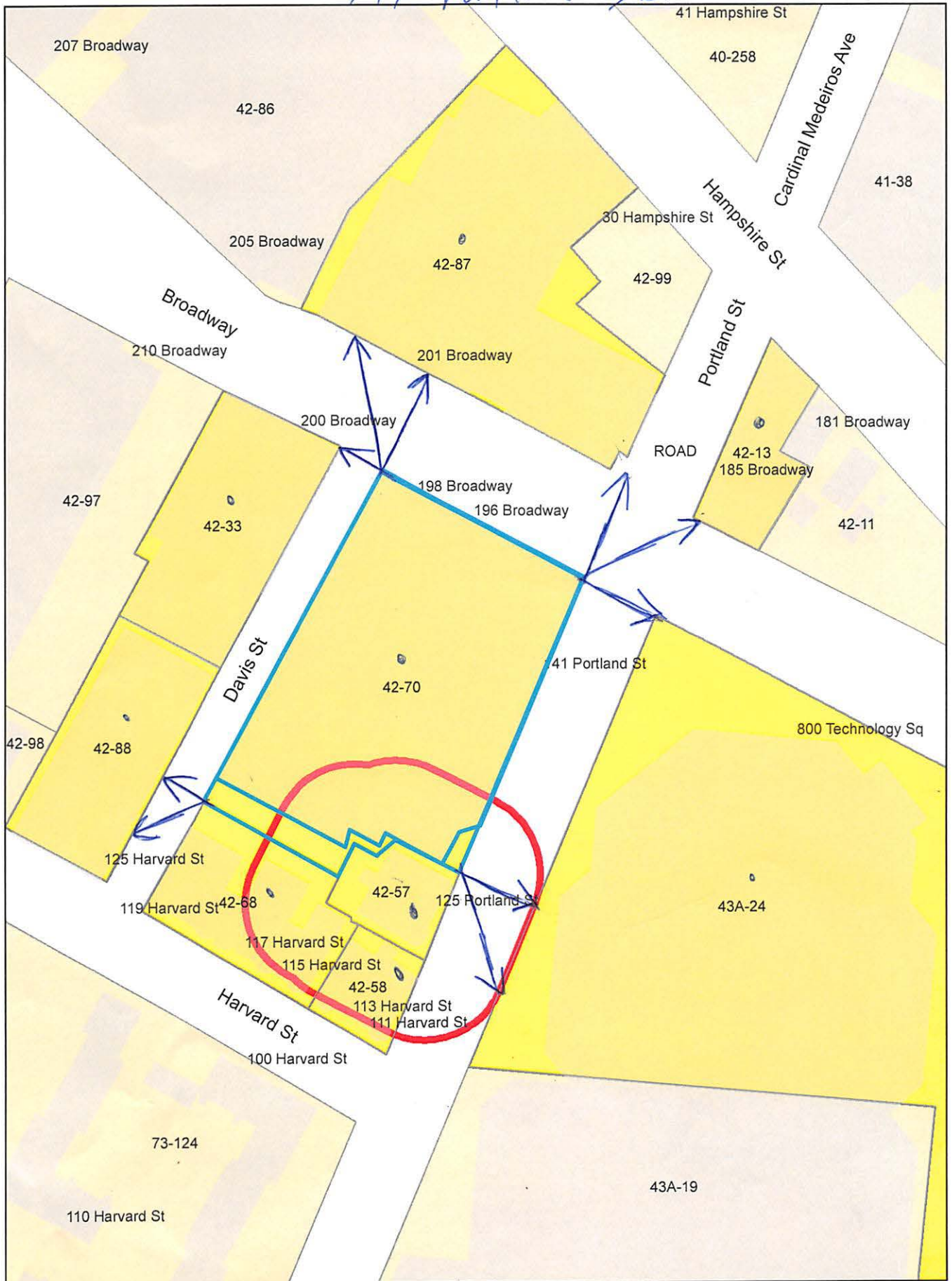
(iii) Following a supplemental submission, the State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. The timeframe is tolled in the case of second or subsequent notices pursuant to the procedures identified in this paragraph (c)(3). Second or subsequent notices of incompleteness may not specify missing documents or information that were not delineated in the original notice of incompleteness.

(4) *Failure to act.* In the event the reviewing State or local government fails to approve or deny a request seeking approval under this section within the timeframe for review (accounting for any tolling), the request shall be deemed granted. The deemed grant does not become effective until the applicant notifies the applicable reviewing authority in writing after the review period has expired (accounting for any tolling) that the application has been deemed granted.

(5) *Remedies.* Applicants and reviewing authorities may bring claims related to Section 6409(a) to any court of competent jurisdiction.

[80 FR 1269, Jan. 8, 2015. Redesignated and amended at 83 FR 51886, Oct. 15, 2018; 85 FR 78018, Dec. 3, 2020]

141 Portland St.





141 Portland St.

Petitioner

42-57  
GEBRETSADIK, TEZERA T & SEBLE H. KIDANE  
125 PORTLAND ST #1  
CAMBRIDGE, MA 02139

42-57  
VOGEL, FRANK E.  
125 PORTLAND ST., #2  
CAMBRIDGE, MA 02139

BROWN RUDNICK, LLP  
C/O MICHAEL R. DOLAN, ESQ.  
10 MEMORIAL BOULEVARD  
PROVIDENCE, RI 02903

42-58  
MARTINS, ALFRED & ALICE MARTINS,  
TRS. OF THE MARTINS HARVARD REALTY TRUST  
166 HIGHLAND AVE  
SOMERVILLE, MA 02143-1506

42-70  
U.S.T. FINANCIAL PLANNING CO., INC.  
C/O INTERCONTINENTAL MANAGEMENT CORP.  
1270 SOLDIERS FIELD ROAD  
BRIGHTON, MA 02135

42-13  
CAMBRIDGE ELECTRIC LIGHT CO.  
NSTAR ELECTRIC CO.  
P.O. BOX 270  
HARTFORD, CT 06141-0270

42-33  
200 BROADWAY, LLC,  
ATTN: CHRISTOPHER CASSEL  
200 BROADWAY  
CAMBRIDGE, MA 02139

42-57  
MONTOKA, AMANDA MARLENE  
125 PORTLAND ST., #4  
CAMBRIDGE, MA 02139

42-57  
AZARIAH, D'VORAH  
125 PORTLAND ST #5  
CAMBRIDGE, MA 02139

42-57  
KOCHANOWSKI, EDWARD J. &  
MARGERIE WILSON  
125 PORTLAND ST  
CAMBRIDGE, MA 02139

42-57  
BASTOS, GERADO  
125 PORTLAND ST.  
CAMBRIDGE, MA 02139

42-68  
MARTINS, ALFRED & ALICE MARTINS  
TRS. OF THE MARTINS HARVARD REALTY TRUST  
& CITY OF CAMBRIDGE TAX TITLE  
166 HIGHLAND AVE.  
SOMERVILLE, MA 02143-1506

42-87  
BROADWAY/HAMPSHIRE ASSOCIATES  
LIMITED PARTNERSHIP  
ONE APPLETON ST.  
BOSTON, MA 02116

43A-24  
CHARLES STARK DRAPER LABORATORY, INC.  
ATTN: ELIZABETH MORA - MS #05  
555 TECHNOLOGY SQUARE  
CAMBRIDGE, MA 02139

42-88  
JAS HOMEOWNERSHIP LLC  
C/O JUST A START CORPORATION  
1035 CAMBRIDGE ST., #12  
CAMBRIDGE, MA 02141

42-57  
LEE, HAN KYU  
125 PORTLAND ST., #7  
CAMBRIDGE, MA 02140

42-88  
GREEN, JANICE B.  
125 HARVARD ST. UNIT#406  
CAMBRIDGE, MA 02139

42-88  
HENRIQUEZ, REYNA E.  
678 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02139

42-88  
DAS, SUBRATA & JOYSRI DAS  
125 HARVARD ST UNIT #204  
CAMBRIDGE, MA 02139

42-88  
JAHAN, NASIM  
125 HARVARD ST., #201  
CAMBRIDGE, MA 02139

42-88  
DENG, CHAO LI & GUAN YU CHEN  
125 HARVARD ST., #404  
CAMBRIDGE, MA 02139

42-88  
LAVINE, REBECCA  
125 HARVARD ST., #401  
CAMBRIDGE, MA 02139

42-88  
WORON, STEPHANIE  
125 HARVARD ST. UNIT#306  
CAMBRIDGE, MA 02139

42-88  
KHALIFA, IMTIYAZ  
125 HARVARD ST UNIT #303  
CAMBRIDGE, MA 02139

42-88  
BERNARD, ROSE M.  
125 HARVARD ST. UNIT#301  
CAMBRIDGE, MA 02139

42-88  
ALI, AMINAT H.  
125 HARVARD ST. UNIT#207  
CAMBRIDGE, MA 02139

42-88  
CRYSTOFF, JEFFREY M.  
125 HARVARD ST #206  
CAMBRIDGE, MA 02139

42-88  
YENESEW, ENDESHAW W. &  
HASABE A. MEKONEN  
125 HARVARD ST. UNIT#202  
CAMBRIDGE, MA 02139

42-88  
DIETRICH, KERRY  
125 HARVARD ST., #408  
CAMBRIDGE, MA 02139

42-88  
PENAGOS-VARGAS, HECTOR L. &  
MARIS I. ESQUITIN-CISNEROS  
125 HARVARD ST UNIT #305  
CAMBRIDGE, MA 02139

*141 Portland St.*

42-88  
CRUZ, MARGARITA  
125 HARVARD ST., #304  
CAMBRIDGE, MA 02139

42-88  
TRAHANT, REMY  
125 HARVARD ST. UNIT#205  
CAMBRIDGE, MA 02139

42-88  
KAFLE RUKMANI & RAMJI BASNET  
BASNET RABI ET AL  
125 HARVARD ST - UNIT 302  
CAMBRIDGE, MA 02139

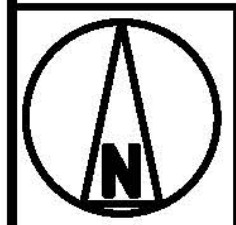
42-88  
LIU, HAOYANG & SIAN V. LIU  
125 HARVARD ST. UNIT#307  
CAMBRIDGE, MA 02139

42-57  
MURPHY OKSANA PETROVNA  
125 PORTLAND ST #6  
CAMBRIDGE, MA 02139









ABUTTER'S PLAN

SOURCE:

CITY OF CAMBRIDGE, MA ASSESSORS MAP, GIS ONLINE MAPS

SITE SPECIFIC NOTES:

- 1. SITE SURVEY HAS NOT BEEN CONDUCTED BY TELECOM ENGINEERING SERVICES LLC, FOR THIS PROJECT. ALL SETBACKS SHOWN ON THIS PLAN ARE TAKEN FROM TIP OF PROPOSED ANTENNAS TO PROPERTY LINES AND ARE APPROXIMATE.
- 2. VERIFY AZIMUTHS W/ RF ENGINEER.
- 3. PROPERTY LINE INFORMATION IS COMPILED FROM ASSESSORS PLAN AND RECORD DOCUMENTS AND IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD BOUNDARY SURVEY, AND IS SUBJECT TO CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE. A FULL BOUNDARY SURVEY WAS NOT PERFORMED.

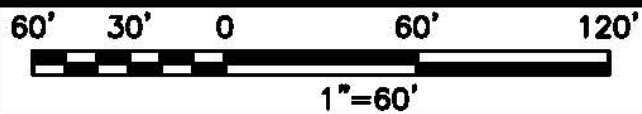
LEGEND:

|  |                                |
|--|--------------------------------|
|  | PROPERTY LINE - SUBJECT PARCEL |
|  | PROPERTY LINE - ABUTTERS       |
|  | 300' RADIUS                    |
|  | EXISTING ZONING LINE           |
|  | EXISTING BUILDING              |

ZONING INFORMATION:

|                                     |           |                    |
|-------------------------------------|-----------|--------------------|
| JURISDICTION: CITY OF CAMBRIDGE, MA |           |                    |
| ZONING DISTRICT TYPE: IB INDUSTRY B |           |                    |
| DIMENSION REQUIREMENTS:             | REQUIRED  | PROP.±             |
| FRONT YARD SETBACK:                 | NO MIN    | N/C                |
| SIDE SETBACK:                       | NO MIN    | N/C                |
| REAR SETBACK:                       | NO MIN    | N/C                |
| MAXIMUM BUILDING HEIGHT:            | 120'      | EXISTING NO CHANGE |
| MAXIMUM FAR:                        | 2.75/4.00 | EXISTING NO CHANGE |
| MINIMUM LOT SIZE:                   | NO MIN    | EXISTING NO CHANGE |
| MINIMUM LOT AREA/DU:                | NO MIN    | EXISTING NO CHANGE |
| MINIMUM OS RATIO:                   | NO MIN    | EXISTING NO CHANGE |

(ALL MEASUREMENTS ARE IN FEET ± UNLESS OTHERWISE NOTED)



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

|           |             |              |
|-----------|-------------|--------------|
| DRAWN BY: | CHECKED BY: | APPROVED BY: |
| JM        | DM          | GKW          |

RFDS REV #: 0

ZONING DOCUMENTS

| SUBMITTALS |            |                   |
|------------|------------|-------------------|
| REV        | DATE       | DESCRIPTION       |
| A          | 06/06/2022 | ISSUED FOR REVIEW |
| B          | 06/16/2022 | ISSUED FOR REVIEW |
| D          | 06/16/2022 | ISSUED FOR ZONING |

A&E PROJECT NUMBER  
BOBOS00431B

DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00431B  
141 PORTLAND ST  
CAMBRIDGE, MA 02139

SHEET TITLE  
ABUTTER'S  
PLAN

SHEET NUMBER

C-1



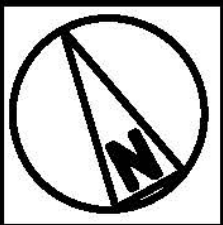
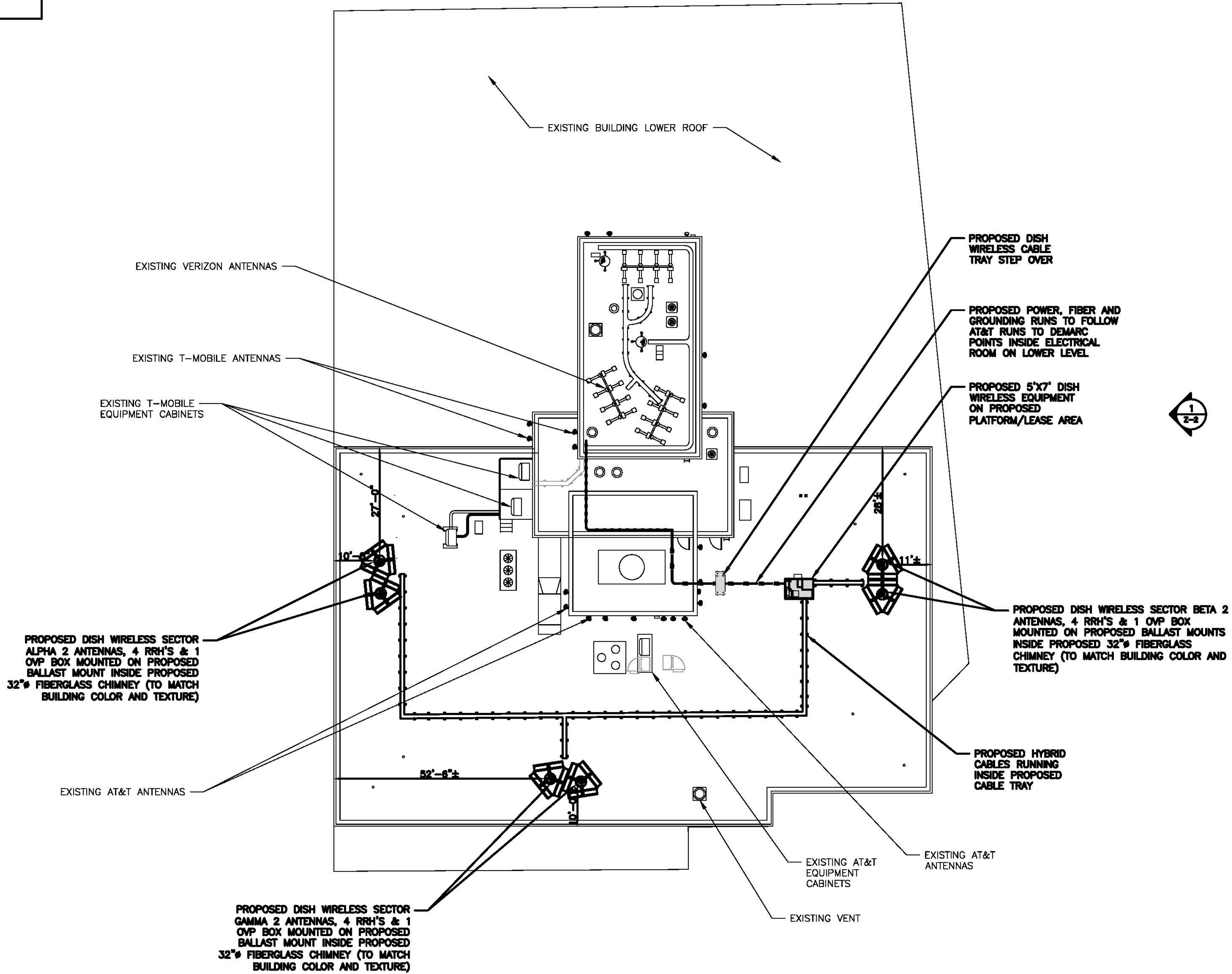
- NOTES
1. SOME EXISTING AND PROPOSED INFORMATION NOT SHOWN FOR CLARITY.

2. NORTH SHOWN AS APPROXIMATE.

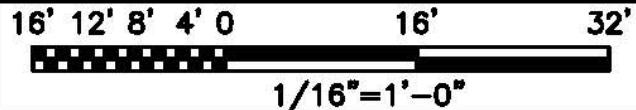
3. PLANS BASED ON VERIZON PCS DRAWINGS DATED 12/04/2014 BY DEWBERRY ENGINEERS INC. AND OMNIPOINT COMMUNICATION INC. AS BUILT DRAWINGS DATED 02/25/1998 BY BLACK & VEATCH.

4. SOME ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

5. THIS SET OF DRAWINGS IS FOR ZONING PURPOSES ONLY. NOT FOR CONSTRUCTION.



SITE PLAN



dish  
wireless.

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

SCG

Structure  
Consulting  
Group

49 BRATTLE ST, ARLINGTON, MA 02474

TES

Telecom Engineering Services LLC

8 FLOWER HILL DR  
WORCESTER, MA 01609

COMMONWEALTH OF MASSACHUSETTS

GI KAI WANG

STRUCTURAL

No. 48961

REGISTERED

PROFESSIONAL ENGINEER

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DRAWN BY: JM

CHECKED BY: DM

APPROVED BY: GKW

RFDS REV #: 0

ZONING  
DOCUMENTS

SUBMITTALS

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|     |            |                   |
|     |            |                   |
|     |            |                   |

A&E PROJECT NUMBER  
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DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00431B  
141 PORTLAND ST  
CAMBRIDGE, MA 02139

SHEET TITLE  
SITE PLAN

SHEET NUMBER  
Z-1



PROPOSED DISH WIRELESS SECTOR BETA 2 ANTENNAS, 4 RRH'S & 1 OVP BOX MOUNTED ON PROPOSED BALLAST MOUNTS INSIDE PROPOSED 32" FIBERGLASS CHIMNEY (TO MATCH BUILDING COLOR AND TEXTURE)

EXISTING AT&T EQUIPMENT

PROPOSED DISH WIRELESS SECTOR GAMMA 2 ANTENNAS, 4 RRH'S & 1 OVP BOX MOUNTED ON PROPOSED BALLAST MOUNT INSIDE PROPOSED 32" FAUX CHIMNEY (PAINTED TO MATCH)

EXISTING AT&T ANTENNAS

PROPOSED DISH WIRELESS EQUIPMENT ON PROPOSED 5'X7' PLATFORM/LEASE AREA

EXISTING ANTENNAS INSIDE CHIMNEY FLUES

EXISTING VERIZON ANTENNAS

TOP OF WHIP ANTENNA (HIGHEST APPURTENANCE)  
@ 163'-0"± AGL

C.L. OF VERIZON ANTENNAS  
RAD CENTER @ 154'-6"± AGL

TOP OF PENTHOUSE ROOF  
@ 150'-0"± AGL

TOP OF (6) PROPOSED DISH Wireless LLC. ANTENNAS  
@ 136'-0"± AGL

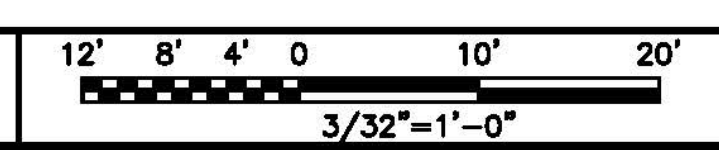
(6) PROPOSED DISH Wireless LLC. ANTENNAS  
RAD CENTER @ 133'-0"± AGL

TOP OF PARAPET  
@ 129'-0"± AGL

TOP OF ROOF  
@ 126'-0"± AGL

GROUND LEVEL  
@ 0'-0" AGL

BUILDING ELEVATION (NORTH WEST)



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

SCG

Structure Consulting Group

49 BRATTLE ST, ARLINGTON, MA 02474

TES

Telecom Engineering Services LLC

8 FLOWER HILL DR  
WORCESTER, MA 01609



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|           |             |              |
|-----------|-------------|--------------|
| DRAWN BY: | CHECKED BY: | APPROVED BY: |
| JM        | DM          | GKW          |

RFDS REV #: 0

ZONING DOCUMENTS

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| D          | 06/16/2022 | ISSUED FOR ZONING |
|            |            |                   |
|            |            |                   |
|            |            |                   |

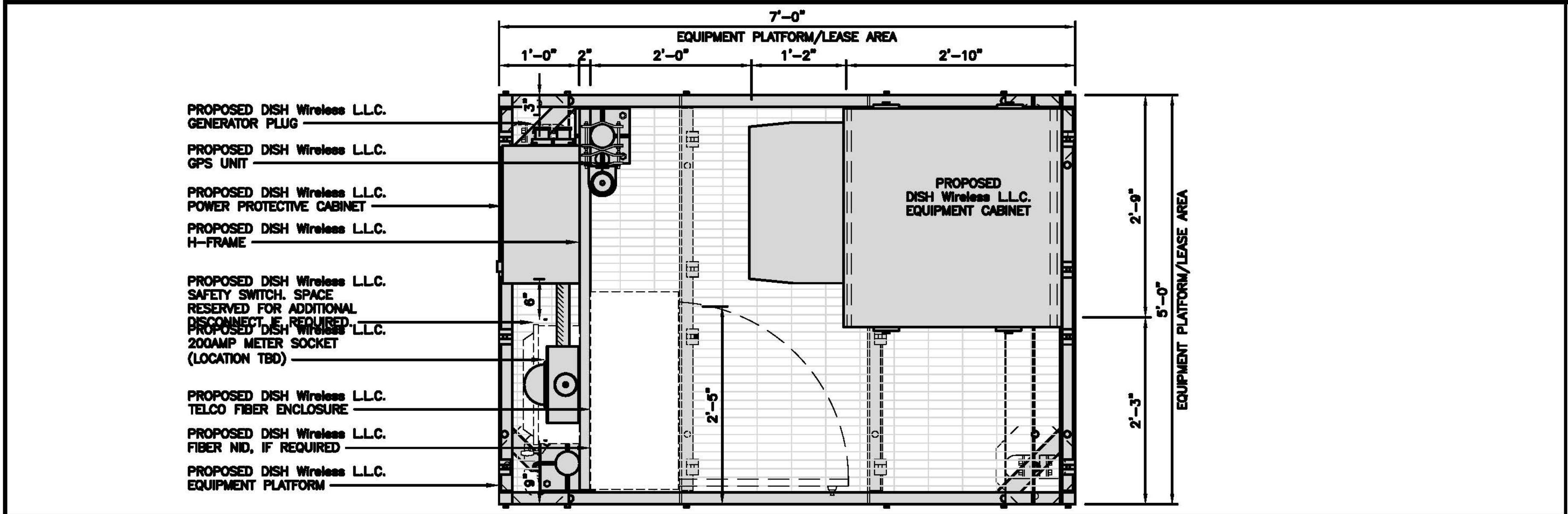
A&E PROJECT NUMBER  
BOBOS00431B

DISH Wireless L.L.C.  
PROJECT INFORMATION  
  
BOBOS00431B  
141 PORTLAND ST  
CAMBRIDGE, MA 02139

SHEET TITLE  
BUILDING ELEVATION

SHEET NUMBER  
**Z-2**





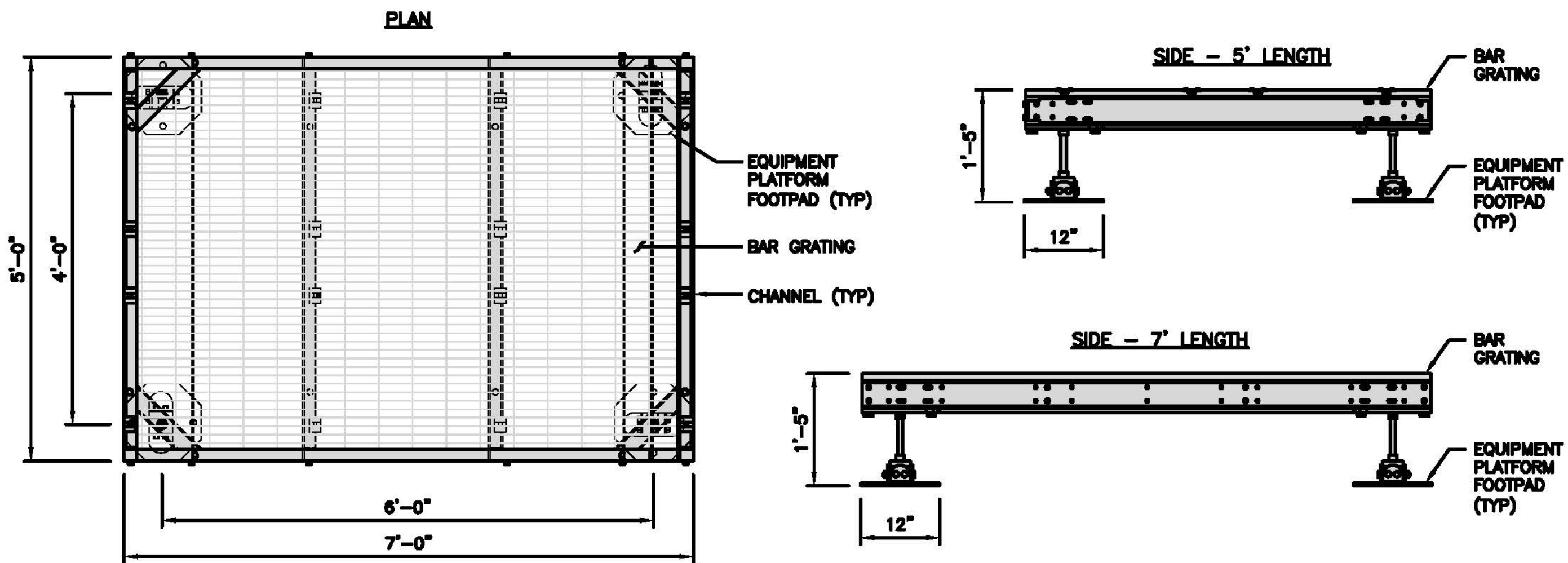
PLATFORM EQUIPMENT PLAN

12" 9" 6" 3" 0 1' 2' 1"=1'-0"

1

| COMMSCOPE MTC4045LP<br>5X7 PLATFORM |             |
|-------------------------------------|-------------|
| DIMENSIONS (HxWxD)                  | 16"x84"x80" |
| TOTAL WEIGHT                        | 423 LBS     |

NOTE:  
GC TO PROVIDE EXTENDED  
THREAD FOR PLATFORM IF  
REQUIRED HEIGHT EXCEEDS 17"

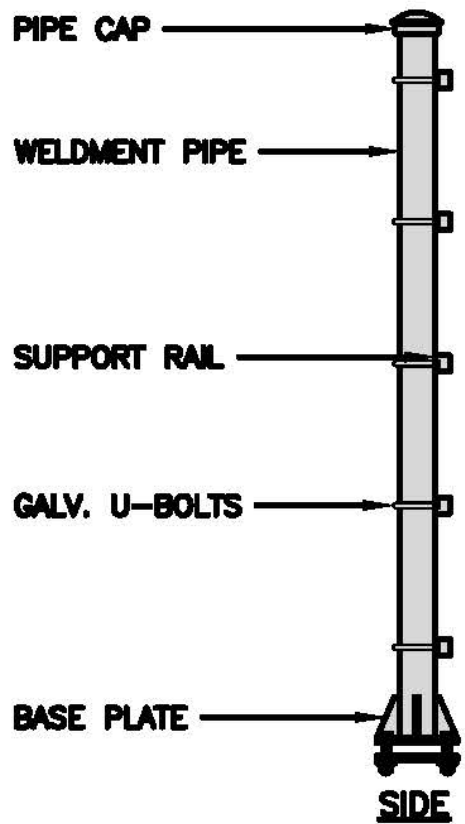


PLATFORM DETAIL

NO SCALE

2

| COMMSCOPE MTC4045HFLD<br>H-FRAME |           |
|----------------------------------|-----------|
| UNISTRUT/SUPPORT RAILS QTY       | 5         |
| WEIGHT                           | 59.74 lbs |



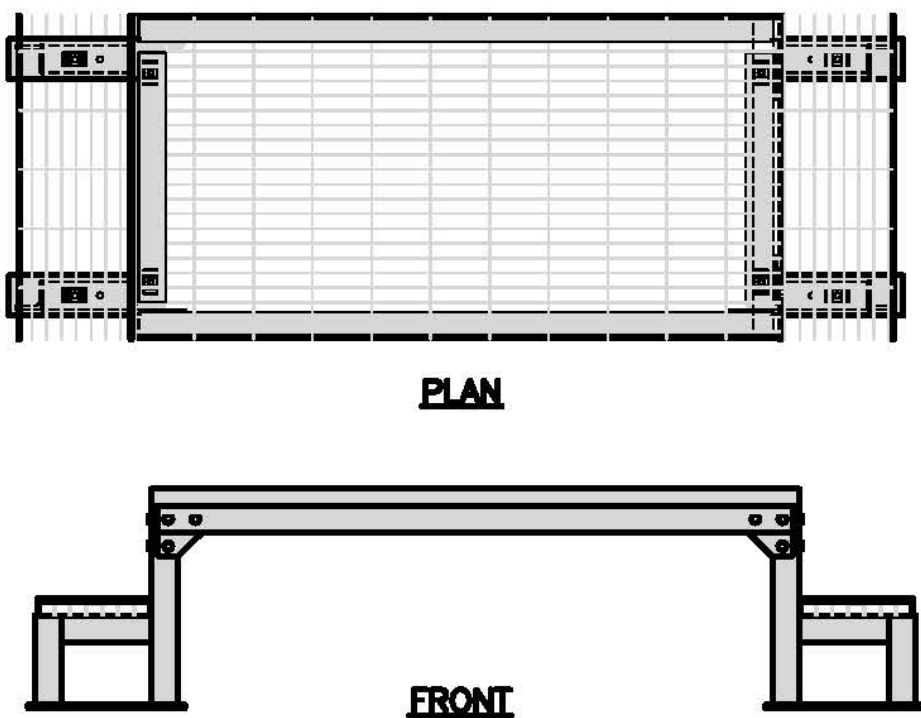
H-FRAME DETAIL

NO SCALE

3

| SITEPRO1 STEP 48<br>ROOFTOP STEEL STEP OVER |                   |
|---|-------------------|
| DIMENSIONS (HxWxD)                          | 13.2"x41.5"x70.5" |
| WEIGHT/ VOLUME                              | 146.387 LBS       |

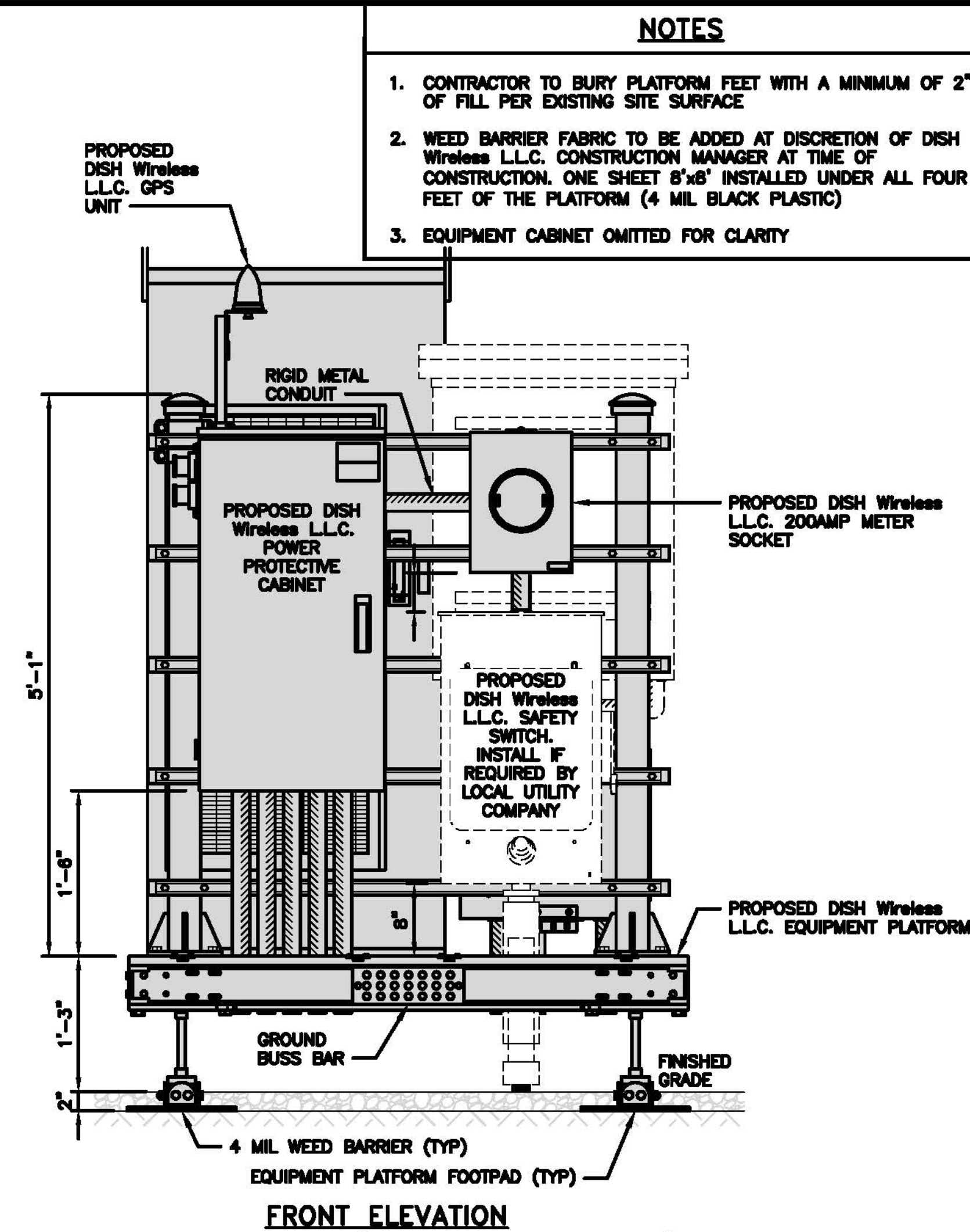
NOTE: NON-PENETRATING



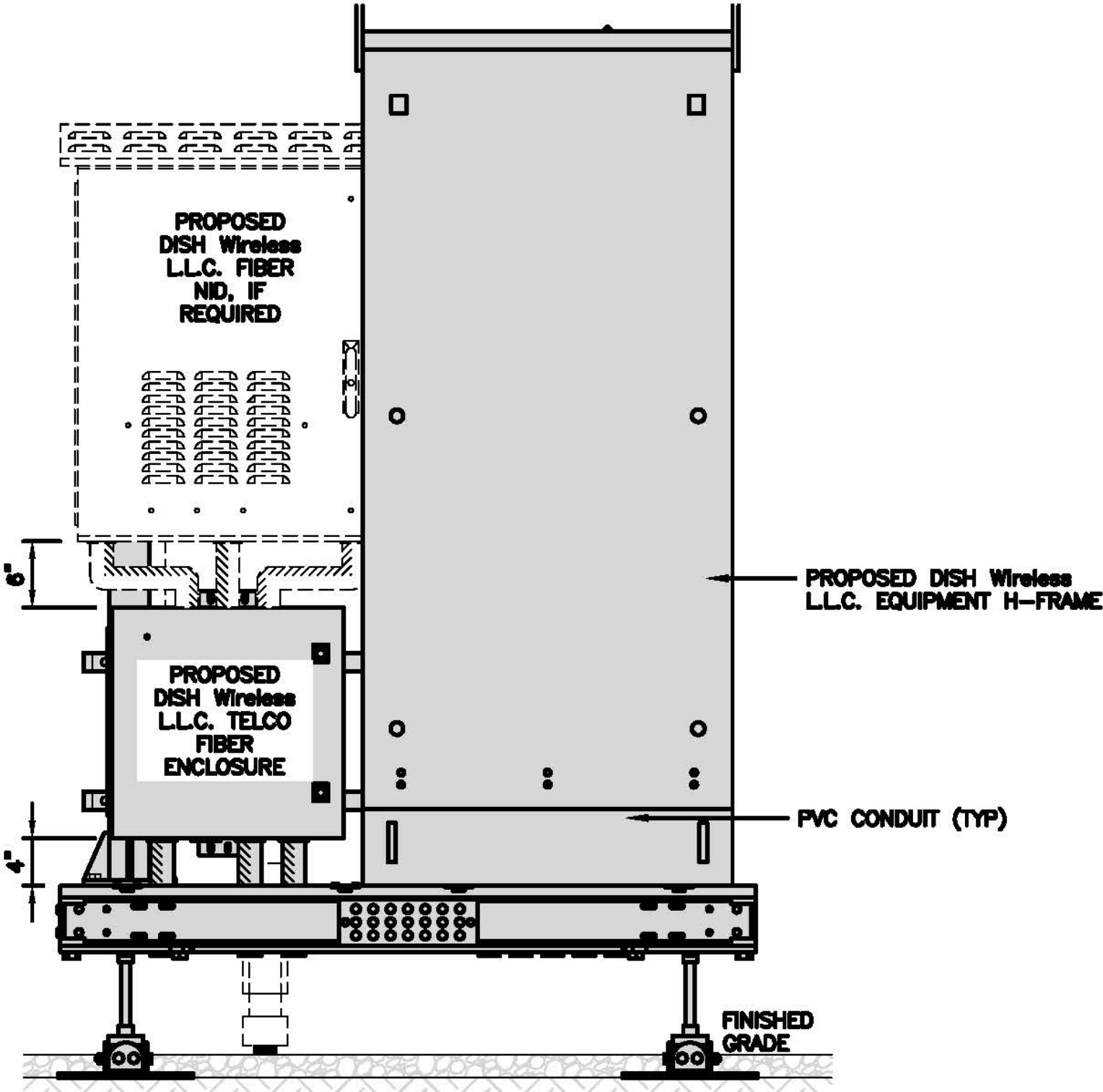
ROOFTOP STEEL STEP OVER DETAIL

NO SCALE

4



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

12" 9" 6" 3" 0 1' 2' 1"=1'-0"

5

NOTES

1. CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
2. WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
3. EQUIPMENT CABINET OMITTED FOR CLARITY

**dish**  
wireless.

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

**SCG** Structure  
Consulting  
Group  
49 BRATTLE ST, ARLINGTON, MA 02474

**TES**  
Telecom Engineering Services LLC  
8 FLOWER HILL DR  
WORCESTER, MA 01609



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OF A LICENSED PROFESSIONAL ENGINEER,  
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DRAWN BY: CHECKED BY: APPROVED BY:  
JM DM GKW

RFDS REV #: 0

ZONING  
DOCUMENTS

| SUBMITTALS |            |                   |
|------------|------------|-------------------|
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| B          | 06/16/2022 | ISSUED FOR REVIEW |
| D          | 06/16/2022 | ISSUED FOR ZONING |

A&E PROJECT NUMBER  
BOBOS00431B

DISH Wireless L.L.C.  
PROJECT INFORMATION

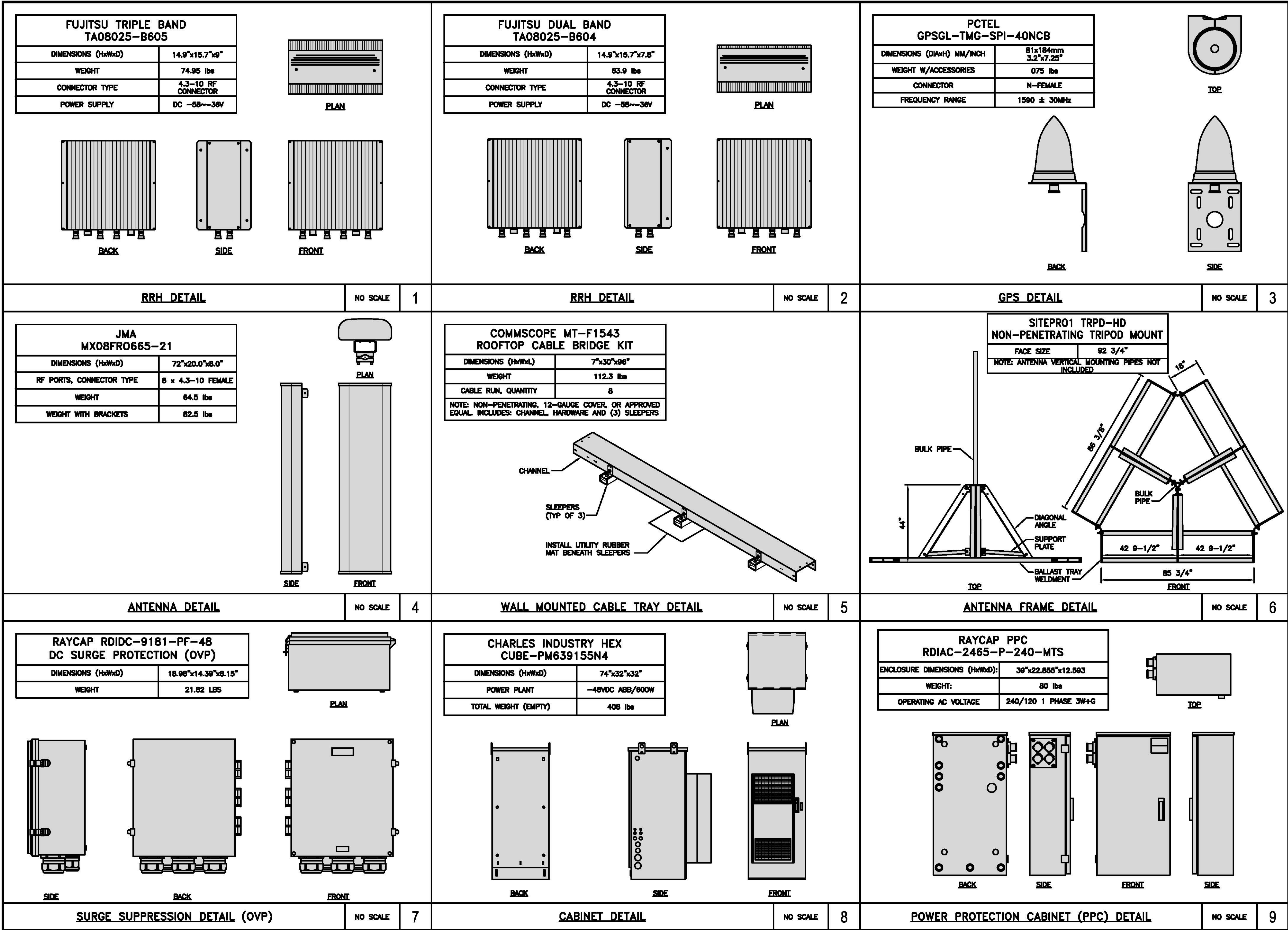
BOBOS00431B  
141 PORTLAND ST  
CAMBRIDGE, MA 02139


SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER


Z-3









5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



49 BRATTLE ST, ARLINGTON, MA 02474



8 FLOWER HILL DR  
WORCESTER, MA 01609



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

|           |             |              |
|-----------|-------------|--------------|
| DRAWN BY: | CHECKED BY: | APPROVED BY: |
| JM        | DM          | GKW          |

RFDS REV #: 0

### ZONING DOCUMENTS

| REV | DATE       | DESCRIPTION       |
|-----|------------|-------------------|
| A   | 06/06/2022 | ISSUED FOR REVIEW |
| B   | 06/16/2022 | ISSUED FOR REVIEW |
| D   | 06/16/2022 | ISSUED FOR ZONING |

A&E PROJECT NUMBER  
BOBOS00431B

DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00431B  
141 PORTLAND ST  
CAMBRIDGE, MA 02139

SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**Z-4**



**BZA APPLICATION FORM - OWNERSHIP INFORMATION**

**To be completed by OWNER, signed before a notary and returned to The Secretary of the Board of Zoning Appeals.**

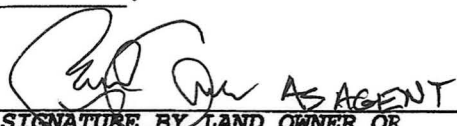
I/We KENDALL SQUARE ENTITY, INC.  
(OWNER)

Address: 1270 SOLDIERSFIELD ROAD, BOSTON, MA 02135-1003

State that I/We own the property located at 141 PORTLAND STREET, CAMBRIDGE MA  
which is the subject of this zoning application.

The record title of this property is in the name of KENDALL SQUARE  
ENTITY, INC.

\*Pursuant to a deed of duly recorded in the date 12/31/85, Middlesex South  
County Registry of Deeds at Book 16682, Page 565; or  
Middlesex Registry District of Land Court, Certificate No. \_\_\_\_\_  
Book \_\_\_\_\_ Page \_\_\_\_\_.

  
\_\_\_\_\_  
SIGNATURE BY LAND OWNER OR  
AUTHORIZED TRUSTEE, OFFICER OR AGENT\*

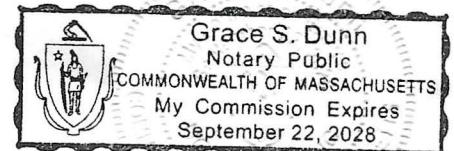
**\*Written evidence of Agent's standing to represent petitioner may be requested.**

-----  
Commonwealth of Massachusetts, County of Middlesex

The above-name Paul Charos personally appeared before me,  
this 26 of July, 2022, and made oath that the above statement is true.

 Notary

My commission expires 09-22-2028 (Notary Seal).



- If ownership is not shown in recorded deed, e.g. if by court order, recent deed, or inheritance, please include documentation.

# VISUAL ANALYSIS

SITE ID: BOBOS00431B

SITE ADDRESS: 141 PORTLAND ST, CAMBRIDGE, MA 02139

► PROPOSED WIRELESS TELECOMMUNICATIONS FACILITY

# LETTER OF METHODOLOGY

SITE NAME: BOBOS00431B

The following is a description of the methods used by Telecom Engineering Services L.L.C. in preparing the Visual Analysis of a post construction, for the site located at 141 Portland St, Cambridge, MA 02139.

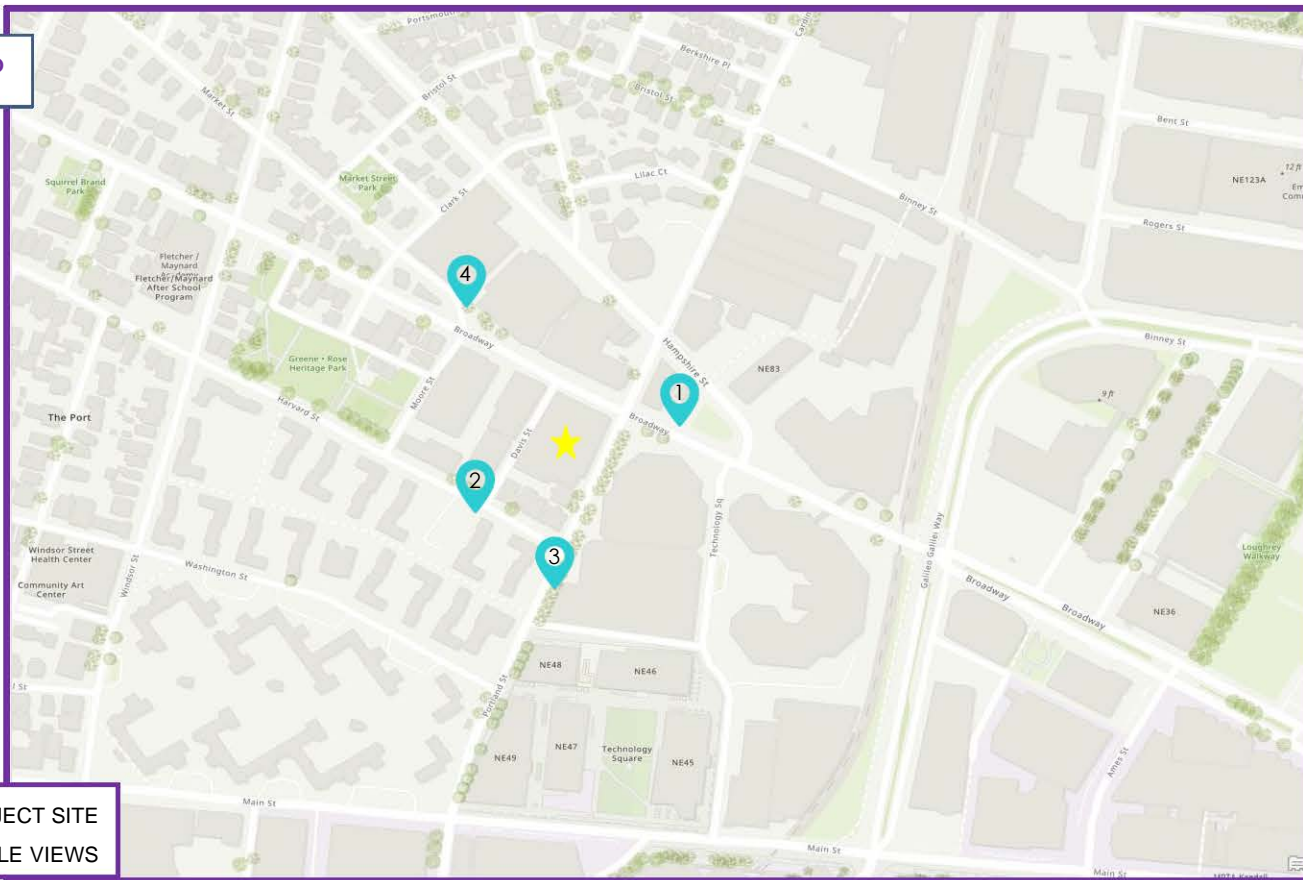
A site visit was made, and photographs were taken from specific locations around the Facility. The actual weather condition was sunny, and visibility was within acceptable levels to conduct the Visual Analysis.


Using technical and mechanical specification documents we built and arranged the equipment using Autodesk 3ds Max software. Autodesk 3ds Max allows us to add a daylight system that calculates which direction the sun will point according to the date and time of day in which the photographs were taken. The next step involves loading a map with the photo-location points into Autodesk 3ds Max. Virtual cameras are then inserted into the scene and placed according to where the photo-locations lay. These cameras represent the photographer who took the photographs and take into consideration the average height at which the camera would have been held by an average 5'-6' person. Due to the cameras being located correctly they automatically calculate the exact distance and perspective of the proposed equipment. This generates simulated 3D views of the proposed equipment from the photographer's viewpoint. Once these simulated viewpoints are created in Autodesk 3ds Max, realistic lighting, shadows and materials are rendered upon the proposed equipment. The result is multiple images that depict the proposed equipment placed "inside" the photograph of the existing environment.

The new images created by 3ds Max are imported into Adobe Photoshop and laid over the existing image. These images are then brought into Microsoft PowerPoint and each view is labeled accordingly based upon the information provided by the field technician. The final product results in high quality "before and after" images that accurately depict the addition of future equipment, not yet built, to existing photographs.

NOTE: These photo simulations are intended to represent modifications relative to a person observing the aesthetics of the proposed telecommunications installation. Therefore, they are inherently approximate in nature and should not be used as an exact, scaled engineering drawing.

# MAP



 **SUBJECT SITE**  
**VISIBLE VIEWS**

## VIEW 1- EXISTING CONDITION: LOOKING SOUTHWEST





## VIEW 1- PROPOSED CONDITION: LOOKING SOUTHWEST

PROPOSED DISH WIRELESS SECTOR  
BETA ANTENNAS INSIDE STEALTH  
CHIMNEYS PAINTED TO MATCH  
PARAPET WALL



## VIEW 2- EXISTING CONDITION: LOOKING NORTHEAST





## VIEW 2- PROPOSED CONDITION: LOOKING NORTHEAST

PROPOSED DISH WIRELESS SECTOR  
GAMMA ANTENNAS INSIDE STEALTH  
CHIMNEYS PAINTED TO MATCH  
PARAPET WALL



### VIEW 3- EXISTING CONDITION: LOOKING NORTH





## VIEW 3- PROPOSED CONDITION: LOOKING NORTH

PROPOSED DISH WIRELESS SECTOR  
GAMMA ANTENNAS INSIDE STEALTH  
CHIMNEYS PAINTED TO MATCH  
PARAPET WALL



## VIEW 4- EXISTING CONDITION: LOOKING SOUTHEAST





## VIEW 4- PROPOSED CONDITION: LOOKING SOUTHEAST

PROPOSED DISH WIRELESS SECTOR  
ALPHA ANTENNAS INSIDE STEALTH  
CHIMNEYS PAINTED TO MATCH  
PARAPET WALL





THANK YOU

August 18, 2022

**VIA FEDERAL EXPRESS**

City of Cambridge  
Board of Zoning Appeal  
831 Massachusetts Avenue  
Cambridge, MA 02139

**RE: Request of DISH Wireless, LLC ("DISH") for Administrative Review of an Eligible Facilities Request to Install Transmission Equipment on the existing 126' above ground level ("AGL") building (the "Building") located at 141 Portland Street (a/k/a 198 Broadway), Cambridge MA 02139 (Assessor's Parcel Identification Map 42, Lot 70), pursuant to Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 (the "Spectrum Act") and Special Permit pursuant to: Article 4, Section 4.32.g.1; Article 4, Section 4.40 (Footnote 49); and Article 10, Section 10.40 of the City of Cambridge Zoning Ordinance; Massachusetts General Laws, Ch 40A, Section 9; the Telecommunications Act of 1996 (the "TCA"), and the Spectrum Act, all rights reserved.**

Dear Honorable Members of the Cambridge Board of Zoning Appeal:

On behalf of DISH, while reserving all rights, we are pleased to submit this Eligible Facilities Request and Special Permit Application (the "Application") to the City of Cambridge Board of Zoning Appeals (the "Board") in support of DISH's request to add Transmission Equipment on the existing Building located at 141 Portland Street (a/k/a 198 Broadway), Cambridge, MA 02139 (Assessor's Parcel Identification Map 42, Lot 70) (the "Site"). Capitalized terms not defined herein shall have the same meaning as provided in the Spectrum Act and Regulations (defined below).

As noted on the attached plans (the "Plans"), the Building is owned by Kendall Square Entity, LLC and other wireless communications services providers (AT&T and T-Mobile) currently have Transmission Equipment mounted on the Building, with electronic equipment also on the roof of the Building. DISH proposes to modify the existing wireless communication facility Base Station by collocating its Facility on the roof of the existing Building. As depicted on the Plans, DISH proposes to mount six (6) panel antennas (two (2) antennas per sector) concealed within six (6) fiberglass chimneys (two (2) chimneys per sector) on the main roof of the Building. The proposed antennas will be mounted at the antenna centerline heights of 133' AGL, extending to a top height of 136' AGL. The height of the proposed fiberglass chimneys and antennas will not exceed the height of any existing penthouse or any of the existing wireless communication services antennas on the roof of the Building. DISH will also install twelve (12) Remote Radio Units, and three (3) over voltage protection devices on the roof of the Building.





DISH will install equipment on a proposed equipment platform on the roof of the Building. DISH's facility (the "Facility") will include related amplifiers, cables, fiber and other associated antenna equipment, including a global positioning system antenna, all as depicted on the Plans.

DISH's Facility will comply with all applicable terms and conditions of the Cambridge Zoning Ordinance (the "Ordinance"). As the proposed antennas of the Facility will be concealed within fiberglass chimneys and set back from the edges of the roof, there will be no undue adverse impacts upon historic resources, scenic views, residential property values or man-made resources and the aesthetic qualities of the City are preserved. The Facility will be passive in nature and will not generate unreasonable noise, odors, smoke, waste, or significant amounts of traffic. This is an unmanned facility and will not have negative effects upon adjoining lots. The Facility will comply with all applicable federal, state and local laws, regulations and guidelines, including applicable radio frequency emissions standards.

DISH, while reserving all rights, respectfully requests, to the extent necessary, that a special permit be granted so that the antennas may be installed consistent with the Plans submitted herewith.

### **ELIGIBLE FACILITIES REQUEST**

On behalf of DISH, while reserving all rights, we seek approval of the facility as depicted on the Plans as an Eligible Facilities Request. As you may know, Section 6409(a) of the "Spectrum Act" (copy attached) mandates that state and local governments "*may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.*" [emphasis added]. Under Section 6409(a)(2)(A)-(C), an Eligible Facilities Request is any request to modify a Tower or Base Station that involves "collocations of new Transmission Equipment," "removal," or "replacement" of Transmission Equipment.

Federal law now preempts many of the permit application requirements that the City of Cambridge may previously have required from an applicant and provides for a limited, administrative review of DISH's Eligible Facilities Request application. This Eligible Facilities Request involves an effort to collocate, remove, modify, or replace Transmission Equipment on an existing Building used by an FCC licensed wireless carrier. The existing Building is a Structure that is 126' AGL supporting wireless Transmission Equipment. DISH seeks administrative approval for the proposed equipment which is clearly an Eligible Facilities Request which does not substantially change the physical dimensions of the Building pursuant to Section 6409 of the Spectrum Act. DISH proposes to mount six (6) panel antennas (two (2) antennas per sector) concealed within six (6) fiberglass chimneys on the roof of the Building. The proposed antennas will be mounted at the antenna centerline heights of 133' AGL extending to a total height of 136' AGL. DISH will also install twelve (12) Remote Radio Units, and three (3) over voltage protection devices on the roof of the Building. DISH will install equipment on a proposed equipment platform on the roof of the Building. DISH's Facility will include related



amplifiers, cables, fiber and other associated antenna equipment, including a global positioning system antenna, all as depicted on the Plans submitted herewith.

The equipment identified on the Plans submitted as part of this Eligible Facilities Request application that will be collocated is Transmission Equipment pursuant to the FCC definition. The FCC has defined Transmission Equipment as “any equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and back-up power supply. This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband.”

As you may also know, the FCC adopted a Report and Order, In re: Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, FCC Docket No.13-238, Report and Order No. 14-153 (October 17, 2014) Final Rule codified at 47 CFR Parts 1 and 17 promulgating regulations (the "Regulations") interpreting and implementing the provisions of the Spectrum Act, which Regulations became effective on April 8, 2015 (with certain provisions effective on May 18, 2015). The Regulations determined that any modification to a Base Station, that meets the following six criteria does not substantially change the physical dimensions of the existing Building and, therefore, is an Eligible Facilities Request which must be granted:

1. The modifications do not increase the height of the Building by more than ten feet (10') from an existing antenna array or ten percent (10%), whichever is greater.
2. The modifications do not protrude from the edge of the Building by more than six feet (6').
3. The modifications do not involve the installation of more than the standard number of equipment cabinets for the technology involved, not to exceed four.
4. The modifications do not entail any excavation or deployment outside of the Site.
5. The modifications do not defeat any existing concealment elements of the Base Station.
6. The modifications comply with prior conditions of approval of the Base Station, unless the non-compliance is due to an increase in height, increase in width, addition of equipment cabinets, or new excavation that does not exceed the corresponding “substantial change” thresholds in numbers 1-4 above.



As evidenced on the Plans, this Eligible Facilities Request satisfies each of the six review criteria enumerated by the FCC in the Regulations. In accordance with the Spectrum Act and the Regulations, DISH's proposed equipment will not increase the height of the Building nor protrude from the edge of the Building by more than six feet (6'). DISH does not propose excavating outside of the Site and is not adding more than the standard number of equipment cabinets. Lastly, DISH's proposed equipment will not defeat any concealment elements because the antennas will be concealed within proposed fiberglass chimneys. DISH's Transmission Equipment at the Building contained in this Eligible Facilities Request fully conforms to Section 6409(a) of the Spectrum Act.

While the Ordinance may provide that a special permit or other zoning relief is required for modifications and colocations, such a discretionary process is contrary to the guidance issued by the FCC in its Public Notice (the "Public Notice") dated January 25, 2013 and the Massachusetts Office of the Attorney General (the "Attorney General") in response letters to municipalities granting approvals of bylaw amendments.

In its Public Notice, the FCC determined that the relevant government entity may require the filing of an application for "administrative approval" only. Additionally, pursuant to Section 1.40001(c)(1) of the Regulations, "when an applicant asserts in writing that a request for a modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section." The Regulations provide that applicants are not required to justify a need for the facility. Further, the Regulations also require that local governmental approvals must be granted for eligible facilities requests within 60 days of the date that the application is submitted. Clearly, this review may not be subject to a discretionary special permit process with the associated public hearing and appeal period provisions. Likewise, the Attorney General has issued a number of letters to municipalities reflecting that same opinion and warning municipalities that such qualifying requests under Section 6409 cannot be subject to a discretionary special permit process. We are confident that you will agree that DISH's proposed equipment does not substantially change the physical dimensions of the Eligible Support Structure or Base Station at the Site, as enumerated in the Regulations.

## **SPECIAL PERMIT**

### **10.43 Criteria.**

**Special permits will normally be granted where specific provisions of this Ordinance are met, except when particulars of the location or use, not generally true of the district or of the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:**

- (a) It appears that requirements of this Ordinance cannot or will not be met, or**



DISH's Facility will comply with all applicable sections of the Ordinance as the proposed antennas will be concealed within fiberglass chimneys, will not increase the height of the Building, and will not exceed the height of the existing antennas on the Building.

**(b) traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character, or**

DISH's Facility will not result in any substantial change in the character of the neighborhood as there will be no significant increase in the amount of traffic to and from the Site, or any changes to existing patterns of access or egress to the Site. Trips to and from the Facility will average one or two per month by maintenance personnel.

**(c) the continued operation of or the development of adjacent uses as permitted in the Zoning Ordinance would be adversely affected by the nature of the proposed use, or**

The continued operation of or the development of adjacent uses will not be adversely affected by DISH's equipment because DISH's Facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic.

**(d) nuisance or hazard would be created to the detriment of the health, safety and/or welfare of the occupant of the proposed use or the citizens of the City, or**

DISH's Facility will not result in any nuisance or hazard to the detriment of the health, safety, or welfare of the citizens of the City because DISH's Facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic. As evidenced by the MPE Study submitted herewith, DISH's Facility will comply with all applicable regulations and guidelines pertaining to radio frequency emissions.

**(e) for other reasons, the proposed use would impair the integrity of the district or adjoining district, or otherwise derogate from the intent and purpose of this Ordinance, and**

The proposed Facility will be in harmony with the purposes of the Ordinance because by collocating a wireless facility on an existing Building in a manner which does not increase the height of the Building or expand its footprint, potential visual impacts are minimized. Also, the proposed Facility will not produce any smoke, odors, waste, glare or significant amounts of traffic. The





Facility will have no negative impact on natural or undeveloped areas, wildlife, flora or endangered species. Consistent with the Ordinance, the Facility will function as a wireless communications services facility within a local, regional, and national communications system. This system operates under licenses from the FCC, and DISH is mandated and authorized to provide adequate service to the general public. The proposed Facility will comply with all applicable regulations, standards and guidelines with respect to radiofrequency emissions.

The Facility will benefit those living and working in, and traveling through, the area by providing enhanced wireless telecommunication services. The Facility will not adversely impact adjacent properties and neighborhoods as the Facility will be located on an existing Building. The collocation of the facility will not be a threat to public health, safety and welfare. In fact, Applicant submits that the facility aids in public safety by providing and improving wireless communications services to the residents, businesses, commuters, and emergency personnel utilizing wireless communications in the immediate vicinity and along the nearby roads. Consistent with the Ordinance, the Facility will function as a wireless communications services facility within a local, regional, and national communications system. This system operates under license from the FCC, and DISH is mandated and authorized to provide adequate service to the general public. The Facility will not generate any objectionable noise, odor, fumes, glare, smoke, or dust or require additional lighting or signage. The Facility will have no negative impact on property values in the area. This is an unmanned Facility and will have minimal negative effect on the adjoining lots.

**(f) the new use or building construction is inconsistent with the Urban Design Objectives set forth in Section 19.30.**

DISH's Facility will not be inconsistent with the Citywide Urban Design Objectives of Section 19.30 of the Ordinance because DISH's Facility will not result in an increase in the height of the Building or any alteration of existing setbacks on the Site. DISH's equipment will not result in any significant increase in traffic to or from the Site and will not adversely impact upon pedestrians or bicyclists and, as DISH's Facility will be unmanned, it will have no impact on parking on Site or the surrounding area. DISH's antennas will be located on the Building in a camouflaged manner and will be concealed within fiberglass chimneys. DISH's Facility will not produce any waste and noise levels on Site will not increase as a result of DISH's Facility, nor will there be any additional exterior lighting as a result of DISH's Facility.

DISH's Facility will operate using standard electric and telephone services. As the Facility will be unmanned, it will require no water or sewer services, and City infrastructure will not be overburdened.



## **THE TELECOMMUNICATIONS ACT OF 1996 - THE TCA**

The Federal TCA provides that: 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 U.S.C. §332(c)(7)(B)(i); local government or planning or zoning boards may not unreasonably discriminate among providers of functionally equivalent services, see 47 U.S.C. §332(c)(7)(B)(i); health concerns may not be considered so long as the emissions comply with the applicable standards of the FCC, see 47 U.S.C. §332(c)(7)(B)(iv); and, decisions must be rendered within a reasonable period of time, see 47 U.S.C. §332(c)(7)(B)(ii) and the FCC's Declaratory Ruling commonly referred to as the "Shot Clock".

## **CONCLUSION**

DISH is committed to working cooperatively with the City of Cambridge, and all jurisdictions around the country, to secure expeditious approval of requests to install personal wireless service facilities. We respectfully request that the Board review DISH's proposed Facility and determine that the installation does not "substantially change the physical dimensions of the Base Station" pursuant to Section 6409 of the Spectrum Act, or in the alternative, to the extent necessary, grant a special permit pursuant to: Article 4, Section 4.32.g.1; Article 4, Section 4.40 (Footnote 49); and Article 10, Section 10.40 of the City of Cambridge Zoning Ordinance; Massachusetts General Laws, Ch 40A, Section 9; the TCA, all rights reserved.

DISH respectfully requests that the Board approve this Eligible Facilities Request, or in the alternative, all rights reserved, a Special Permit. Please do not hesitate to contact me should there be any questions.

Respectfully,

**BROWN RUDNICK LLP**

*Michael R. Dolan (jd)*  
Michael R. Dolan, Esq.



Cambridge Board of Zoning Appeal  
August 18, 2022  
Page 8

### ATTACHMENTS

1. Application Form
2. Letter of Authorization – Notarized Owner Information Form
3. FCC Licenses
4. Block Map
5. Photographs
6. Plans
7. MPE Study
8. FCC Regulations
9. FCC Public Notice
10. RF Affidavit and Coverage Maps



## **47 USC 1455**

### **Middle Class Tax Relief and Job Creation Act of 2012**

#### **SEC. 6409. WIRELESS FACILITIES DEPLOYMENT**

##### **(a) FACILITY MODIFICATION.—**

(1) **IN GENERAL.**—Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.

(2) **ELIGIBLE FACILITIES REQUEST.**—For purposes this subsection, the term “eligible facilities request” means any request for modification of an existing wireless tower or base station that involves –

- (A) collocation of new transmission equipment;
- (B) removal of transmission equipment; or
- (C) replacement of transmission equipment.

(3) **APPLICABILITY OF ENVIRONMENTAL LAWS.** Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.





## **ADDENDUM "A"**

**The Regulations provide that “substantial change” means a modification that changes the physical dimensions of an eligible support structure that meets any of the following criteria. Included below are comments in bold to demonstrate that the proposed facility is NOT a substantial change.**

For Base Stations, the modification increases the height of the structure by more than 10% or more than ten (10) feet, whichever is greater;

**As depicted on the Plans, DISH’s proposed equipment will not increase the height of the Building.**

For Base Stations, the modification involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six (6) feet;

**As depicted on the Plans, DISH’s Transmission Equipment will not protrude from the edge of the Building more six (6) feet.**

For any eligible support structure, the modification involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets;

**As depicted on the Plans, DISH will install two (2) cabinets as a part of this project.**

The modification entails any excavation or deployment outside the current site;

**DISH does not propose any excavation or deployment outside the current site.**

The modification would defeat the concealment elements of the tower; or

**As depicted on the Plans, DISH’s modification will be substantially similar to the existing transmission equipment on the Building and will be painted to match.**

The modification does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in § 1.40001(b)(7)(i) through (iv).

**DISH is not aware of any noncompliance and respectfully asserts that the proposed modifications are consistent with all applicable terms of prior approvals for the wireless facility (see copies of special permits attached).**

**RADIO FREQUENCY EMISSIONS ANALYSIS REPORT  
EVALUATION OF HUMAN EXPOSURE POTENTIAL  
TO NON-IONIZING EMISSIONS**

**Dish Wireless Proposed Facility**

**Site ID: BOBOS00431B**

**BOBOS00431B  
141 Portland Street  
Cambridge, Massachusetts 02139**

**August 15, 2022**

**EBI Project Number: 6222004618**

| Site Compliance Summary   |                  |
|---|------------------|
| Compliance Status:  | <b>COMPLIANT</b> |
| Site total MPE% of<br>FCC general<br>population allowable limit<br>(Ground Level)           | <b>0.09%</b>     |
| Site total MPE% of<br>FCC general<br>population allowable limit<br>(10' Above Ground Level) | <b>0.12%</b>     |
| Site total MPE% of<br>FCC general<br>population allowable limit<br>(Top Floor of Building)  | <b>0.93%</b>     |

**Prepared for: Dish Wireless**



August 15, 2022

Dish Wireless

## Emissions Analysis for Site: BOBOS00431B

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **141 Portland Street in Cambridge, Massachusetts** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna installation located on this property are within specified federal limits at three (3) specified locations:

1. Ground Level
2. 10' above ground level
3. Top occupied floor of the building

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The number of  $\mu\text{W}/\text{cm}^2$  calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately  $400 \mu\text{W}/\text{cm}^2$  and  $467 \mu\text{W}/\text{cm}^2$ , respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is  $1000 \mu\text{W}/\text{cm}^2$ . Because



each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

## CALCULATIONS

Calculations were done for the proposed Dish Wireless antenna facility located at **141 Portland Street in Cambridge, Massachusetts** using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon.

EBI has utilized RoofMaster™ software to estimate the worst-case power density at the site's nearby broadcast levels resulting from operation of the antennas. RoofMaster™ is a widely-used predictive modeling program that has been developed by Waterford Consultants to predict RF power density values for rooftop and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. Using the computational methods set forth in Federal Communications Commission (FCC) Office of Engineering & Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" (OET-65), RoofMaster™ calculates predicted power density in a scalable grid based on the contributions of all RF sources characterized in the study scenario. At each grid location, the cumulative power density is expressed as a percentage of the FCC limits. Manufacturer antenna pattern data is utilized in these calculations. RoofMaster™ models consist of the Far Field model as specified in OET-65 and an implementation of the OET-65 Cylindrical Model (Sula9). The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

For all calculations, all equipment was calculated using the following assumptions:





- 1) 4 n71 channels (600 MHz Band) were considered for each of the two antennas in each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 4 n70 channels (PCS Band - 2007 MHz) were considered for each of the two antennas in each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 4 n66 channels (AWS Band - 2100 MHz) were considered for each of the two antennas in each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 5) A conservative roof attenuation factor of 10 dB, in which a radiofrequency signal is reduced by a factor of 10 due to intervening roof building materials, was also included. For purposes of this analysis, it is assumed that the roof building material is comprised of a poured concrete and steel underlayment with a rubber fabric roof membrane.
- 6) The antennas used in this modeling are two JMA MX08FRO665-21 antennas for the 600 MHz / 2007 MHz / 2100 MHz channels in Sector A, two JMA MX08FRO665-21 antennas for the 600 MHz / 2007 MHz / 2100 MHz channels in Sector B, two JMA MX08FRO665-21 antennas for the 600 MHz / 2007 MHz / 2100 MHz channels in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below.
- 7) The antenna mounting height centerline of the proposed antennas is 133 feet above ground level (AGL).
- 8) Predicted Emissions from additional carriers were included based upon assumed powers/frequencies.
- 9) All calculations were done with respect to uncontrolled / general population threshold limits.



## Dish Wireless Site Inventory and Power Data\*

| Sector:   | A  |  | Sector:   | B  |  | Sector:   | C  |  |
|---|--|--|---|--|--|---|--|--|
| Antenna #:                                      | 1  | 2  | Antenna #:                                      | 1  | 2  | Antenna #:                                      | 1  | 2  |
| Make / Model:                                   | JMA<br>MX08FRO665-21   | JMA<br>MX08FRO665-21   | Make / Model:                                   | JMA<br>MX08FRO665-21   | JMA<br>MX08FRO665-21   | Make / Model:                                   | JMA<br>MX08FRO665-21   | JMA<br>MX08FRO665-21   |
| Frequency Bands:                                | 600 MHz / 2007<br>MHz / 2100 MHz                                       | 600 MHz / 2007<br>MHz / 2100 MHz                                       | Frequency Bands:                                | 600 MHz / 2007<br>MHz / 2100 MHz                                       | 600 MHz / 2007<br>MHz / 2100 MHz                                       | Frequency Bands:                                | 600 MHz / 2007<br>MHz / 2100 MHz                                       | 600 MHz / 2007<br>MHz / 2100 MHz                                       |
| Gain:   | 11.35 dBd / 16.05<br>dBd / 16.75 dBd                                   | 11.35 dBd / 16.05<br>dBd / 16.75 dBd                                   | Gain:   | 11.35 dBd / 16.05<br>dBd / 16.75 dBd                                   | 11.35 dBd / 16.05<br>dBd / 16.75 dBd                                   | Gain:   | 11.35 dBd / 16.05<br>dBd / 16.75 dBd                                   | 11.35 dBd / 16.05<br>dBd / 16.75 dBd                                   |
| Height (AGL):                                   | 133 feet   | 133 feet   | Height (AGL):                                   | 133 feet   | 133 feet   | Height (AGL):                                   | 133 feet   | 133 feet   |
| Channel Count:                                  | 12   | 12   | Channel Count:                                  | 12   | 12   | Channel Count:                                  | 12   | 12   |
| ERP (W):  | 1459.42<br>(600 MHz)<br>5742.75<br>(2007 MHz)<br>6747.14<br>(2100 MHz) | 1459.42<br>(600 MHz)<br>5742.75<br>(2007 MHz)<br>6747.14<br>(2100 MHz) | ERP (W):  | 1459.42<br>(600 MHz)<br>5742.75<br>(2007 MHz)<br>6747.14<br>(2100 MHz) | 1459.42<br>(600 MHz)<br>5742.75<br>(2007 MHz)<br>6747.14<br>(2100 MHz) | ERP (W):  | 1459.42<br>(600 MHz)<br>5742.75<br>(2007 MHz)<br>6747.14<br>(2100 MHz) | 1459.42<br>(600 MHz)<br>5742.75<br>(2007 MHz)<br>6747.14<br>(2100 MHz) |
| Sector A MPE %<br>(Ground Level):               | 0.09%  | 0.09%  | Sector B MPE %<br>(Ground Level):               | 0.09%  | 0.09%  | Sector C MPE %<br>(Ground Level):               | 0.09%  | 0.09%  |
| Sector A MPE %<br>(10' above<br>Ground Level):  | 0.12%  | 0.12%  | Sector B MPE %<br>(10' above<br>Ground Level):  | 0.12%  | 0.12%  | Sector C MPE %<br>(10' above<br>Ground Level):  | 0.12%  | 0.12%  |
| Sector A MPE %<br>(Top floor of<br>Building**): | 0.93%  | 0.93%  | Sector B MPE %<br>(Top floor of<br>Building**): | 0.93%  | 0.93%  | Sector C MPE %<br>(Top floor of<br>Building**): | 0.93%  | 0.93%  |

\*All Maximum Permissible Exposure (MPE) values expressed as a percent of the FCC General Population Limit. Totals may vary by approximately 0.01% due to summation of remainders in calculations.

\*\*16' AGL: (Top occupied building level, with 10dB attenuation due to roof materials)

## Summary

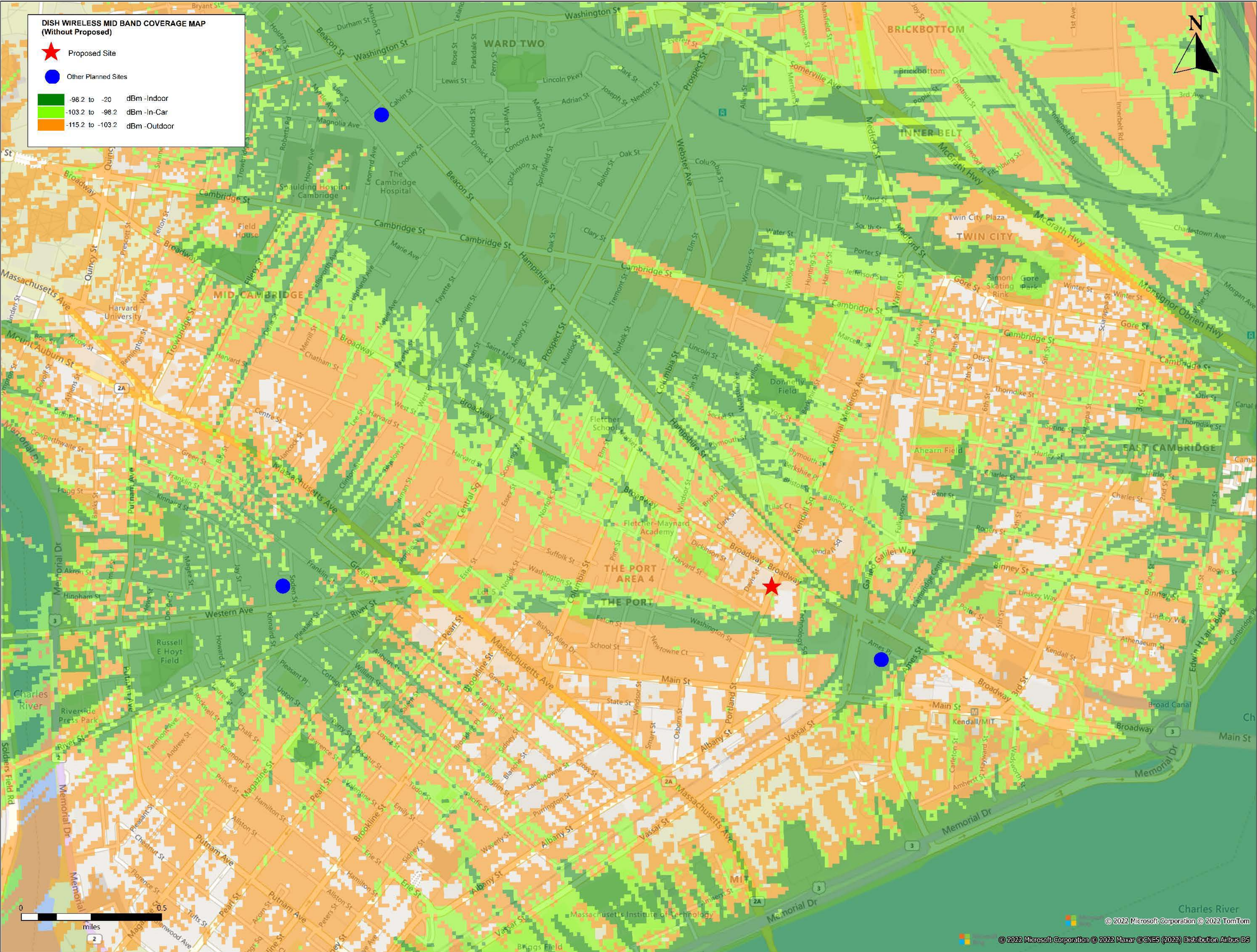
All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the Dish Wireless facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

| Dish Wireless Sector           | Power Density Value (%)<br>Ground Level | Power Density Value (%)<br>10' AGL | Power Density Value (%)<br>Top Floor of Building |
|--------------------------------|---|------------------------------------|--|
| Sector A:                      | 0.09%                                   | 0.12%                              | 0.93%  |
| Sector B:                      | 0.09%                                   | 0.12%                              | 0.93%  |
| Sector C:                      | 0.09%                                   | 0.12%                              | 0.93%  |
| Dish Wireless<br>Maximum MPE % | 0.09%                                   | 0.12%                              | 0.93%  |
|                                |   |                                    |  |
| Site Total:                    | 0.09%                                   | 0.12%                              | 0.93%  |
|                                |   |                                    |  |
| Site Compliance Status:        | <b>COMPLIANT</b>                        | <b>COMPLIANT</b>                   | <b>COMPLIANT</b>                                 |

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.









## **AFFIDAVIT OF RADIO FREQUENCY ENGINEER**

The undersigned, in support of the proposal by DISH Wireless L.L.C. to install and operate a Wireless Communications Facility on the property located at 141 Portland Street, Cambridge, Massachusetts, under penalties of perjury does hereby testify and depose as follows:

1. My name is Victorien Ndounou, I have a Master Degree in Electrical and Computer Engineering from the University of Florida and I am employed as a Radio Frequency Engineer for DISH Wireless L.L.C. I am the Radio Frequency Design Engineer responsible for the DISH Wireless network design in the area of Massachusetts that includes the City of Cambridge.
2. DISH Wireless is a national provider of wireless voice and data services in the United States.
3. The above mentioned location is within an area where DISH Wireless has identified a need to locate a Wireless Telecommunications Facility. The search area was determined by the fact that wireless service needs significant improvement in this area of Cambridge. Furthermore, it was determined that the wireless service provided by a facility in this area would connect well with those of existing and proposed facilities in the surrounding area. To date, DISH Wireless has been unable to successfully locate a wireless communications facility in this locale. A site acquisition firm was hired by DISH Wireless to identify potential sites within the search area.
4. I have personal knowledge of the proposed Wireless Telecommunications Facility to be located at 141 Portland Street in the City of Cambridge as well as the other existing and proposed Wireless Telecommunications Facility locations used in DISH Wireless' system in Cambridge and the surrounding areas. I have analyzed the potential benefits this site would represent to DISH Wireless' network and its' users through radio frequency propagation modeling. I employed computer simulations to determine network requirements, and to identify system requirements. These simulations modeled characteristics such as antenna types, antenna height, output power, terrain, ground elevations and RF propagation effects of the utilized frequencies.
5. Propagation simulation at the proposed location has determined that an antenna center-line height of no less than 133 feet above ground level at this location is mandatory to satisfy the service requirements for DISH Wireless' network. Any reduction in the proposed height and/or antenna configuration would result in coverage footprint shrinkage. This would significantly limit the site's effectiveness in connecting with surrounding sites and severely impact the level of service DISH Wireless is attempting to provide at this location. Changes to the site configuration would limit the site's ability to resolve the significant existing network requirements in the City of Cambridge.

6. I have concluded that the proposed Wireless Telecommunications Facility at 141 Portland Street fulfills the present network and quality objectives that motivated DISH Wireless to establish a search ring in this vicinity. Radio frequency propagation modeling establishes that this installation will accomplish DISH Wireless' network goals.
7. All proposed wireless communications equipment will be installed, erected, maintained and operated in compliance with all applicable Federal, State and local regulations, including, but not limited to the radio frequency emissions regulations adopted by the Federal Communications Commission (FCC). All equipment proposed is authorized by the FCC Guidelines for Evaluating the Environmental effects of Radio Frequency Emissions. The radio frequency exposure levels generated by the proposed facility are substantially within the maximum allowable health and safety standards established by the FCC.
8. Providing wireless communication services is a benefit to the residents and businesses of the City of Cambridge as well as to mobile customers travelling throughout the area. The proposed location is well suited to meet DISH Wireless' network requirements for the area due to its location and topographic characteristics. Without the proposed facility, DISH Wireless will be unable to provide reliable wireless communication services in this area of the City of Cambridge.

Signed and sworn under pains and penalties of perjury on this 8th day of July, 2022.



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Victorien Ndounou - Radio Frequency (RF) Design Engineer  
DISH Wireless L.L.C.