



CITY OF CAMBRIDGE

BOARD OF ZONING APPEAL

831 Massachusetts Avenue, Cambridge MA 02139

617-349-6100

2021 MAY 12 AM 11:14

OFFICE OF THE CITY CLERK
CAMBRIDGE, MASSACHUSETTS

BZA Application Form

BZA Number: 118920

General Information

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

Special Permit: X

Variance:

Appeal:

PETITIONER: HPT Cambridge LLC

PETITIONER'S ADDRESS: 85 Rangewav Road, North Billerica, MA 01862

LOCATION OF PROPERTY: 40 Land Blvd., Cambridge, MA

TYPE OF OCCUPANCY: Hotel

ZONING DISTRICT: PUD-2

REASON FOR PETITION:

/Telecommunication Facility (antenna)/

DESCRIPTION OF PETITIONER'S PROPOSAL:

AT&T proposes the following modifications on the existing telecommunications site; remove (2) antennas, and install (2) new antennas, (6) new Remote Radio Units, and (1) DC Only Squid. The proposed modification will not increase the height nor footprint of the existing wireless facility.

SECTIONS OF ZONING ORDINANCE CITED:

Article: 4.000	Section: 4.32.G.1 (Telecommunications Facility).
Article: 4.000	Section: 4.40 (Footnote 49) (Telecommunications Facility).
Article: 10.000	Section: 10.40 (Special Permit).
Article: 6409	Section: Middle Class Tax Relief and Job Creation Act

Original
Signature(s):

(Petitioner (s) / Owner)

Kristina Cottone AT&T Agent
(Print Name)

Address:

Tel. No. 9785518627

E-Mail Address: kristina.cottone@smartlinkgroup.com

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 HPT Cambridge LLC, a Massachusetts limited liability company
(OWNER)

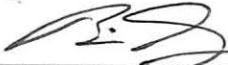
Address: Two Newton Place, 255 Washington Street, Suite 230, Newton, MA 02458

State that I/We own the property located at 40 Edwin Land Boulevard, Cambridge,
which is the subject of this zoning application.

The record title of this property is in the name of HPT Cambridge LLC,
successor by conversion to Charterhouse of Cambridge Trust u/d/t dated December 27, 1963

*Pursuant to a deed of duly recorded in the date 04/15/1969, Middlesex South
County Registry of Deeds at Book 11665, Page 330; or
Middlesex Registry District of Land Court, Certificate No. _____

Book _____ Page _____
HPT Cambridge LLC

By: 
SIGNATURE BY LAND OWNER OR
AUTHORIZED TRUSTEE, OFFICER OR AGENT*
Brian E. Donley, Treasurer and CFO

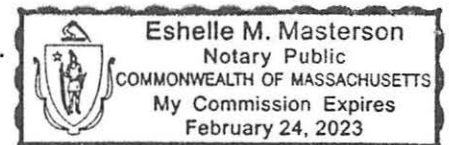
**Written evidence of Agent's standing to represent petitioner may be requested.*

Commonwealth of Massachusetts, County of Middlesex

The above-name Brian E. Donley, Treasurer & CFO personally appeared before me,
this 15th of April, 2021, and made oath that the above statement is true.

 Notary

My commission expires 2/24/23 (Notary Seal).



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

March 26, 2021

Donna P. Lopez, City Clerk City of Cambridge City Hall 795 Massachusetts Avenue Cambridge, MA 02139	Constantine Alexander, Chair Board of Zoning Appeal City Hall 795 Massachusetts Avenue Cambridge, MA 02139
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Applicant: New Cingular Wireless PCS, LLC ("AT&T")
Property Address: 40 Land Blvd
Assessor's Map 9, Lot 31 (the "Property")
Re: Application for:
(i) Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1455; or, in the alternative,
(ii) Special Permit under Cambridge Zoning Ordinance Section 4.32(g)(1) and M.G.L. c. 40A, Section 9; and
(iii) Any other zoning relief required.
(All relief if and to the extent necessary, all rights reserved)

Dear Ms. Lopez, Mr. Alexander and Members of the Board of Zoning Appeal:

Pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (a/k/a the "Spectrum Act" or "Section 6409"), 47 U.S.C. § 1455, as further implemented by the Federal Communications Commission's 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) (the "FCC Order"), New Cingular Wireless PCS, LLC ("AT&T") hereby submits this Eligible Facilities Request ("Request"); and, in the alternative, applies for a special permit from the City of Cambridge Board of Zoning Appeal (the "Board") under Section 432(g)(1) of the Cambridge Zoning Ordinance (the "Ordinance") to modify its existing "Telephone Exchange including Transmission Facilities to serve a Mobile Communication System" (the "Facility") on and within the existing building located at 40 Land Blvd. (the "Special Permit Application").²

Under Section 6409, AT&T's proposed modification of its existing transmission equipment on and within the existing building, previously approved by the Board for use as a wireless communication

² AT&T submits this Request, Special Permit application and supporting materials subject to a full and complete reservation of AT&T's rights under the Spectrum Act and the FCC Order including without limitation its rights with respect to (i) any submittal requirements or approval criteria that are inconsistent with the prohibitions established by the FCC Order, (ii) any delay beyond the deadlines established in the FCC Order, (iii) the imposition of conditions on any approval that are inconsistent with the FCC Order, and (iv) referral or requirement to a discretionary review process such as a special permit.

base station, does “not substantially change the physical dimensions” of the existing building. Therefore, AT&T’s Request must be approved administratively, including the issuance of a building permit, to enable AT&T to make the proposed modifications to its transmission equipment.

In the alternative, as demonstrated in this application letter, the AT&T’s proposed modifications to its existing Facility on the Property located in the PUD-2 & Residence C-3A zoning district satisfy the requirements for the grant of a special permit pursuant to Section 10.43 of the Ordinance.

I. APPLICATION PACKAGE

Enclosed with this application is a check payable to the City of Cambridge in the amount of \$500.00. In addition to the signed original of this letter are copies of the letter and the following materials:

1. The following completed and signed application forms:
 - a. BZA Application Form – General Information;
 - b. BZA Application Form – Ownership Information;
 - c. BZA Application Form – Dimensional Requirements;
 - d. BZA Application Form – Supporting Statement for a Special Permit; and
 - e. BZA Application Form – Check List;
2. AT&T’s relevant FCC License information;
3. Drawings by Fullerton Engineering consisting of (12) pages dated 01/12/2021;

SHEET	TITLE	REV DATE
T1	Title Sheet	01/21/2021
SP1	Notes and Specifications	01/21/2021
SP2	Notes and Specifications	01/21/2021
A1	Roof Plan	01/21/2021
A2	Equipment Plan	01/21/2021
A3	Elevations	01/21/2021
A4	Antenna Plans	01/21/2021
A5	Equipment Details	01/21/2021
A6	Antenna and Cable Configuration	01/21/2021
A7	Cable Notes and Coloring Code	01/21/2021
A8	Grounding Details	01/21/2021
A9	Plumbing Diagram	01/21/2021

4. Manufacturer's specification sheets for AT&T's proposed antennas and other featured equipment;
5. Photographs of the existing building and photosimulations of the proposed modifications Facility by Fullerton Engineering dated 08/06/2020;
6. Radio Frequency Coverage Report, demonstrating the public need for the proposed modifications to the Facility, radio frequency coverage maps showing (a) existing or predicted coverage from neighboring facilities; and (b) coverage with the proposed Facility;
7. Structural Analysis Opinion letter by Fullerton Engineering dated January 15, 2021 ;
8. Maximum Permissible Exposure Study, Theoretical Report, by Site Safe, dated July 1, 2020;
9. Deed to subject property; and
10. Attorney General's letters to the Towns of Mount Washington, Lynnfield and Montague.

II. PROPOSED FACILITY DESIGN

AT&T seeks to modify the existing Facility on and within the building located at the Property. The existing Facility consists of ten (10) panel antennas (Alpha Sector: 3 antennas, Beta Sector: 3 antennas, and Gamma Sector: 4 antennas) that are mounted in three (3) locations. The proposed modifications include the replacement of two (2) antennas at one sector. The replacement antennas will be mounted to the existing antenna mounts or new mounts located behind the existing screen wall and consistent with the current Facility's design. Two (2) remote radio-head units (RRU) will be added in close proximity to the antenna. Consistent with the concealment elements of the existing Facility's design, the new antenna and RRU will be located behind the existing screen wall and out of the public view.

The Facility's design is shown in detail in the Zoning Drawings attached as Exhibit 3 to this application letter and featured equipment is described in the manufacturers' specification sheets attached as Exhibit 4. The photographs and photosimulations (Exhibit 5) show the existing Facility from various locations in the neighborhood around the Property and as simulated with proposed modifications. A structural analysis for the Facility demonstrates that the building is capable of supporting AT&T's proposed equipment at or near the locations shown on the Zoning Drawings (*see* Exhibit 7).

The Facility will continue to bring advanced wireless voice, text and data communications services to the surrounding areas. It will allow residents, professionals, government, businesses and students to communicate locally, nationally and internationally from virtually any location within the coverage area. In the event of an emergency, the improved Facility will allow immediate contact with fire, rescue and other emergency personnel. The improved Facility will thus enhance public health,

safety and welfare both in ordinary daily living and in the event of fire, accident, medical emergency, natural disaster or other dangers.

III. BACKGROUND

AT&T is licensed by the Federal Communications Commission to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and the City of Cambridge. A copy of the AT&T's FCC license that covers the area of the proposed Facility is included with this application (*see* Exhibit 2). AT&T is in the process of designing and constructing additional wireless facilities to its existing telecommunications system to serve Massachusetts. One of the key design objectives of its systems is to provide adequate and reliable coverage. Such a system requires a grid of radio transmitting and receiving links located approximately .5 to 2 miles apart, depending on the location of existing and proposed installations in the surrounding area, the extent of use of AT&T's wireless services within the network, and the existing topography and obstructions. The radio transmitting and receiving facilities operate on a line-of-sight basis, requiring a clear path from the facility to the user on the ground. In urban settings, this dynamic requires the antennas to be located on buildings at heights and in locations where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

IV. RF COVERAGE DETERMINATION

AT&T has performed a study of radio frequency coverage for the City of Cambridge and from the Property, the results of which are described in the Radio Frequency Report submitted with this application (*see* Exhibit 6). Without the proposed modifications to its existing Facility, AT&T has a substantial coverage gap in this area of. AT&T has determined that the proposed modifications to the existing Facility located on the building at the Property will provide needed coverage to the targeted sections of the City and the immediately surrounding area if AT&T's antennas are located on the building's roof at the height and in the configuration requested. The importance of a facility at this location is underscored by AT&T's interest in enhancing its ability to provide its most up-to-date wireless technology, known as long-term evolution technology ("LTE"), in this area to satisfy its customers' ever-increasing needs for high-speed data services. Radio frequency coverage maps included in the report are provided to pictorially and vividly show the differences in existing and proposed wireless coverage at the various bands authorized for AT&T's service. The maps show dramatic improvements to wireless coverage at all three (3) bands with the inclusion of the proposed Facility, namely, at 700 and 850 MHz.

V. THE FEDERAL SPECTRUM ACT AND THE FCC ORDER

As set forth below, the proposed modifications constitute an Eligible Facilities Request pursuant to the federal Spectrum Act,³ as further implemented by the FCC Order.⁴

Under the Spectrum Act, as further clarified by the FCC Order, the streamlined process for this Eligible Facilities Request is limited to non-discretionary review. Specifically, the FCC Order “adopt[s] an objective standard for determining when a proposed modification will ‘substantially change the physical dimensions’ of an existing tower or base station.” *FCC Order*, ¶ 87. As stated in the FCC Order, Section 6409 “states without equivocation that the reviewing authority ‘may not deny, and shall approve’ any qualifying application. This directive leaves no room for a lengthy and discretionary approach to reviewing an application that meets the statutory criteria.” *FCC Order*, ¶ 116.

In issuing the FCC Order and eliminating discretionary review for eligible facilities requests, the FCC’s goal was to “adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the IAC and municipalities.” The FCC intentionally sought to reduce “flexibility” and “open ended context-specific approach” engendered by the discretionary review process:

While we acknowledge that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, we are concerned that it would invite lengthy review processes that conflict with Congress’s intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective, case-by-case approach could take even longer than their review of collocations absent Section 6409(a). We also anticipate that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC’s open-ended and context-specific approach. We find that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. We find further support for this approach in State statutes that have implemented Section 6409(a), all of which establish objective standards.

FCC Order, ¶ 88.

³ Pursuant to Section 6409(a)(2) an “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.

47 U.S.C. § 1455(a)(2).

⁴ The Order was effective on February 9, 2015, except for § 1.40001, which became effective on April 8, 2015, except for §§ 1.40001(c)(3)(i), 1.40001(c)(3)(iii), 1.140001(c)(4), and 17.4(c)(1)(vii), which became effective on May 18, 2015, after approval by the Office of Management and Budget. The FCC Order makes clear that under the Spectrum Act discretionary review is not required or permitted for an Eligible Facilities Request.

As a result, the FCC Order implementing Section 6409 establishes clear and objective criteria for determining eligibility, limits the types of information that a municipality may require when processing an application for an eligible facilities request, and imposes a “deemed granted” remedy for failure to timely process and eligible facilities request.⁵ The FCC Order also establishes significant limits on the information that can be required to be provided with an eligible facilities request and limits it to only that information “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”. 47 CFR 1.40001(c)(1).

Both before and after the FCC Order was issued, the Massachusetts Attorney General’s Office provided clear guidance that an eligible request cannot be subjected to a discretionary special permit process. *See* Attorney General’s letters to (i) Town of Mount Washington, dated June 12, 2014, p. 3 (ii) Town of Lynnfield, dated February 10, 2015, p. 3 (the “AG Lynnfield Letter”) and (iii) Town of Montague, dated February 23, 2015, p. 2 (all attached hereto). As set forth in each letter [t]he Act’s requirement that a local government ‘may not deny, and shall approve, any eligible facilities request’ means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. ***Such qualifying requests also cannot be subject to a discretionary special permit.***”(Emphasis added). In providing these opinions, the Attorney General’s Office specifically opined that provisions in zoning ordinances that specifically required a special permit for modifications to existing facilities could not be applied to eligible facilities requests. While approving the Town of Lynnfield’s Zoning Bylaw, the Attorney General stated that “Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act.” *AG Lynnfield Letter*, p. 3.

Therefore, as set forth in the FCC Order and Attorney General’s opinion letters, the City cannot impose a requirement that AT&T obtain a special permit, or an amendment to an existing special permit utilizing the same discretionary review process, in connection with its eligible facilities request. To the extent that the City of Cambridge’s Zoning Ordinance and any prior decisions by the Board include provisions seeking to further regulate the modification of wireless communication facilities, federal law overrules those requirements. *See Sprint Spectrum L.P. v. Town of Swansea*, 574 F.Supp.2d 227, 236 (2008) (Board is obligated to consider whether its actions would violate federal law even if a different outcome would be permitted under state law). The standard of review for an application to modify an existing wireless communication facility on an existing tower or base station is governed by the Spectrum Act and the FCC Order which require eligible facilities requests to be permitted “by right.”

In addition, the FCC Order establishes a 60-day period for approval from the time of AT&T’s submission. 47 CFR §1.40001(c)(2). Within the context of the Spectrum Act and FCC Order, approval means all necessary approvals to permit the proposed modifications, including the issuance of a building permit, if required. The FCC found that this 60-day period is

⁵ *See* 47 CFR §§1.40001(c)(1) - (c)(4).

appropriate due to “the more restricted scope of review applicable to applications under section 6409(a).” *FCC Order*, ¶ 108. If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4).

As set forth below, the proposed modifications constitute an eligible facilities request. Therefore, AT&T respectfully requests the Board to find that Section 4.32(g)(1) of the Ordinance does not apply to its Request.

VI. THE PROPOSED MODIFICATIONS ARE AN ELIGIBLE FACILITIES REQUEST

Under Section 6409 and the FCC Order, a “base station” means “[a] structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network.” 47 C.F.R. §1.40001(b)(1). A Base Station includes “any structure other than a tower” that supports or houses “authorized wireless communications between user equipment and a communications network.” 47 C.F.R. §1.40001(b)(1). Therefore, the existing building that is currently used for FCC-licensed transmissions for personal wireless services is a “base station” for purposes of Section 6409.

AT&T proposes to modify its existing Facility as described above and depicted on the Plans submitted herewith.

The proposed modifications will not require the installation of any part of the facility on the ground outside of the building.

As a result, AT&T’s proposed modifications involving the removal and replacement of the existing transmission equipment constitute an “eligible facilities request” under Section 6409. The proposed eligible facilities request is not a “substantial modification” under Section 6409 and the FCC Order because it does not:

- (i) Result in an increase in “the height of the structure by more than 10% or more than ten feet, whichever is greater” because the proposed replacement antennas will either be mounted and located below the screen wall or utilize the existing equipment mounting frame that and therefore will not exceed 10 feet above the existing building;
- (ii) Protrude from the edge of the edge of the building by more than six feet because AT&T’s proposed antennas will not protrude more than six feet from building façade;
- (iii) Involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets no new radio communications equipment cabinets will be installed;
- (iv) Require any excavation or deployment outside the current site of the tower or base station because all antennas, equipment cabinets and related equipment will be installed entirely on and within the existing building; or

- (v) Otherwise defeat the existing concealment elements of the tower or base station because the proposed replacement antennas will be located behind the existing screen wall or utilize the existing mounting frame and will continue to integrate the Facility into the existing architecture of the building. . Therefore, AT&T's proposed Facility will remain aesthetically consistent with the exterior finish of the building as well as maintain the concealment elements of the original design.

See FCC Order, §1.40001(b)(7)(i)-(v).

VII. COMPLIANCE WITH THE CAMBRIDGE ZONING ORDINANCE

In the alternative, AT&T respectfully requests the Board to grant a special permit for the proposed modifications to the existing Facility.⁶

A. AT&T complies with the Wireless Communications provisions set forth in Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance.

AT&T's proposed modifications comply with Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance as follows:⁷

Section 4.32(g)(1): Section 4.32(g)(1) of the Ordinance allows for the use of a “[t]elephone exchange (including switching, relay, and transmission facilities serving mobile communications systems) and any towers or antennas accessory thereto.” Under the Table of Use Regulations beginning at Section 4.30, AT&T's proposed use of the Facility as a transmission facility serving a mobile communications system is permitted by special permit in the PUD-2 & Residence C-3A zoning district (see the table at Section 4.32(g)(1)).

Section 4.40, Footnote 49: Section 4.32(g)(1) includes a reference to Section 4.40, Footnote 49 which sets out the standards for granting the special permit. AT&T's proposed Facility complies with Footnote 49's standards as noted below:

1. **The Board of Zoning Appeal shall consider “[t]he scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.”**

⁶ AT&T's request is made, if and to the extent necessary, all rights reserved. As discussed above, the FCC Order establishes a 60-day period for receipt of all necessary approvals from the time of AT&T's submission, including a building permit, if required. 47 CFR §1.40001(c)(2). If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4). Therefore, AT&T expressly reserves its rights under 47 CFR §1.40001(c)(2) and (4).

⁷ To the extent that Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance purport to require the submission of information that is beyond the scope permitted by the FCC Order or Spectrum Act, AT&T expressly reserves, and does not waive, its right to assert that such information is not required under the Spectrum Act and the submission of such information shall not constitute a waiver of AT&T's rights pursuant thereto.

AT&T's Response: AT&T's FCC license is included with this application and the license information included shows that AT&T is authorized to provide wireless service in the area served by the Facility (*see* Exhibit 2).

2. **The Board of Zoning Appeal shall consider “[t]he extent to which the visual impact of the various elements of the proposed facility is minimized: (1) through the use of existing mechanical elements on the building’s roof or other features of the building as support and background, (2) through the use in materials that in texture and color blend with the materials to which the facilities are attached, or (3) other effective means to reduce the visual impact of the facility on the site.”**

AT&T's Response: The design of the overall Facility, including the choice and placement of replacement antennas and associated equipment, behind the existing screen wall or utilizing the existing mounting frame, minimizes the visual impact of the proposed Facility. This is because the any visible antennas and equipment will be minimally visible and consistent with the elements of the existing Facility. The minimal visual impact of the Facility is shown in the photographs of the existing Facility and the photosimulations that superimpose the proposed modifications to the existing Facility (*see*, Exhibit 5).

3. **The Board of Zoning Appeal shall consider “[w]here it is proposed to erect such a facility in any residential zoning district, the extent to which there is a demonstrated public need for the facility at the proposed locations, the existence of alternative, functionally suitable sites in nonresidential locations, the character of the prevailing uses in the area, and the prevalence of other existing mechanical systems and equipment carried on or above the roof of nearby structures. The Board of Zoning Appeal shall grant a special permit to erect such a facility in a residential zoning district only upon finding that nonresidential uses predominate in the vicinity of the proposed facility’s location and that the telecommunications facility is not inconsistent with the character that does prevail in the surrounding neighborhood.**

In granting a special permit the Board of Zoning Appeal shall set forth in its decision under which circumstances or procedures, if any, the permittee shall be allowed to replace and upgrade its equipment without the necessity of seeking a new special permit.”

AT&T's Response: As demonstrated by the Radio Frequency Report and the associated coverage maps, AT&T has demonstrated an immediate and compelling need for the proposed modifications to its existing Facility located at the Property in order to provide substantially improved indoor coverage to residents, businesses, students and faculty, and the general public in that area.⁸ AT&T also seeks to substantially improve its ability to satisfy the ever-increasing need of its customers for data accessibility, navigation and use. This is especially critical in and around the area Sherman Street which also serves as home for numerous businesses. AT&T proposes to satisfy its RF coverage needs in the area by adding to the existing Facility the antennas and equipment necessary to provide the

⁸ AT&T must generate a signal strength of at least -74 dBm to provide serviceable voice and data coverage on its mobile wireless devices in indoor environments. AT&T also seeks to substantially improve its data navigation service coverage in the area by including antennas and equipment that will provide LTE service.

latest LTE wireless communications service technology. Further, by modifying its existing Facility, and obviating the need to construct an entirely new facility within this area of Cambridge in order to meet its wireless network coverage needs, AT&T's proposed modifications to its existing Facility are consistent with the existing use and character of the neighborhood.

As provided in Footnote 49, AT&T requests that once permission is received from the City to site the Facility at the Property, the Board permit AT&T to replace and upgrade the equipment at this Facility in the future without further zoning proceedings or a new special permit, provided that such equipment shall meet the eligible facilities request criteria set forth in 47 CFR § 1.40001.

B. AT&T complies with the Special Permit Criteria set forth in Section 10.43 of the Ordinance.

Section 10.43 of the Ordinance specifies the following criteria for issuance of a special permit: "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) The requirements of this Ordinance cannot or will not be met, or

AT&T's Response: As provided above, AT&T's proposed modifications comply with the requirements set forth in Section 4.32(g), Footnote 49 of the Ordinance, the Spectrum Act and the eligible facilities request criteria set forth in 47 CFR § 1.40001. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(b) Traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character for the following reasons, or

AT&T's Response: The proposed modifications to AT&T's existing Facility will not result in any change to the existing traffic on or near the Property. The Facility will continue to be unmanned and only require infrequent visits by a technician (typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency), there will be no material increase in traffic or disruption to patterns of access or egress that will cause congestion, hazards or a substantial change in the established neighborhood character. AT&T's maintenance personnel will make use of the existing access roads and parking at the building. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(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

AT&T's Response: As described above and illustrated on the attached photographs and photosimulations (*see* Exhibit 5) the proposed modifications to the existing Facility will result in a *de minimis* change in the appearance of the building. As a result, the Facility as a whole either will be hidden from view or will visually blend with existing characteristics of the building and the surrounding neighborhood. Because the proposed installation will not generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, it will not adversely affect residential uses on neighboring streets. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communications services. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(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

AT&T's Response: Because the proposed modifications to the existing Facility will not cause the Facility to generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, no nuisance or hazard will be created to the detriment of the health, safety, or welfare of the occupants of the building or the residents of the City of Cambridge. To the contrary, the proposed Facility will benefit the City and promote the safety and welfare of its residents, businesses and drivers by providing reliable state-of-the-art digital wireless voice and data services that will improve the reliability of emergency communications with the police and fire departments by eliminating dropped or blocked calls due to inadequate signal strength or insufficient network capacity to handle call volume, particularly important during emergency situations. The Facility, as modified, will continue to comply with all federal, state and local safety requirements including the standards established by the FCC and Federal Aviation Administration (FAA). (*See* Exhibit 8 Maximum Permissible Exposure Study, Theoretical Report). Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(e) For other reasons, the proposed installation would impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this Ordinance, or

AT&T's Response: The purpose of the Ordinance is multifaceted, the relevant aspects of which relating to wireless telecommunications facilities include the lessening of congestion in the streets, conserving health, securing safety from fire, flood, panic and other danger, conserving the value of land and buildings and natural resources, preventing blight and pollution, encouraging the most rational use of land throughout the city, including encouraging appropriate economic development, and protecting residential neighborhoods from incompatible activities.

As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-

art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the Property, the visual impact on the underlying and adjacent zoning districts will be *de minimis*. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying PUD-2 & Residence C-3A district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: As stated in the Section 19.30, the Citywide Urban Design Objectives ("Objectives") "are intended to provide guidance to property owners and the general public as to the city's policies with regard to the form and character desirable for new development in the city. It is understood that application of these principles can vary with the context of specific building proposals in ways that, nevertheless, fully respect the policies' intent. It is intended that proponents of projects, and city staff, the Planning Board and the general public, where public review or approval is required, should be open to creative variations from the detailed provisions presented in this Section as long as the core values expressed are being served. *A project need not meet all the objectives of this Section 19.30 where this Section serves as the basis for issuance of a special permit. Rather the permit granting authority shall find that on balance the objectives of the city are being served.* Nor shall a project subject to special permit review be required to conform to the Required Building and Site Plan Requirements set forth in Section 11.50." [emphasis added]. For the reasons stated in AT&T's response to this Section 10.43(f) of the Zoning Ordinance and in its application generally, "on balance, the objectives of the city are being served" by the installation of the Facility at the Property so that granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

The following are the Objectives' headings as appearing in the Ordinance:

19.31: New projects should be responsive to the existing or anticipated pattern of development.

AT&T's Response: The existing Facility is located on and within the existing building, some of the equipment of which is hidden from view behind the screen wall and within the building, or otherwise obstructed from view, and the remaining equipment utilizes the existing antenna mounting frame and blends with the structures and colors of the building to the extent feasible. The proposed modifications to the existing Facility are consistent with the previously approved design and concealment elements of the existing Facility. Therefore, the proposed modifications are

responsive to the existing pattern of development in the Property's applicable zoning and overlay districts.

19.32: Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.

AT&T's Response: The existing Facility is located on and within the existing building. The Facility is only accessed by authorized AT&T personnel for routine maintenance one to two times per month and is not accessed by the general public. The proposed modifications to the existing Facility will not result in any increase in routine visits nor otherwise result in a change in traffic patterns in the vicinity of the Property that would affect pedestrian flow or cyclists' access to the building or surrounding areas within the Property's applicable zoning districts.

19.33 The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include⁹

(1) Mechanical equipment that is carefully designed, well organized or visually screened from its surroundings and is acoustically buffered from neighbors. Consideration is given to the size, complexity and appearance of the equipment, its proximity to residential areas, and its impact on the existing streetscape and skyline. The extent to which screening can bring order, lessen negative visual impacts, and enhance the overall appearance of the equipment should be taken into account. More specifically:

(a) Reasonable attempts have been made to avoid exposing rooftop mechanical equipment to public view from city streets. Among the techniques that might be considered are the inclusion of screens or a parapet around the roof of the building to shield low ducts and other equipment on the roof from view.

(b) Treatment of the mechanical equipment (including design and massing of screening devices as well as exposed mechanical elements) that relates well to the overall design, massing, scale and character of the building.

(c) Placement of mechanical equipment at locations on the site other than on the rooftop (such as in the basement), which reduces the bulk of elements located on the roof; however, at-grade locations external to the building should not be viewed as desirable alternatives.

(d) Tall elements, such as chimneys and air exhaust stacks, which are typically carried above screening devices for functioning reasons, are carefully designed as features of the building, thus creating interest on the skyline.

⁹ Inasmuch as Section 19.33 is most relevant to the Facility, it is stated here in full.

(e) All aspects of the mechanical equipment have been designed with attention to their visual impact on adjacent areas, particularly with regard to residential neighborhoods and views and vistas.

AT&T's Response: As shown in the photosimulations (*see* Exhibit 5), the existing Facility, as proposed to be modified herein, will continue to be visually consistent with the color and texture of the building, the concealment elements of the design of the Facility, and with other existing wireless communications facilities from competing carriers located on the building. As a result, AT&T's Facility is in keeping with the building's existing features without adversely affecting the building's overall design, massing, scale or character.

(2) Trash that is handled to avoid impacts (noise, odor, and visual quality) on neighbors, e.g. the use of trash compactors or containment of all trash storage and handling within a building is encouraged.

AT&T's Response: The Facility does not generate trash, therefore this design objective is inapplicable.

(3) Loading docks that are located and designed to minimize impacts (visual and operational) on neighbors.

AT&T's Response: The Facility does not utilize any loading dock, therefore this design objective is inapplicable.

(4) Stormwater Best Management Practices and other measures to minimize runoff and improve water quality are implemented.

AT&T's Response: The existing Facility, and the proposed modifications, are located entirely on and within the existing Building on the Property and have no effect on stormwater runoff, therefore this design objective is inapplicable.

(5) Landscaped areas and required Green Area Open Space, in addition to serving as visual amenities, are employed to reduce the rate and volume of stormwater runoff compared to pre-development conditions.

AT&T's Response: The existing Facility and proposed modifications have no effect any landscaped or Green Area Open Space, therefore this design objective is inapplicable.

(6) The structure is designed and sited to minimize shadow impacts on neighboring lots, especially shadows that would have a significant impact on the use and enjoyment of adjacent open space and shadows that might impact the operation of a Registered Solar Energy System as defined in Section 22.60 of this Zoning Ordinance.

AT&T's Response: The existing Facility and proposed modifications are designed so as not to cause shadows on neighboring lots.

(7) Changes in grade across the lot are designed in ways that minimize the need for structural retaining walls close to property lines.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and have no impact on the grade of the Property, therefore this design objective is inapplicable.

(8) Building scale and wall treatment, including the provision of windows, are sensitive to existing residential uses on adjacent lots.

AT&T's Response: The proposed modifications to the existing Facility will not change the building's scale because antennas and equipment will be mounted behind the existing screen wall or on an existing antenna mounting frame already located on the building (*see* Exhibit 3). The existing Facility and proposed modifications are consistent with characteristics of the existing building design, maintain the existing concealment elements of the Facility and therefore minimize any visual impact from the Facility.

(9) Outdoor lighting is designed to provide minimum lighting and necessary to ensure adequate safety, night vision, and comfort, while minimizing light pollution.

AT&T's Response: The existing Facility does not use any outdoor lighting. The proposed modifications to the Facility do not include any additional lighting of the Facility or building. As a result, this design objective is inapplicable.

(10) The creation of a Tree Protection Plan that identifies important trees on the site, encourages their protection, or provides for adequate replacement of trees lost to development on the site.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and have no effect on any trees on the Property, therefore this design objective is inapplicable.

19.34: Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.

AT&T's Response: The existing Facility, including the proposed modifications, is a passive use and will not generate trash, odor, excess noise, or utilize water or wastewater services. As such, it will not burden the City's infrastructure services.

19.35: New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.

AT&T's Response: The proposed modification of the existing Facility located on and within the existing building, will obviate the need for AT&T to construct an additional Facility to address its wireless network coverage need in this area of Cambridge. The existing Facility and the proposed modifications blend the equipment with the building texture and color, and are consistent with the concealment elements of the Facility's design. As a result, the Facility will reinforce the existing Cambridge landscape as it currently is manifested at the Property.

19.36: Expansion of the inventory of housing in the city is encouraged.

AT&T's Response: The Facility and proposed modifications provide wireless services and will not adversely impact the City's housing inventory.

19.37. Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.

AT&T's Response: The Facility and proposed modifications are located on and within the existing building. The Facility and proposed modifications will not adversely impact or otherwise reduce open space amenities within the City.

VIII. SUMMARY

For the foregoing reasons AT&T respectfully requests that the Board to determine that pursuant to the Spectrum Act and the FCC Order, the Request constitutes and eligible facilities request and therefore AT&T's Request must be approved administratively, including the issuance of a building permit, without the need for further relief from the Board. In the alternative, without waiving its rights, AT&T requests the Board grant the foregoing zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the modification and operation of AT&T's proposed Facility.

Best Regards,

Kristina Cottone

Authorized Agent to New Cingular Wireless PCS, LLC ("AT&T")

cc: Jonathan T. Elder, Esq.

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 40 Land Blvd., 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:

As provided above, AT&T's proposed modifications comply with the requirements set forth in Section 4.32(g), Footnote 49 of the Ordinance, the Spectrum Act and the eligible facilities request criteria set forth in 47 CFR § 1.40001. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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:

The proposed modifications to AT&T's existing Facility will not result in any change to the existing traffic on or near the Property. The Facility will continue to be unmanned and only require infrequent visits by a technician (typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency), there will be no material increase in traffic or disruption to patterns of access or egress that will cause congestion, hazards or a substantial change in the established neighborhood character. AT&T's maintenance personnel will make use of the existing access roads and parking at the building. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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:

As described above and illustrated on the attached photographs and photosimulations (see Exhibit 5) the proposed modifications to the existing Facility will result in a de minimis change in the appearance of the building. As a result, the Facility as a whole either will be hidden from view or will visually blend with existing characteristics of the building and the surrounding neighborhood. Because the proposed installation will not generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, it will not adversely affect residential uses on neighboring streets. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communications services. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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:

Because the proposed modifications to the existing Facility will not cause

the Facility to generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, no nuisance or hazard will be created to the detriment of the health, safety, or welfare of the occupants of the building or the residents of the City of Cambridge. To the contrary, the proposed Facility will benefit the City and promote the safety and welfare of its residents, businesses and drivers by providing reliable state-of-the-art digital wireless voice and data

services that will improve the reliability of emergency communications with the police and fire departments by eliminating dropped or blocked calls due to inadequate signal strength or insufficient network capacity to handle call volume, particularly important during emergency situations. The Facility, as modified, will continue to comply with all federal, state and local safety requirements including the standards established by the FCC and Federal Aviation Administration (FAA). (See Exhibit 8 Maximum Permissible Exposure Study, Theoretical Report). Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

- 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 purpose of the Ordinance is multifaceted, the relevant aspects of which relating to wireless telecommunications facilities include the lessening of congestion in the streets, conserving health, securing safety from fire, flood, panic and other danger, conserving the value of land and buildings and natural resources, preventing blight and pollution, encouraging the most rational use of land throughout the city, including encouraging appropriate economic development, and protecting residential neighborhoods from incompatible activities. As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the Property, the visual impact on the underlying and adjacent zoning districts will be de minimis. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying PUD-2 & Residence C-3A district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

***If you have any questions as to whether you can establish all of the applicable legal requirements, you should consult with an attorney.**

BZA Application Form**DIMENSIONAL INFORMATION****Applicant:** HPT Cambridge LLC**Present Use/Occupancy:** Hotel**Location:** 85 Rangeway Road**Zone:** PUD-2**Phone:** 9785518627**Requested Use/Occupancy:** Hotel

	<u>Existing Conditions</u>	<u>Requested Conditions</u>	<u>Ordinance Requirements</u>	
<u>TOTAL GROSS FLOOR AREA:</u>	N/A	N/A	N/A	(max.)
<u>LOT AREA:</u>	N/A	N/A	N/A	(min.)
<u>RATIO OF GROSS FLOOR AREA TO LOT AREA: ²</u>	N/A	N/A	N/A	
<u>LOT AREA OF EACH DWELLING UNIT</u>	N/A	N/A	N/A	
<u>SIZE OF LOT:</u>				
WIDTH	N/A	N/A	N/A	
DEPTH	N/A	N/A	N/A	
<u>SETBACKS IN FEET:</u>				
FRONT	N/A	N/A	N/A	
REAR	N/A	N/A	N/A	
LEFT SIDE	N/A	N/A	N/A	
RIGHT SIDE	N/A	N/A	N/A	
<u>SIZE OF BUILDING:</u>				
HEIGHT	N/A	N/A	N/A	
WIDTH	N/A	N/A	N/A	
<u>RATIO OF USABLE OPEN SPACE TO LOT AREA:</u>	N/A	N/A	N/A	
<u>NO. OF DWELLING UNITS:</u>	N/A	N/A	N/A	
<u>NO. OF PARKING SPACES:</u>	N/A	N/A	N/A	
<u>NO. OF LOADING AREAS:</u>	N/A	N/A	N/A	
<u>DISTANCE TO NEAREST BLDG. ON SAME LOT</u>	N/A	N/A	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.

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'.

Rethink Possible

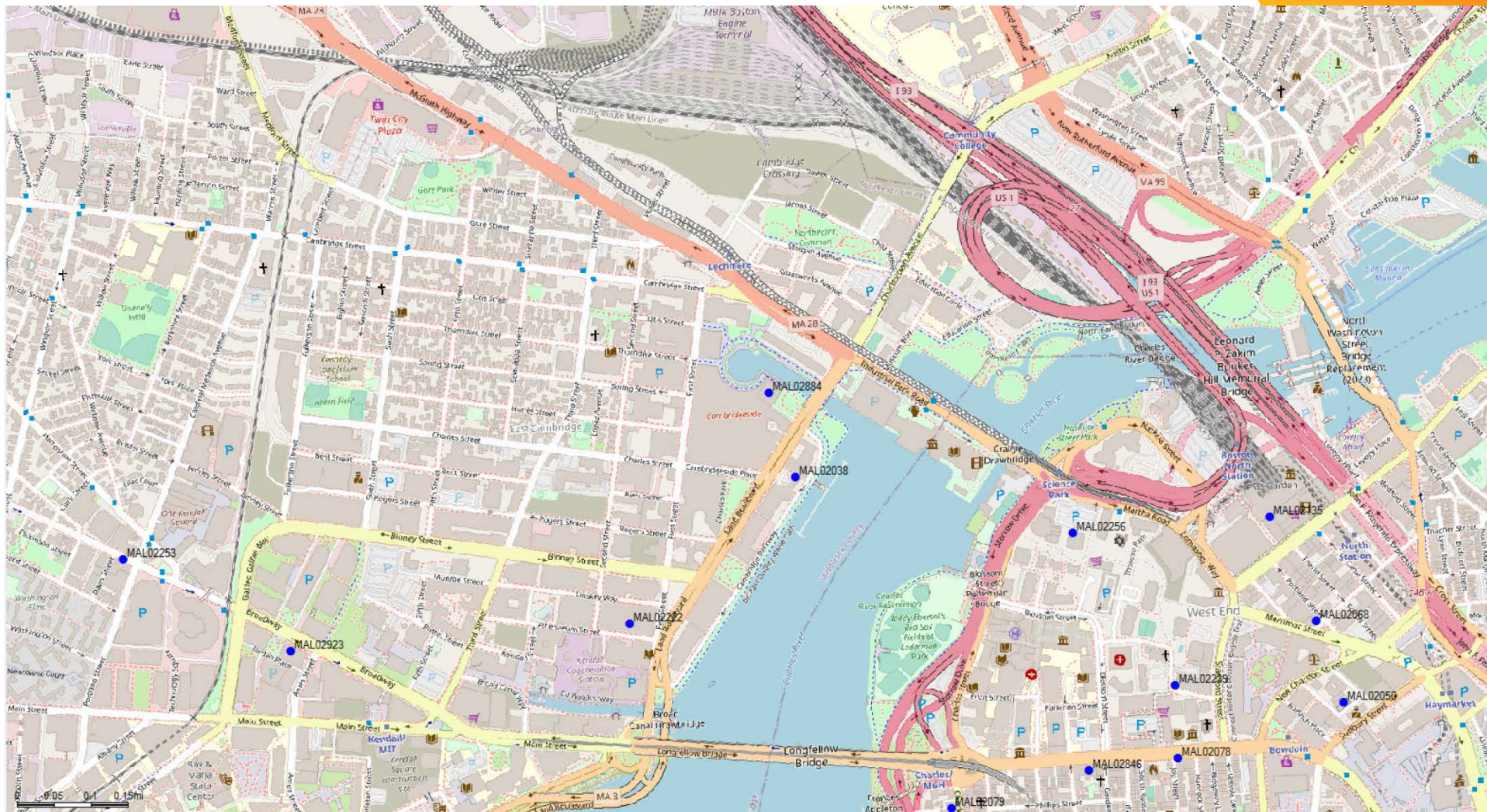


MAL02038 CoveragePlots

- Zoning 850 5G, LTE 700 Band 14, LTE 700 DE Band Plots



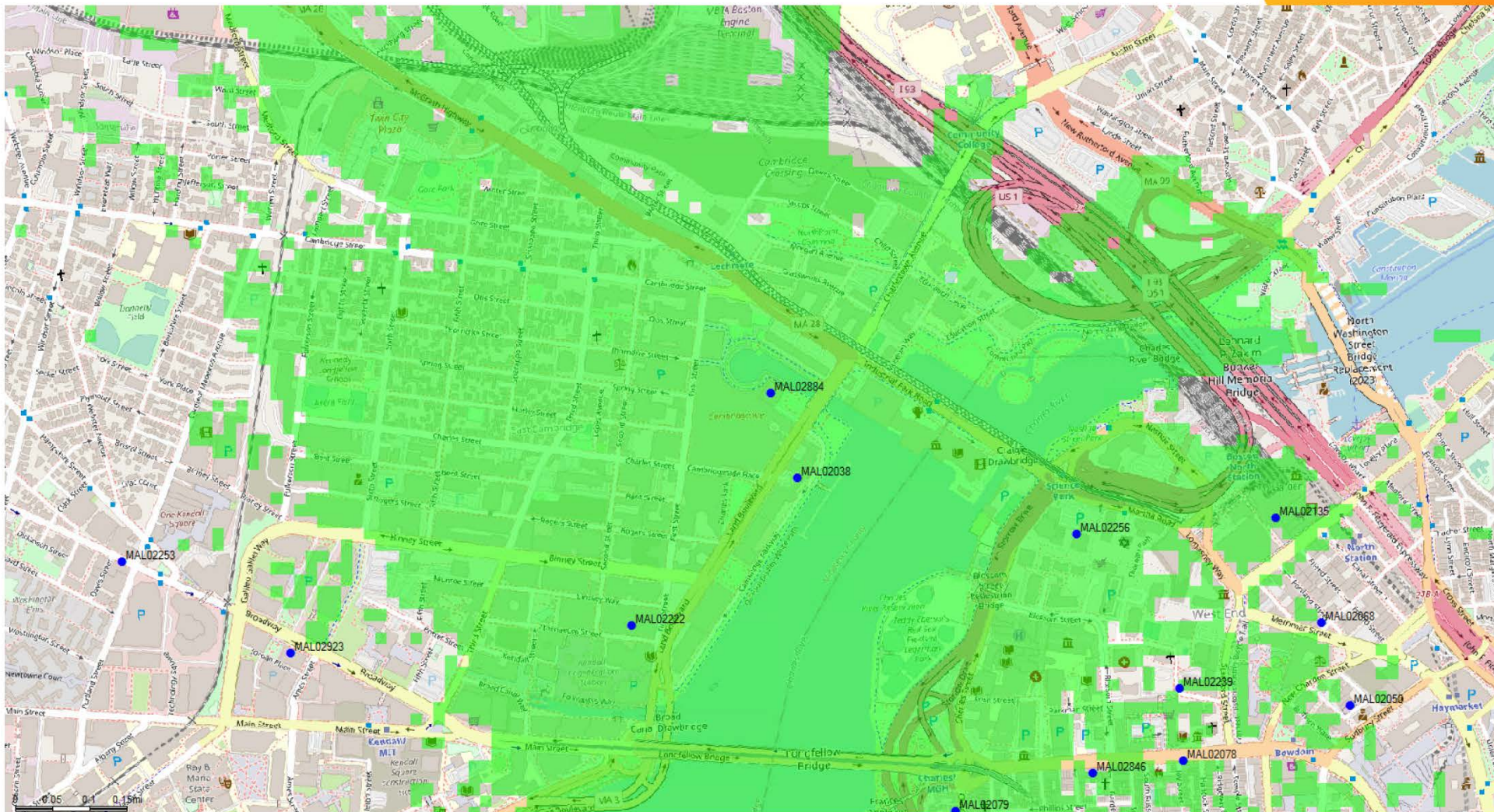
Current 850 5G Band Coverage



AT&T Proprietary (Internal Use Only), Not for use or disclosure outside the AT&T companies except under written agreement



With Proposed MAL02038 5G 850 Band Coverage



AT&T Proprietary (Internal Use Only), Not for use or disclosure outside the AT&T companies except under written agreement



Current 700 Band 14 Band LTE Coverage



With Proposed MAL02038 700 Band 14 LTE Band Coverage



Existing 700 DE LTE Band Coverage



With Proposed MAL02038 700 DE LTE Band Coverage



AT&T Proprietary (Internal Use Only), Not for use or disclosure outside the AT&T companies except under written agreement





at&t

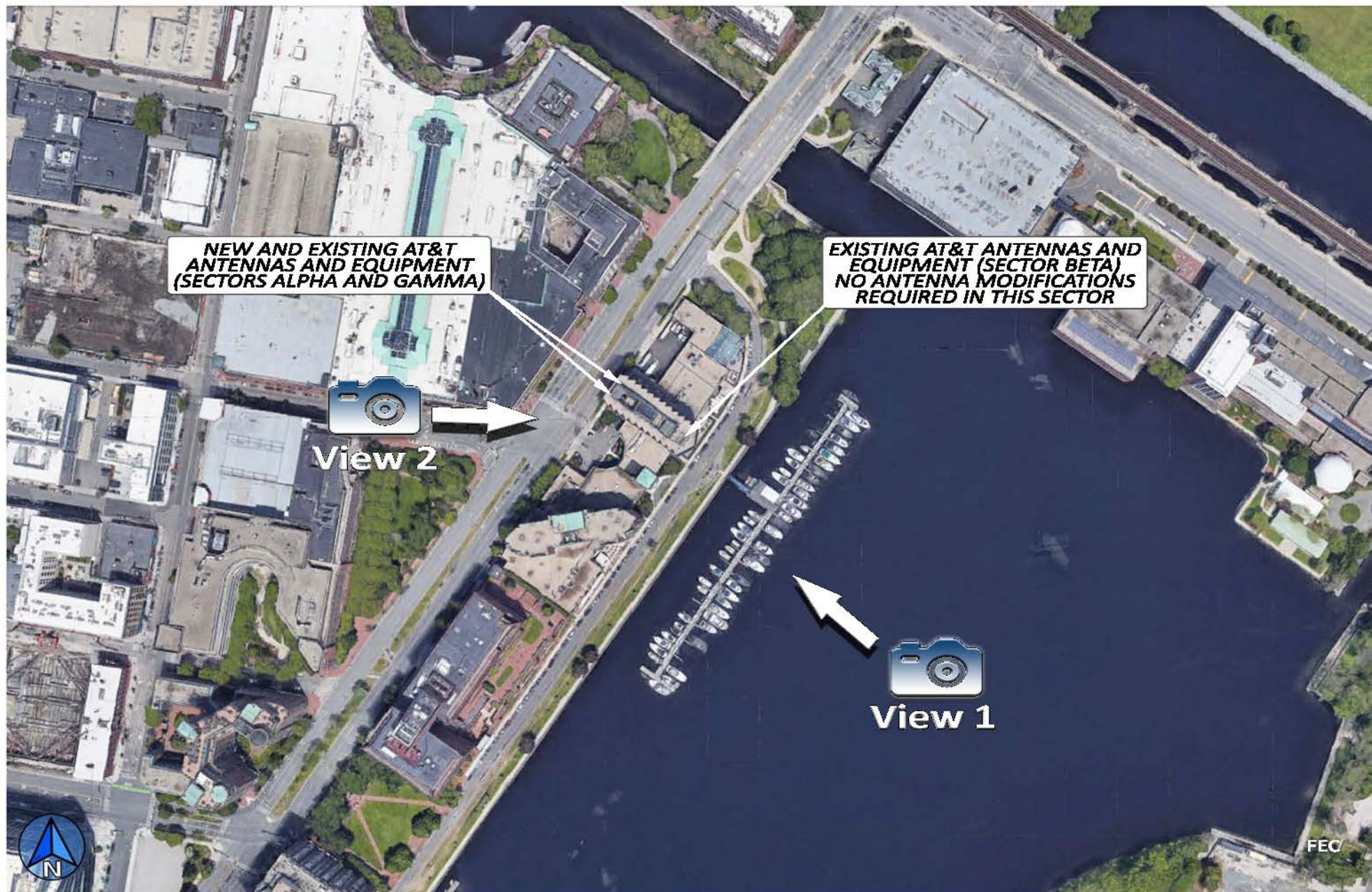
Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

FULLERTON
ENGINEERING · DESIGN



Vicinity Area

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



at&t

Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

FULLERTON
ENGINEERING · DESIGN



**EXISTING AT&T ANTENNAS
AND EQUIPMENT (SECTOR BETA)**

View 1- Before [Looking Northwest from 400']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



at&t

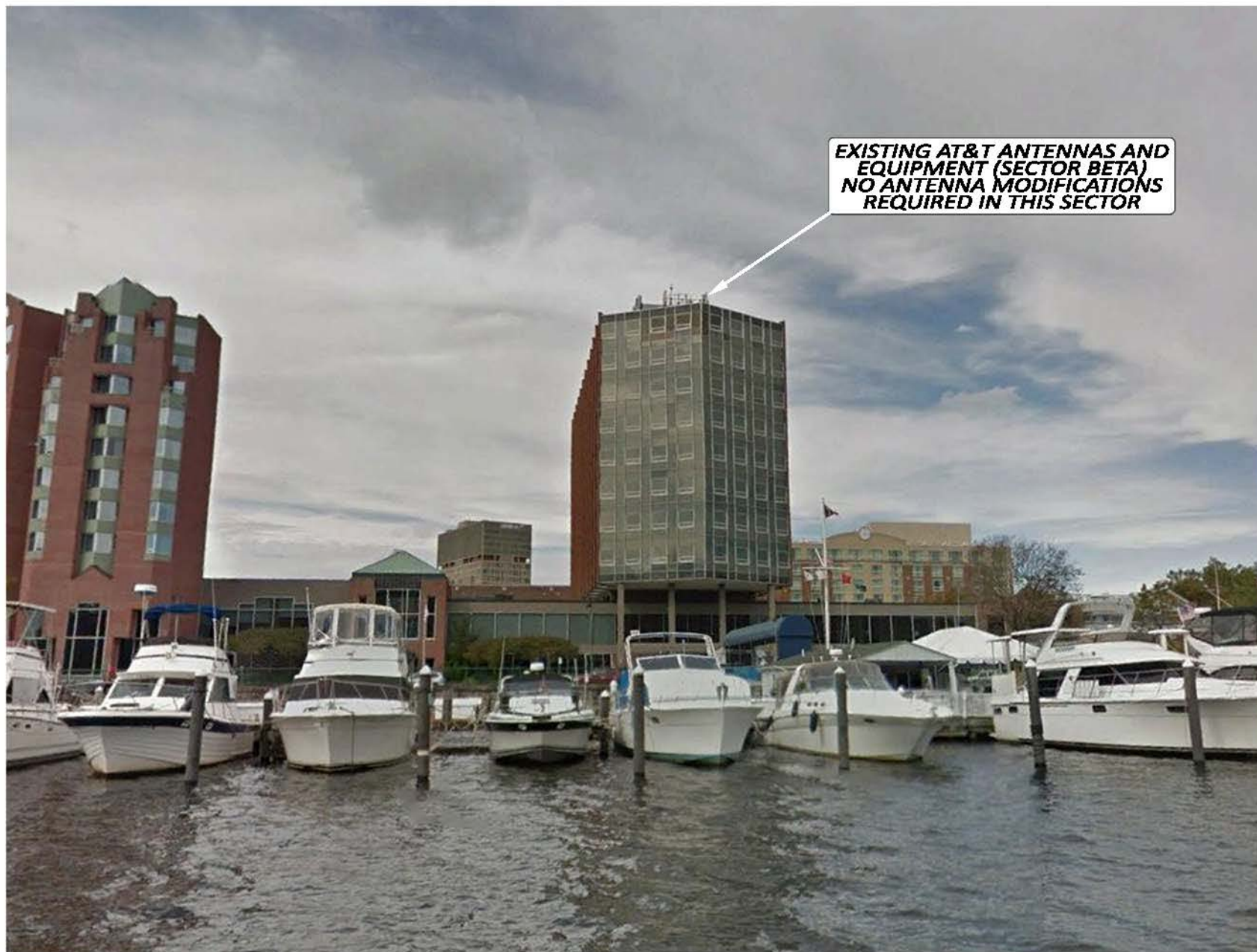
Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

FULLERTON
ENGINEERING · DESIGN



EXISTING AT&T ANTENNAS AND
EQUIPMENT (SECTOR BETA)
NO ANTENNA MODIFICATIONS
REQUIRED IN THIS SECTOR

View 1- After [Looking Northwest from 400']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



at&t

Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

FULLERTON
ENGINEERING · DESIGN

**EXISTING AT&T ANTENNAS AND
EQUIPMENT BEHIND SCREEN WALLS
(SECTORS ALPHA AND GAMMA)**



View 2- Before [Looking East from 200']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



at&t

Site Name: Sonesta

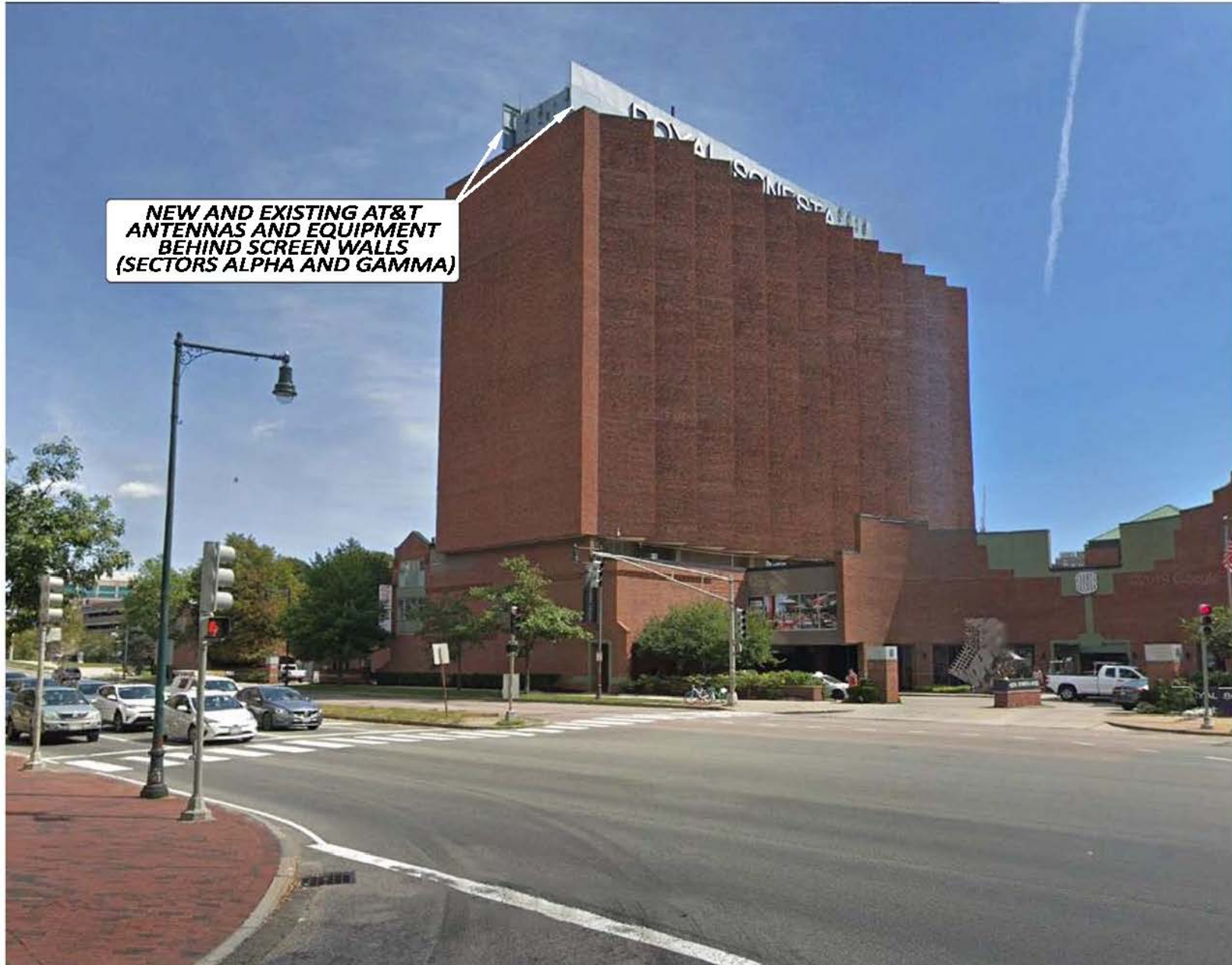
Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

FULLERTON
ENGINEERING · DESIGN

**NEW AND EXISTING AT&T
ANTENNAS AND EQUIPMENT
BEHIND SCREEN WALLS
(SECTORS ALPHA AND GAMMA)**



View 2- After [Looking East from 200']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.

March 26, 2021

Donna P. Lopez, City Clerk City of Cambridge City Hall 795 Massachusetts Avenue Cambridge, MA 02139	Constantine Alexander, Chair Board of Zoning Appeal City Hall 795 Massachusetts Avenue Cambridge, MA 02139
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Applicant: New Cingular Wireless PCS, LLC (“AT&T”)
 Property Address: 23 Cambridge Parkway
 Assessor’s Map 9, Lot 31 (the “Property”)
 Re: Application for:
 (i) Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1455; or, in the alternative,
 (ii) Special Permit under Cambridge Zoning Ordinance Section 4.32(g)(1) and M.G.L. c. 40A, Section 9; and
 (iii) Any other zoning relief required.
 (All relief if and to the extent necessary, all rights reserved)

Dear Ms. Lopez, Mr. Alexander and Members of the Board of Zoning Appeal:

Pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (a/k/a the “Spectrum Act” or “Section 6409”), 47 U.S.C. § 1455, as further implemented by the Federal Communications Commission’s 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) (the “FCC Order”), New Cingular Wireless PCS, LLC (“AT&T”) hereby submits this Eligible Facilities Request (“Request”); and, in the alternative, applies for a special permit from the City of Cambridge Board of Zoning Appeal (the “Board”) under Section 432(g)(1) of the Cambridge Zoning Ordinance (the “Ordinance”) to modify its existing “Telephone Exchange including Transmission Facilities to serve a Mobile Communication System” (the “Facility”) on and within the existing building located at 5 Cambridge Parkway. (the “Special Permit Application”).²

Under Section 6409, AT&T’s proposed modification of its existing transmission equipment on and within the existing building, previously approved by the Board for use as a wireless communication

² AT&T submits this Request, Special Permit application and supporting materials subject to a full and complete reservation of AT&T’s rights under the Spectrum Act and the FCC Order including without limitation its rights with respect to (i) any submittal requirements or approval criteria that are inconsistent with the prohibitions established by the FCC Order, (ii) any delay beyond the deadlines established in the FCC Order, (iii) the imposition of conditions on any approval that are inconsistent with the FCC Order, and (iv) referral or requirement to a discretionary review process such as a special permit.

base station, does “not substantially change the physical dimensions” of the existing building. Therefore, AT&T’s Request must be approved administratively, including the issuance of a building permit, to enable AT&T to make the proposed modifications to its transmission equipment.

In the alternative, as demonstrated in this application letter, the AT&T’s proposed modifications to its existing Facility on the Property located in the PUD-2 & Residence C-3A zoning district satisfy the requirements for the grant of a special permit pursuant to Section 10.43 of the Ordinance.

I. APPLICATION PACKAGE

Enclosed with this application is a check payable to the City of Cambridge in the amount of \$500.00. In addition to the signed original of this letter are copies of the letter and the following materials:

1. The following completed and signed application forms:
 - a. BZA Application Form – General Information;
 - b. BZA Application Form – Ownership Information;
 - c. BZA Application Form – Dimensional Requirements;
 - d. BZA Application Form – Supporting Statement for a Special Permit; and
 - e. BZA Application Form – Check List;
2. AT&T’s relevant FCC License information;
3. Drawings by Fullerton Engineering consisting of (12) pages dated 01/12/2021;

SHEET	TITLE	REV DATE
T1	Title Sheet	01/21/2021
SP1	Notes and Specifications	01/21/2021
SP2	Notes and Specifications	01/21/2021
A1	Roof Plan	01/21/2021
A2	Equipment Plan	01/21/2021
A3	Elevations	01/21/2021
A4	Antenna Plans	01/21/2021
A5	Equipment Details	01/21/2021
A6	Antenna and Cable Configuration	01/21/2021
A7	Cable Notes and Coloring Code	01/21/2021
A8	Grounding Details	01/21/2021
A9	Plumbing Diagram	01/21/2021

4. Manufacturer's specification sheets for AT&T's proposed antennas and other featured equipment;
5. Photographs of the existing building and photosimulations of the proposed modifications Facility by Fullerton Engineering dated 08/06/2020;
6. Radio Frequency Coverage Report, demonstrating the public need for the proposed modifications to the Facility, radio frequency coverage maps showing (a) existing or predicted coverage from neighboring facilities; and (b) coverage with the proposed Facility;
7. Structural Analysis Opinion letter by Fullerton Engineering dated January 15, 2021 ;
8. Maximum Permissible Exposure Study, Theoretical Report, by Site Safe, dated July 1, 2020;
9. Deed to subject property; and
10. Attorney General's letters to the Towns of Mount Washington, Lynnfield and Montague.

II. PROPOSED FACILITY DESIGN

AT&T seeks to modify the existing Facility on and within the building located at the Property. The existing Facility consists of ten (10) panel antennas (Alpha Sector: 3 antennas, Beta Sector: 3 antennas, and Gamma Sector: 4 antennas) that are mounted in three (3) locations. The proposed modifications include the replacement of two (2) antennas at one sector. The replacement antennas will be mounted to the existing antenna mounts or new mounts located behind the existing screen wall and consistent with the current Facility's design. Two (2) remote radio-head units (RRU) will be added in close proximity to the antenna. Consistent with the concealment elements of the existing Facility's design, the new antenna and RRU will be located behind the existing screen wall and out of the public view.

The Facility's design is shown in detail in the Zoning Drawings attached as Exhibit 3 to this application letter and featured equipment is described in the manufacturers' specification sheets attached as Exhibit 4. The photographs and photosimulations (Exhibit 5) show the existing Facility from various locations in the neighborhood around the Property and as simulated with proposed modifications. A structural analysis for the Facility demonstrates that the building is capable of supporting AT&T's proposed equipment at or near the locations shown on the Zoning Drawings (*see* Exhibit 7).

The Facility will continue to bring advanced wireless voice, text and data communications services to the surrounding areas. It will allow residents, professionals, government, businesses and students to communicate locally, nationally and internationally from virtually any location within the coverage area. In the event of an emergency, the improved Facility will allow immediate contact with fire, rescue and other emergency personnel. The improved Facility will thus enhance public health,

safety and welfare both in ordinary daily living and in the event of fire, accident, medical emergency, natural disaster or other dangers.

III. BACKGROUND

AT&T is licensed by the Federal Communications Commission to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and the City of Cambridge. A copy of the AT&T's FCC license that covers the area of the proposed Facility is included with this application (*see* Exhibit 2). AT&T is in the process of designing and constructing additional wireless facilities to its existing telecommunications system to serve Massachusetts. One of the key design objectives of its systems is to provide adequate and reliable coverage. Such a system requires a grid of radio transmitting and receiving links located approximately .5 to 2 miles apart, depending on the location of existing and proposed installations in the surrounding area, the extent of use of AT&T's wireless services within the network, and the existing topography and obstructions. The radio transmitting and receiving facilities operate on a line-of-sight basis, requiring a clear path from the facility to the user on the ground. In urban settings, this dynamic requires the antennas to be located on buildings at heights and in locations where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

IV. RF COVERAGE DETERMINATION

AT&T has performed a study of radio frequency coverage for the City of Cambridge and from the Property, the results of which are described in the Radio Frequency Report submitted with this application (*see* Exhibit 6). Without the proposed modifications to its existing Facility, AT&T has a substantial coverage gap in this area of. AT&T has determined that the proposed modifications to the existing Facility located on the building at the Property will provide needed coverage to the targeted sections of the City and the immediately surrounding area if AT&T's antennas are located on the building's roof at the height and in the configuration requested. The importance of a facility at this location is underscored by AT&T's interest in enhancing its ability to provide its most up-to-date wireless technology, known as long-term evolution technology ("LTE"), in this area to satisfy its customers' ever-increasing needs for high-speed data services. Radio frequency coverage maps included in the report are provided to pictorially and vividly show the differences in existing and proposed wireless coverage at the various bands authorized for AT&T's service. The maps show dramatic improvements to wireless coverage at all three (3) bands with the inclusion of the proposed Facility, namely, at 700 and 850 MHz.

V. THE FEDERAL SPECTRUM ACT AND THE FCC ORDER

As set forth below, the proposed modifications constitute an Eligible Facilities Request pursuant to the federal Spectrum Act,³ as further implemented by the FCC Order.⁴

Under the Spectrum Act, as further clarified by the FCC Order, the streamlined process for this Eligible Facilities Request is limited to non-discretionary review. Specifically, the FCC Order “adopt[s] an objective standard for determining when a proposed modification will ‘substantially change the physical dimensions’ of an existing tower or base station.” *FCC Order*, ¶ 87. As stated in the FCC Order, Section 6409 “states without equivocation that the reviewing authority ‘may not deny, and shall approve’ any qualifying application. This directive leaves no room for a lengthy and discretionary approach to reviewing an application that meets the statutory criteria.” *FCC Order*, ¶ 116.

In issuing the FCC Order and eliminating discretionary review for eligible facilities requests, the FCC’s goal was to “adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the IAC and municipalities.” The FCC intentionally sought to reduce “flexibility” and “open ended context-specific approach” engendered by the discretionary review process:

While we acknowledge that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, we are concerned that it would invite lengthy review processes that conflict with Congress’s intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective, case-by-case approach could take even longer than their review of collocations absent Section 6409(a). We also anticipate that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC’s open-ended and context-specific approach. We find that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. We find further support for this approach in State statutes that have implemented Section 6409(a), all of which establish objective standards.

FCC Order, ¶ 88.

³ Pursuant to Section 6409(a)(2) an “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.

47 U.S.C. § 1455(a)(2).

⁴ The Order was effective on February 9, 2015, except for § 1.40001, which became effective on April 8, 2015, except for §§ 1.40001(c)(3)(i), 1.40001(c)(3)(iii), 1.140001(c)(4), and 17.4(c)(1)(vii), which became effective on May 18, 2015, after approval by the Office of Management and Budget. The FCC Order makes clear that under the Spectrum Act discretionary review is not required or permitted for an Eligible Facilities Request.

As a result, the FCC Order implementing Section 6409 establishes clear and objective criteria for determining eligibility, limits the types of information that a municipality may require when processing an application for an eligible facilities request, and imposes a “deemed granted” remedy for failure to timely process and eligible facilities request.⁵ The FCC Order also establishes significant limits on the information that can be required to be provided with an eligible facilities request and limits it to only that information “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”. 47 CFR 1.40001(c)(1).

Both before and after the FCC Order was issued, the Massachusetts Attorney General’s Office provided clear guidance that an eligible request cannot be subjected to a discretionary special permit process. *See* Attorney General’s letters to (i) Town of Mount Washington, dated June 12, 2014, p. 3 (ii) Town of Lynnfield, dated February 10, 2015, p. 3 (the “AG Lynnfield Letter”) and (iii) Town of Montague, dated February 23, 2015, p. 2 (all attached hereto). As set forth in each letter [t]he Act’s requirement that a local government ‘may not deny, and shall approve, any eligible facilities request’ means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. ***Such qualifying requests also cannot be subject to a discretionary special permit.***”(Emphasis added). In providing these opinions, the Attorney General’s Office specifically opined that provisions in zoning ordinances that specifically required a special permit for modifications to existing facilities could not be applied to eligible facilities requests. While approving the Town of Lynnfield’s Zoning Bylaw, the Attorney General stated that “Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act.” *AG Lynnfield Letter*, p. 3.

Therefore, as set forth in the FCC Order and Attorney General’s opinion letters, the City cannot impose a requirement that AT&T obtain a special permit, or an amendment to an existing special permit utilizing the same discretionary review process, in connection with its eligible facilities request. To the extent that the City of Cambridge’s Zoning Ordinance and any prior decisions by the Board include provisions seeking to further regulate the modification of wireless communication facilities, federal law overrules those requirements. *See Sprint Spectrum L.P. v. Town of Swansea*, 574 F.Supp.2d 227, 236 (2008) (Board is obligated to consider whether its actions would violate federal law even if a different outcome would be permitted under state law). The standard of review for an application to modify an existing wireless communication facility on an existing tower or base station is governed by the Spectrum Act and the FCC Order which require eligible facilities requests to be permitted “by right.”

In addition, the FCC Order establishes a 60-day period for approval from the time of AT&T’s submission. 47 CFR §1.40001(c)(2). Within the context of the Spectrum Act and FCC Order, approval means all necessary approvals to permit the proposed modifications, including the issuance of a building permit, if required. The FCC found that this 60-day period is

⁵ *See* 47 CFR §§1.40001(c)(1) - (c)(4).

appropriate due to “the more restricted scope of review applicable to applications under section 6409(a).” *FCC Order*, ¶ 108. If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4).

As set forth below, the proposed modifications constitute an eligible facilities request. Therefore, AT&T respectfully requests the Board to find that Section 4.32(g)(1) of the Ordinance does not apply to its Request.

VI. THE PROPOSED MODIFICATIONS ARE AN ELIGIBLE FACILITIES REQUEST

Under Section 6409 and the FCC Order, a “base station” means “[a] structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). A Base Station includes “any structure other than a tower” that supports or houses “authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). Therefore, the existing building that is currently used for FCC-licensed transmissions for personal wireless services is a “base station” for purposes of Section 6409.

AT&T proposes to modify its existing Facility as described above and depicted on the Plans submitted herewith.

The proposed modifications will not require the installation of any part of the facility on the ground outside of the building.

As a result, AT&T’s proposed modifications involving the removal and replacement of the existing transmission equipment constitute an “eligible facilities request” under Section 6409. The proposed eligible facilities request is not a “substantial modification” under Section 6409 and the FCC Order because it does not:

- (i) Result in an increase in “the height of the structure by more than 10% or more than ten feet, whichever is greater” because the proposed replacement antennas will either be mounted and located below the screen wall or utilize the existing equipment mounting frame that and therefore will not exceed 10 feet above the existing building;
- (ii) Protrude from the edge of the edge of the building by more than six feet because AT&T’s proposed antennas will not protrude more than six feet from building façade;
- (iii) Involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets no new radio communications equipment cabinets will be installed;
- (iv) Require any excavation or deployment outside the current site of the tower or base station because all antennas, equipment cabinets and related equipment will be installed entirely on and within the existing building; or

- (v) Otherwise defeat the existing concealment elements of the tower or base station because the proposed replacement antennas will be located behind the existing screen wall or utilize the existing mounting frame and will continue to integrate the Facility into the existing architecture of the building. . Therefore, AT&T's proposed Facility will remain aesthetically consistent with the exterior finish of the building as well as maintain the concealment elements of the original design.

See FCC Order, §1.40001(b)(7)(i)-(v).

VII. COMPLIANCE WITH THE CAMBRIDGE ZONING ORDINANCE

In the alternative, AT&T respectfully requests the Board to grant a special permit for the proposed modifications to the existing Facility.⁶

A. AT&T complies with the Wireless Communications provisions set forth in Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance.

AT&T's proposed modifications comply with Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance as follows:⁷

Section 4.32(g)(1): Section 4.32(g)(1) of the Ordinance allows for the use of a “[t]elephone exchange (including switching, relay, and transmission facilities serving mobile communications systems) and any towers or antennas accessory thereto.” Under the Table of Use Regulations beginning at Section 4.30, AT&T's proposed use of the Facility as a transmission facility serving a mobile communications system is permitted by special permit in the PUD-2 & Residence C-3A zoning district (see the table at Section 4.32(g)(1)).

Section 4.40, Footnote 49: Section 4.32(g)(1) includes a reference to Section 4.40, Footnote 49 which sets out the standards for granting the special permit. AT&T's proposed Facility complies with Footnote 49's standards as noted below:

1. **The Board of Zoning Appeal shall consider “[t]he scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.”**

⁶ AT&T's request is made, if and to the extent necessary, all rights reserved. As discussed above, the FCC Order establishes a 60-day period for receipt of all necessary approvals from the time of AT&T's submission, including a building permit, if required. 47 CFR §1.40001(c)(2). If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4). Therefore, AT&T expressly reserves its rights under 47 CFR §1.40001(c)(2) and (4).

⁷ To the extent that Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance purport to require the submission of information that is beyond the scope permitted by the FCC Order or Spectrum Act, AT&T expressly reserves, and does not waive, its right to assert that such information is not required under the Spectrum Act and the submission of such information shall not constitute a waiver of AT&T's rights pursuant thereto.

AT&T's Response: AT&T's FCC license is included with this application and the license information included shows that AT&T is authorized to provide wireless service in the area served by the Facility (*see* Exhibit 2).

2. **The Board of Zoning Appeal shall consider “[t]he extent to which the visual impact of the various elements of the proposed facility is minimized: (1) through the use of existing mechanical elements on the building’s roof or other features of the building as support and background, (2) through the use in materials that in texture and color blend with the materials to which the facilities are attached, or (3) other effective means to reduce the visual impact of the facility on the site.”**

AT&T's Response: The design of the overall Facility, including the choice and placement of replacement antennas and associated equipment, behind the existing screen wall or utilizing the existing mounting frame, minimizes the visual impact of the proposed Facility. This is because the any visible antennas and equipment will be minimally visible and consistent with the elements of the existing Facility. The minimal visual impact of the Facility is shown in the photographs of the existing Facility and the photosimulations that superimpose the proposed modifications to the existing Facility (*see*, Exhibit 5).

3. **The Board of Zoning Appeal shall consider “[w]here it is proposed to erect such a facility in any residential zoning district, the extent to which there is a demonstrated public need for the facility at the proposed locations, the existence of alternative, functionally suitable sites in nonresidential locations, the character of the prevailing uses in the area, and the prevalence of other existing mechanical systems and equipment carried on or above the roof of nearby structures. The Board of Zoning Appeal shall grant a special permit to erect such a facility in a residential zoning district only upon finding that nonresidential uses predominate in the vicinity of the proposed facility’s location and that the telecommunications facility is not inconsistent with the character that does prevail in the surrounding neighborhood.**

In granting a special permit the Board of Zoning Appeal shall set forth in its decision under which circumstances or procedures, if any, the permittee shall be allowed to replace and upgrade its equipment without the necessity of seeking a new special permit.”

AT&T's Response: As demonstrated by the Radio Frequency Report and the associated coverage maps, AT&T has demonstrated an immediate and compelling need for the proposed modifications to its existing Facility located at the Property in order to provide substantially improved indoor coverage to residents, businesses, students and faculty, and the general public in that area.⁸ AT&T also seeks to substantially improve its ability to satisfy the ever-increasing need of its customers for data accessibility, navigation and use. This is especially critical in and around the area Sherman Street which also serves as home for numerous businesses. AT&T proposes to satisfy its RF coverage needs in the area by adding to the existing Facility the antennas and equipment necessary to provide the

⁸ AT&T must generate a signal strength of at least -74 dBm to provide serviceable voice and data coverage on its mobile wireless devices in indoor environments. AT&T also seeks to substantially improve its data navigation service coverage in the area by including antennas and equipment that will provide LTE service.

latest LTE wireless communications service technology. Further, by modifying its existing Facility, and obviating the need to construct an entirely new facility within this area of Cambridge in order to meet its wireless network coverage needs, AT&T's proposed modifications to its existing Facility are consistent with the existing use and character of the neighborhood.

As provided in Footnote 49, AT&T requests that once permission is received from the City to site the Facility at the Property, the Board permit AT&T to replace and upgrade the equipment at this Facility in the future without further zoning proceedings or a new special permit, provided that such equipment shall meet the eligible facilities request criteria set forth in 47 CFR § 1.40001.

B. AT&T complies with the Special Permit Criteria set forth in Section 10.43 of the Ordinance.

Section 10.43 of the Ordinance specifies the following criteria for issuance of a special permit: "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) The requirements of this Ordinance cannot or will not be met, or

AT&T's Response: As provided above, AT&T's proposed modifications comply with the requirements set forth in Section 4.32(g), Footnote 49 of the Ordinance, the Spectrum Act and the eligible facilities request criteria set forth in 47 CFR § 1.40001. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(b) Traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character for the following reasons, or

AT&T's Response: The proposed modifications to AT&T's existing Facility will not result in any change to the existing traffic on or near the Property. The Facility will continue to be unmanned and only require infrequent visits by a technician (typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency), there will be no material increase in traffic or disruption to patterns of access or egress that will cause congestion, hazards or a substantial change in the established neighborhood character. AT&T's maintenance personnel will make use of the existing access roads and parking at the building. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(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

AT&T's Response: As described above and illustrated on the attached photographs and photosimulations (*see* Exhibit 5) the proposed modifications to the existing Facility will result in a *de minimis* change in the appearance of the building. As a result, the Facility as a whole either will be hidden from view or will visually blend with existing characteristics of the building and the surrounding neighborhood. Because the proposed installation will not generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, it will not adversely affect residential uses on neighboring streets. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communications services. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(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

AT&T's Response: Because the proposed modifications to the existing Facility will not cause the Facility to generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, no nuisance or hazard will be created to the detriment of the health, safety, or welfare of the occupants of the building or the residents of the City of Cambridge. To the contrary, the proposed Facility will benefit the City and promote the safety and welfare of its residents, businesses and drivers by providing reliable state-of-the-art digital wireless voice and data services that will improve the reliability of emergency communications with the police and fire departments by eliminating dropped or blocked calls due to inadequate signal strength or insufficient network capacity to handle call volume, particularly important during emergency situations. The Facility, as modified, will continue to comply with all federal, state and local safety requirements including the standards established by the FCC and Federal Aviation Administration (FAA). (*See* Exhibit 8 Maximum Permissible Exposure Study, Theoretical Report). Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(e) For other reasons, the proposed installation would impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this Ordinance, or

AT&T's Response: The purpose of the Ordinance is multifaceted, the relevant aspects of which relating to wireless telecommunications facilities include the lessening of congestion in the streets, conserving health, securing safety from fire, flood, panic and other danger, conserving the value of land and buildings and natural resources, preventing blight and pollution, encouraging the most rational use of land throughout the city, including encouraging appropriate economic development, and protecting residential neighborhoods from incompatible activities.

As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-

art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the Property, the visual impact on the underlying and adjacent zoning districts will be *de minimis*. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying PUD-2 & Residence C-3A district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: As stated in the Section 19.30, the Citywide Urban Design Objectives ("Objectives") "are intended to provide guidance to property owners and the general public as to the city's policies with regard to the form and character desirable for new development in the city. It is understood that application of these principles can vary with the context of specific building proposals in ways that, nevertheless, fully respect the policies' intent. It is intended that proponents of projects, and city staff, the Planning Board and the general public, where public review or approval is required, should be open to creative variations from the detailed provisions presented in this Section as long as the core values expressed are being served. *A project need not meet all the objectives of this Section 19.30 where this Section serves as the basis for issuance of a special permit. Rather the permit granting authority shall find that on balance the objectives of the city are being served.* Nor shall a project subject to special permit review be required to conform to the Required Building and Site Plan Requirements set forth in Section 11.50." [emphasis added]. For the reasons stated in AT&T's response to this Section 10.43(f) of the Zoning Ordinance and in its application generally, "on balance, the objectives of the city are being served" by the installation of the Facility at the Property so that granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

The following are the Objectives' headings as appearing in the Ordinance:

19.31: New projects should be responsive to the existing or anticipated pattern of development.

AT&T's Response: The existing Facility is located on and within the existing building, some of the equipment of which is hidden from view behind the screen wall and within the building, or otherwise obstructed from view, and the remaining equipment utilizes the existing antenna mounting frame and blends with the structures and colors of the building to the extent feasible. The proposed modifications to the existing Facility are consistent with the previously approved design and concealment elements of the existing Facility. Therefore, the proposed modifications are

responsive to the existing pattern of development in the Property's applicable zoning and overlay districts.

19.32: Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.

AT&T's Response: The existing Facility is located on and within the existing building. The Facility is only accessed by authorized AT&T personnel for routine maintenance one to two times per month and is not accessed by the general public. The proposed modifications to the existing Facility will not result in any increase in routine visits nor otherwise result in a change in traffic patterns in the vicinity of the Property that would affect pedestrian flow or cyclists' access to the building or surrounding areas within the Property's applicable zoning districts.

19.33 The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include⁹

(1) Mechanical equipment that is carefully designed, well organized or visually screened from its surroundings and is acoustically buffered from neighbors. Consideration is given to the size, complexity and appearance of the equipment, its proximity to residential areas, and its impact on the existing streetscape and skyline. The extent to which screening can bring order, lessen negative visual impacts, and enhance the overall appearance of the equipment should be taken into account. More specifically:

(a) Reasonable attempts have been made to avoid exposing rooftop mechanical equipment to public view from city streets. Among the techniques that might be considered are the inclusion of screens or a parapet around the roof of the building to shield low ducts and other equipment on the roof from view.

(b) Treatment of the mechanical equipment (including design and massing of screening devices as well as exposed mechanical elements) that relates well to the overall design, massing, scale and character of the building.

(c) Placement of mechanical equipment at locations on the site other than on the rooftop (such as in the basement), which reduces the bulk of elements located on the roof; however, at-grade locations external to the building should not be viewed as desirable alternatives.

(d) Tall elements, such as chimneys and air exhaust stacks, which are typically carried above screening devices for functioning reasons, are carefully designed as features of the building, thus creating interest on the skyline.

⁹ Inasmuch as Section 19.33 is most relevant to the Facility, it is stated here in full.

(e) All aspects of the mechanical equipment have been designed with attention to their visual impact on adjacent areas, particularly with regard to residential neighborhoods and views and vistas.

AT&T's Response: As shown in the photosimulations (*see* Exhibit 5), the existing Facility, as proposed to be modified herein, will continue to be visually consistent with the color and texture of the building, the concealment elements of the design of the Facility, and with other existing wireless communications facilities from competing carriers located on the building. As a result, AT&T's Facility is in keeping with the building's existing features without adversely affecting the building's overall design, massing, scale or character.

(2) Trash that is handled to avoid impacts (noise, odor, and visual quality) on neighbors, e.g. the use of trash compactors or containment of all trash storage and handling within a building is encouraged.

AT&T's Response: The Facility does not generate trash, therefore this design objective is inapplicable.

(3) Loading docks that are located and designed to minimize impacts (visual and operational) on neighbors.

AT&T's Response: The Facility does not utilize any loading dock, therefore this design objective is inapplicable.

(4) Stormwater Best Management Practices and other measures to minimize runoff and improve water quality are implemented.

AT&T's Response: The existing Facility, and the proposed modifications, are located entirely on and within the existing Building on the Property and have no effect on stormwater runoff, therefore this design objective is inapplicable.

(5) Landscaped areas and required Green Area Open Space, in addition to serving as visual amenities, are employed to reduce the rate and volume of stormwater runoff compared to pre-development conditions.

AT&T's Response: The existing Facility and proposed modifications have no effect any landscaped or Green Area Open Space, therefore this design objective is inapplicable.

(6) The structure is designed and sited to minimize shadow impacts on neighboring lots, especially shadows that would have a significant impact on the use and enjoyment of adjacent open space and shadows that might impact the operation of a Registered Solar Energy System as defined in Section 22.60 of this Zoning Ordinance.

AT&T's Response: The existing Facility and proposed modifications are designed so as not to cause shadows on neighboring lots.

(7) Changes in grade across the lot are designed in ways that minimize the need for structural retaining walls close to property lines.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and have no impact on the grade of the Property, therefore this design objective is inapplicable.

(8) Building scale and wall treatment, including the provision of windows, are sensitive to existing residential uses on adjacent lots.

AT&T's Response: The proposed modifications to the existing Facility will not change the building's scale because antennas and equipment will be mounted behind the existing screen wall or on an existing antenna mounting frame already located on the building (*see* Exhibit 3). The existing Facility and proposed modifications are consistent with characteristics of the existing building design, maintain the existing concealment elements of the Facility and therefore minimize any visual impact from the Facility.

(9) Outdoor lighting is designed to provide minimum lighting and necessary to ensure adequate safety, night vision, and comfort, while minimizing light pollution.

AT&T's Response: The existing Facility does not use any outdoor lighting. The proposed modifications to the Facility do not include any additional lighting of the Facility or building. As a result, this design objective is inapplicable.

(10) The creation of a Tree Protection Plan that identifies important trees on the site, encourages their protection, or provides for adequate replacement of trees lost to development on the site.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and have no effect on any trees on the Property, therefore this design objective is inapplicable.

19.34: Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.

AT&T's Response: The existing Facility, including the proposed modifications, is a passive use and will not generate trash, odor, excess noise, or utilize water or wastewater services. As such, it will not burden the City's infrastructure services.

19.35: New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.

AT&T's Response: The proposed modification of the existing Facility located on and within the existing building, will obviate the need for AT&T to construct an additional Facility to address its wireless network coverage need in this area of Cambridge. The existing Facility and the proposed modifications blend the equipment with the building texture and color, and are consistent with the concealment elements of the Facility's design. As a result, the Facility will reinforce the existing Cambridge landscape as it currently is manifested at the Property.

19.36: Expansion of the inventory of housing in the city is encouraged.

AT&T's Response: The Facility and proposed modifications provide wireless services and will not adversely impact the City's housing inventory.

19.37. Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.

AT&T's Response: The Facility and proposed modifications are located on and within the existing building. The Facility and proposed modifications will not adversely impact or otherwise reduce open space amenities within the City.

VIII. SUMMARY

For the foregoing reasons AT&T respectfully requests that the Board to determine that pursuant to the Spectrum Act and the FCC Order, the Request constitutes and eligible facilities request and therefore AT&T's Request must be approved administratively, including the issuance of a building permit, without the need for further relief from the Board. In the alternative, without waiving its rights, AT&T requests the Board grant the foregoing zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the modification and operation of AT&T's proposed Facility.

Best Regards,

Kristina Cottone

Authorized Agent to New Cingular Wireless PCS, LLC ("AT&T")

cc: Jonathan T. Elder, Esq.

Special Permit Application

40 Land Blvd, Cambridge, MA

Map 09 Lot31

Applicant:

New Cingular Wireless PCS, LLC ("AT&T")

c/o Kristina Cottone, Smartlink

Kristina.cottone@smartlinkgroup.com

(978-551-8627)

February 16, 2021

BZA APPLICATION FORM

CHECK LIST

PROPERTY LOCATION: 40 Land Blvd, Cambridge, MA 02142 DATE: 02/16/2021

PETITIONER OR REPRESENTATIVE: New Cingular Wireless PCS, LLC d/b/a AT&T Mobility C/O Kristina Cottone, Smartlink

ADDRESS & PHONE: 85 Rangeway Rd., Bldg 3 Suite 102,. North Billerica, MA 01862 / 978-551-8627

BLOCK: 09 LOT: 31

PLEASE CHECK THAT YOU HAVE INCLUDED THE FOLLOWING WITH YOUR APPLICATION. APPLICATIONS WILL NOT BE ACCEPTED FOR PROCESSING & SCHEDULING UNLESS ALL REQUIRED DOCUMENTS ARE PROVIDED.

PLEASE INCLUDE THIS CHECKLIST WITH YOUR APPLICATION.
ALL DOCUMENTS ARE TO BE TYPED OR WRITTEN LEGIBLY.

<u>DOCUMENTS</u>	<u>REQUIRED</u>	<u>ENCLOSED</u>
Application Form	_____	<input checked="" type="checkbox"/>
3 Forms with Original Signatures	_____	<input checked="" type="checkbox"/>
Supporting Statements - Scanned & 1 set to Zoning	_____	<input checked="" type="checkbox"/>
Application Fee (You will receive invoice online)	_____	<input checked="" type="checkbox"/>
Assessor's GIS "Block Map" (Available on line or At Engineering Dept. - 147 Hampshire Street)	_____	<input checked="" type="checkbox"/>
Dimensional Form - Refer to Cambridge Zoning Ordinance - Scanned & 1 set to Zoning (Subject to further review by Zoning Specialist)	_____	<input checked="" type="checkbox"/>
Ownership Certificate, Notarized - Scanned & 1 set to Zoning	_____	<input checked="" type="checkbox"/>
Floor Plans - Scanned & 1 set to Zoning	_____	<input checked="" type="checkbox"/>
Elevations - Scanned & 1 set to Zoning	_____	<input checked="" type="checkbox"/>
Certified Plot Plan - Scanned & 1 set to Zoning (By Registered Land Surveyor)	_____	<input checked="" type="checkbox"/>
Photographs of Property - Scanned & 1 set to Zoning	_____	<input checked="" type="checkbox"/>
Parking Plan (if relevant to your application) Scanned & 1 set to Zoning	_____	<input checked="" type="checkbox"/>
<u>FOR SUBDIVISION ALSO INCLUDE:</u> Scanned & 1 set to Zoning		
Proposed Deeds	_____	_____
Evidence of Separate Utilities **	_____	_____
Proposed Subdivision Plan	_____	_____

Petitioners are advised to refer to Attachment A (Procedures for applying to the Board of Zoning Appeal) & consult zoning staff for review.

It is advisable for the Petitioner to discuss the petition with the abutters as listed in the Zoning BZA Case file.

* For Special Permits under Art. 4.32.G.1 (Communication Towers and Antennas), include a photo simulation.

** Can be submitted after subdivision has been approved.

BZA APPLICATION FORM

GENERAL INFORMATION

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

Special Permit: ☒ Variance: _____ Appeal: _____

PETITIONER: New Cingular Wireless PCS, LLC d/b/a AT&T Mobility C/O Kristina Cottone, Smartlink

PETITIONER'S ADDRESS: 85 Rangeway Rd., Bldg 3 Suite 102, North Billerica, MA 01862

LOCATION OF PROPERTY: 40 Land Blvd, Cambridge, MA

TYPE OF OCCUPANCY: Hotel ZONING DISTRICT: PUD-2

REASON FOR PETITION:

<input type="checkbox"/> Additions	<input type="checkbox"/> New Structure
<input type="checkbox"/> Change in Use/Occupancy	<input type="checkbox"/> Parking
<input type="checkbox"/> Conversion to Addi'l Dwelling Unit's	<input type="checkbox"/> Sign
<input type="checkbox"/> Dormer	<input type="checkbox"/> Subdivision
<input checked="" type="checkbox"/> Other: <u>Wireless Communications Facility Upgrade</u>	

DESCRIPTION OF PETITIONER'S PROPOSAL:

This application is an Eligible Facilities Request pursuant to section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 USC 1455; or in the alternative, for a special permit under the zoning ordinance as cited above, if and to the extent necessary, all rights reserved. New Cingular Wireless PCS, LLC ("AT&T") proposed to replace (2) Panel Antennas with (2) new Panel Antennas, install (2) new Remote Radio Units, and (1) Raycap with (2) DC Cables, as part of nationwide upgrades.

SECTIONS OF ZONING ORDINANCE CITED:

Article 4.000 Section 4.32.G.1 (Telecommunications Facility).

Article 4.000 Section 4.40 (Footnote 49) (Telecommunications Facility).

Article 10.000 Section 10.40 (Special Permit).

6409 Middle Class Tax Relief Act.

Applicants for a **Variance** must complete Pages 1-5

Applicants for a **Special Permit** must complete Pages 1-4 and 6

Applicants for an **Appeal** to the BZA of a Zoning determination by the Inspectional Services Department must attach a statement concerning the reasons for the appeal

Original Signature(s):


(Petitioner(s)/Owner)

Kristina Cottone, Smartlink

(Print Name)

Address:

85 Rangeway Road, Bldg 3 Suite 102

North Billerica, MA 01862

Tel. No.:

02/16/2021

E-Mail Address: Kristina.cottone@smartlinkgroup.com

Date: 02/16/2021

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 HPT Cambridge LLC, a Massachusetts limited liability company
(OWNER)

Address: Two Newton Place, 255 Washington Street, Suite 300, Newton, MA 02458

State that I/We own the property located at 40 Edwin H. Land Blvd (a/k/a 5 Cambridge Pkwy)
which is the subject of this zoning application.

The record title of this property is in the name of HPT Cambridge LLC,
successor-by-conversion to Charterhouse of Cambridge Trust u/d/t dated December 27, 1963

*Pursuant to a deed of duly recorded in the date 4/15/1969, Middlesex South
County Registry of Deeds at Book 11665, Page 330; 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 _____

The above-name _____ personally appeared before me,
this _____ of _____, 20____, and made oath that the above statement is true.

Notary

My commission expires _____ (Notary Seal).

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

BZA APPLICATION FORM

DIMENSIONAL INFORMATION

APPLICANT: New Cingular Wireless PCS, LLC Kristina Cottone **PRESENT USE/OCCUPANCY:** Hotel / Wireless

LOCATION: 40 Land Blvd, Cambridge, MA **ZONE:** PUD-2

PHONE: 978-551-8627 **REQUESTED USE/OCCUPANCY:** Hotel/Wireless

	<u>EXISTING CONDITIONS</u>	<u>REQUESTED CONDITIONS</u>	<u>ORDINANCE REQUIREMENTS¹</u>
TOTAL GROSS FLOOR AREA:	<u>0</u>	<u>0</u>	<u>0</u> (max.)
LOT AREA:	<u>0</u>	<u>0</u>	<u>0</u> (min.)
RATIO OF GROSS FLOOR AREA TO LOT AREA: ²	<u>0</u>	<u>0</u>	<u>0</u> (max.)
LOT AREA FOR EACH DWELLING UNIT:	<u>0</u>	<u>0</u>	<u>0</u> (min.)
SIZE OF LOT:			
WIDTH	<u>0</u>	<u>0</u>	<u>0</u> (min.)
DEPTH			
Setbacks in Feet:			
FRONT	<u>0</u>	<u>0</u>	<u>0</u> (min.)
REAR	<u>0</u>	<u>0</u>	<u>0</u> (min.)
LEFT SIDE	<u>0</u>	<u>0</u>	<u>0</u> (min.)
RIGHT SIDE	<u>0</u>	<u>0</u>	<u>0</u> (min.)
SIZE OF BLDG.:			
HEIGHT	<u>0</u>	<u>0</u>	<u>0</u> (max.)
LENGTH	<u>0</u>	<u>0</u>	<u>0</u>
WIDTH	<u>0</u>	<u>0</u>	<u>0</u>
RATIO OF USABLE OPEN SPACE TO LOT AREA: ³)	<u>0</u>	<u>0</u>	<u>0</u> (min.)
NO. OF DWELLING UNITS:	<u>0</u>	<u>0</u>	<u>0</u> (max.)
NO. OF PARKING SPACES:	<u>0</u>	<u>0</u>	<u>0</u> (min./max)
NO. OF LOADING AREAS:	<u>0</u>	<u>0</u>	<u>0</u> (min.)
DISTANCE TO NEAREST BLDG. ON SAME LOT:	<u>0</u>	<u>0</u>	<u>0</u> (min.)

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

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 VARIANCE

EACH OF THE FOLLOWING REQUIREMENTS FOR A VARIANCE MUST BE ESTABLISHED AND SET FORTH IN COMPLETE DETAIL BY THE APPLICANT IN ACCORDANCE WITH MGL 40A, SECTION 10:

A) A Literal enforcement of the provisions of this Ordinance would involve a substantial hardship, financial or otherwise, to the petitioner or appellant for the following reasons:

B) The hardship is owing to the following circumstances relating to the soil conditions, shape or topography of such land or structures and especially affecting such land or structures but not affecting generally the zoning district in which it is located for the following reasons:

C) **DESIRABLE RELIEF MAY BE GRANTED WITHOUT EITHER:**

1) Substantial detriment to the public good for the following reasons:

2) Relief may be granted without nullifying or substantially derogating from the intent or purpose of this Ordinance for the following reasons:

*** If You have any questions as to whether you can establish all of the applicable legal requirements, you should consult with your own attorney.**

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 _____ (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:

See attached support statements.

- 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:

See attached support statements.

- 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:

See attached support statements.

- 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:

See attached support statements.

- 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:

See attached support statements.

March 26, 2021

Donna P. Lopez, City Clerk City of Cambridge City Hall 795 Massachusetts Avenue Cambridge, MA 02139	Constantine Alexander, Chair Board of Zoning Appeal City Hall 795 Massachusetts Avenue Cambridge, MA 02139
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Applicant: New Cingular Wireless PCS, LLC (“AT&T”)
 Property Address: 40 Land Blvd
 Assessor’s Map 9, Lot 31 (the “Property”)
 Re: Application for:
 (i) Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1455; or, in the alternative,
 (ii) Special Permit under Cambridge Zoning Ordinance Section 4.32(g)(1) and M.G.L. c. 40A, Section 9; and
 (iii) Any other zoning relief required.
 (All relief if and to the extent necessary, all rights reserved)

Dear Ms. Lopez, Mr. Alexander and Members of the Board of Zoning Appeal:

Pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (a/k/a the “Spectrum Act” or “Section 6409”), 47 U.S.C. § 1455, as further implemented by the Federal Communications Commission’s 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) (the “FCC Order”), New Cingular Wireless PCS, LLC (“AT&T”) hereby submits this Eligible Facilities Request (“Request”); and, in the alternative, applies for a special permit from the City of Cambridge Board of Zoning Appeal (the “Board”) under Section 432(g)(1) of the Cambridge Zoning Ordinance (the “Ordinance”) to modify its existing “Telephone Exchange including Transmission Facilities to serve a Mobile Communication System” (the “Facility”) on and within the existing building located at 40 Land Blvd. (the “Special Permit Application”).²

Under Section 6409, AT&T’s proposed modification of its existing transmission equipment on and within the existing building, previously approved by the Board for use as a wireless communication

² AT&T submits this Request, Special Permit application and supporting materials subject to a full and complete reservation of AT&T’s rights under the Spectrum Act and the FCC Order including without limitation its rights with respect to (i) any submittal requirements or approval criteria that are inconsistent with the prohibitions established by the FCC Order, (ii) any delay beyond the deadlines established in the FCC Order, (iii) the imposition of conditions on any approval that are inconsistent with the FCC Order, and (iv) referral or requirement to a discretionary review process such as a special permit.

base station, does “not substantially change the physical dimensions” of the existing building. Therefore, AT&T’s Request must be approved administratively, including the issuance of a building permit, to enable AT&T to make the proposed modifications to its transmission equipment.

In the alternative, as demonstrated in this application letter, the AT&T’s proposed modifications to its existing Facility on the Property located in the PUD-2 & Residence C-3A zoning district satisfy the requirements for the grant of a special permit pursuant to Section 10.43 of the Ordinance.

I. APPLICATION PACKAGE

Enclosed with this application is a check payable to the City of Cambridge in the amount of \$500.00. In addition to the signed original of this letter are copies of the letter and the following materials:

1. The following completed and signed application forms:
 - a. BZA Application Form – General Information;
 - b. BZA Application Form – Ownership Information;
 - c. BZA Application Form – Dimensional Requirements;
 - d. BZA Application Form – Supporting Statement for a Special Permit; and
 - e. BZA Application Form – Check List;
2. AT&T’s relevant FCC License information;
3. Drawings by Fullerton Engineering consisting of (12) pages dated 01/12/2021;

SHEET	TITLE	REV DATE
T1	Title Sheet	01/21/2021
SP1	Notes and Specifications	01/21/2021
SP2	Notes and Specifications	01/21/2021
A1	Roof Plan	01/21/2021
A2	Equipment Plan	01/21/2021
A3	Elevations	01/21/2021
A4	Antenna Plans	01/21/2021
A5	Equipment Details	01/21/2021
A6	Antenna and Cable Configuration	01/21/2021
A7	Cable Notes and Coloring Code	01/21/2021
A8	Grounding Details	01/21/2021
A9	Plumbing Diagram	01/21/2021

4. Manufacturer's specification sheets for AT&T's proposed antennas and other featured equipment;
5. Photographs of the existing building and photosimulations of the proposed modifications Facility by Fullerton Engineering dated 08/06/2020;
6. Radio Frequency Coverage Report, demonstrating the public need for the proposed modifications to the Facility, radio frequency coverage maps showing (a) existing or predicted coverage from neighboring facilities; and (b) coverage with the proposed Facility;
7. Structural Analysis Opinion letter by Fullerton Engineering dated January 15, 2021 ;
8. Maximum Permissible Exposure Study, Theoretical Report, by Site Safe, dated July 1, 2020;
9. Deed to subject property; and
10. Attorney General's letters to the Towns of Mount Washington, Lynnfield and Montague.

II. PROPOSED FACILITY DESIGN

AT&T seeks to modify the existing Facility on and within the building located at the Property. The existing Facility consists of ten (10) panel antennas (Alpha Sector: 3 antennas, Beta Sector: 3 antennas, and Gamma Sector: 4 antennas) that are mounted in three (3) locations. The proposed modifications include the replacement of two (2) antennas at one sector. The replacement antennas will be mounted to the existing antenna mounts or new mounts located behind the existing screen wall and consistent with the current Facility's design. Two (2) remote radio-head units (RRU) will be added in close proximity to the antenna. Consistent with the concealment elements of the existing Facility's design, the new antenna and RRU will be located behind the existing screen wall and out of the public view.

The Facility's design is shown in detail in the Zoning Drawings attached as Exhibit 3 to this application letter and featured equipment is described in the manufacturers' specification sheets attached as Exhibit 4. The photographs and photosimulations (Exhibit 5) show the existing Facility from various locations in the neighborhood around the Property and as simulated with proposed modifications. A structural analysis for the Facility demonstrates that the building is capable of supporting AT&T's proposed equipment at or near the locations shown on the Zoning Drawings (*see* Exhibit 7).

The Facility will continue to bring advanced wireless voice, text and data communications services to the surrounding areas. It will allow residents, professionals, government, businesses and students to communicate locally, nationally and internationally from virtually any location within the coverage area. In the event of an emergency, the improved Facility will allow immediate contact with fire, rescue and other emergency personnel. The improved Facility will thus enhance public health,

safety and welfare both in ordinary daily living and in the event of fire, accident, medical emergency, natural disaster or other dangers.

III. BACKGROUND

AT&T is licensed by the Federal Communications Commission to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and the City of Cambridge. A copy of the AT&T's FCC license that covers the area of the proposed Facility is included with this application (*see* Exhibit 2). AT&T is in the process of designing and constructing additional wireless facilities to its existing telecommunications system to serve Massachusetts. One of the key design objectives of its systems is to provide adequate and reliable coverage. Such a system requires a grid of radio transmitting and receiving links located approximately .5 to 2 miles apart, depending on the location of existing and proposed installations in the surrounding area, the extent of use of AT&T's wireless services within the network, and the existing topography and obstructions. The radio transmitting and receiving facilities operate on a line-of-sight basis, requiring a clear path from the facility to the user on the ground. In urban settings, this dynamic requires the antennas to be located on buildings at heights and in locations where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

IV. RF COVERAGE DETERMINATION

AT&T has performed a study of radio frequency coverage for the City of Cambridge and from the Property, the results of which are described in the Radio Frequency Report submitted with this application (*see* Exhibit 6). Without the proposed modifications to its existing Facility, AT&T has a substantial coverage gap in this area of. AT&T has determined that the proposed modifications to the existing Facility located on the building at the Property will provide needed coverage to the targeted sections of the City and the immediately surrounding area if AT&T's antennas are located on the building's roof at the height and in the configuration requested. The importance of a facility at this location is underscored by AT&T's interest in enhancing its ability to provide its most up-to-date wireless technology, known as long-term evolution technology ("LTE"), in this area to satisfy its customers' ever-increasing needs for high-speed data services. Radio frequency coverage maps included in the report are provided to pictorially and vividly show the differences in existing and proposed wireless coverage at the various bands authorized for AT&T's service. The maps show dramatic improvements to wireless coverage at all three (3) bands with the inclusion of the proposed Facility, namely, at 700 and 850 MHz.

V. THE FEDERAL SPECTRUM ACT AND THE FCC ORDER

As set forth below, the proposed modifications constitute an Eligible Facilities Request pursuant to the federal Spectrum Act,³ as further implemented by the FCC Order.⁴

Under the Spectrum Act, as further clarified by the FCC Order, the streamlined process for this Eligible Facilities Request is limited to non-discretionary review. Specifically, the FCC Order “adopt[s] an objective standard for determining when a proposed modification will ‘substantially change the physical dimensions’ of an existing tower or base station.” *FCC Order*, ¶ 87. As stated in the FCC Order, Section 6409 “states without equivocation that the reviewing authority ‘may not deny, and shall approve’ any qualifying application. This directive leaves no room for a lengthy and discretionary approach to reviewing an application that meets the statutory criteria.” *FCC Order*, ¶ 116.

In issuing the FCC Order and eliminating discretionary review for eligible facilities requests, the FCC’s goal was to “adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the IAC and municipalities.” The FCC intentionally sought to reduce “flexibility” and “open ended context-specific approach” engendered by the discretionary review process:

While we acknowledge that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, we are concerned that it would invite lengthy review processes that conflict with Congress’s intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective, case-by-case approach could take even longer than their review of collocations absent Section 6409(a). We also anticipate that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC’s open-ended and context-specific approach. We find that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. We find further support for this approach in State statutes that have implemented Section 6409(a), all of which establish objective standards.

FCC Order, ¶ 88.

³ Pursuant to Section 6409(a)(2) an “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.

47 U.S.C. § 1455(a)(2).

⁴ The Order was effective on February 9, 2015, except for § 1.40001, which became effective on April 8, 2015, except for §§ 1.40001(c)(3)(i), 1.40001(c)(3)(iii), 1.140001(c)(4), and 17.4(c)(1)(vii), which became effective on May 18, 2015, after approval by the Office of Management and Budget. The FCC Order makes clear that under the Spectrum Act discretionary review is not required or permitted for an Eligible Facilities Request.

As a result, the FCC Order implementing Section 6409 establishes clear and objective criteria for determining eligibility, limits the types of information that a municipality may require when processing an application for an eligible facilities request, and imposes a “deemed granted” remedy for failure to timely process and eligible facilities request.⁵ The FCC Order also establishes significant limits on the information that can be required to be provided with an eligible facilities request and limits it to only that information “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”. 47 CFR 1.40001(c)(1).

Both before and after the FCC Order was issued, the Massachusetts Attorney General’s Office provided clear guidance that an eligible request cannot be subjected to a discretionary special permit process. *See* Attorney General’s letters to (i) Town of Mount Washington, dated June 12, 2014, p. 3 (ii) Town of Lynnfield, dated February 10, 2015, p. 3 (the “AG Lynnfield Letter”) and (iii) Town of Montague, dated February 23, 2015, p. 2 (all attached hereto). As set forth in each letter [t]he Act’s requirement that a local government ‘may not deny, and shall approve, any eligible facilities request’ means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. ***Such qualifying requests also cannot be subject to a discretionary special permit.***”(Emphasis added). In providing these opinions, the Attorney General’s Office specifically opined that provisions in zoning ordinances that specifically required a special permit for modifications to existing facilities could not be applied to eligible facilities requests. While approving the Town of Lynnfield’s Zoning Bylaw, the Attorney General stated that “Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act.” *AG Lynnfield Letter*, p. 3.

Therefore, as set forth in the FCC Order and Attorney General’s opinion letters, the City cannot impose a requirement that AT&T obtain a special permit, or an amendment to an existing special permit utilizing the same discretionary review process, in connection with its eligible facilities request. To the extent that the City of Cambridge’s Zoning Ordinance and any prior decisions by the Board include provisions seeking to further regulate the modification of wireless communication facilities, federal law overrules those requirements. *See Sprint Spectrum L.P. v. Town of Swansea*, 574 F.Supp.2d 227, 236 (2008) (Board is obligated to consider whether its actions would violate federal law even if a different outcome would be permitted under state law). The standard of review for an application to modify an existing wireless communication facility on an existing tower or base station is governed by the Spectrum Act and the FCC Order which require eligible facilities requests to be permitted “by right.”

In addition, the FCC Order establishes a 60-day period for approval from the time of AT&T’s submission. 47 CFR §1.40001(c)(2). Within the context of the Spectrum Act and FCC Order, approval means all necessary approvals to permit the proposed modifications, including the issuance of a building permit, if required. The FCC found that this 60-day period is

⁵ *See* 47 CFR §§1.40001(c)(1) - (c)(4).

appropriate due to “the more restricted scope of review applicable to applications under section 6409(a).” *FCC Order*, ¶ 108. If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4).

As set forth below, the proposed modifications constitute an eligible facilities request. Therefore, AT&T respectfully requests the Board to find that Section 4.32(g)(1) of the Ordinance does not apply to its Request.

VI. THE PROPOSED MODIFICATIONS ARE AN ELIGIBLE FACILITIES REQUEST

Under Section 6409 and the FCC Order, a “base station” means “[a] structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). A Base Station includes “any structure other than a tower” that supports or houses “authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). Therefore, the existing building that is currently used for FCC-licensed transmissions for personal wireless services is a “base station” for purposes of Section 6409.

AT&T proposes to modify its existing Facility as described above and depicted on the Plans submitted herewith.

The proposed modifications will not require the installation of any part of the facility on the ground outside of the building.

As a result, AT&T’s proposed modifications involving the removal and replacement of the existing transmission equipment constitute an “eligible facilities request” under Section 6409. The proposed eligible facilities request is not a “substantial modification” under Section 6409 and the FCC Order because it does not:

- (i) Result in an increase in “the height of the structure by more than 10% or more than ten feet, whichever is greater” because the proposed replacement antennas will either be mounted and located below the screen wall or utilize the existing equipment mounting frame that and therefore will not exceed 10 feet above the existing building;
- (ii) Protrude from the edge of the edge of the building by more than six feet because AT&T’s proposed antennas will not protrude more than six feet from building façade;
- (iii) Involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets no new radio communications equipment cabinets will be installed;
- (iv) Require any excavation or deployment outside the current site of the tower or base station because all antennas, equipment cabinets and related equipment will be installed entirely on and within the existing building; or

- (v) Otherwise defeat the existing concealment elements of the tower or base station because the proposed replacement antennas will be located behind the existing screen wall or utilize the existing mounting frame and will continue to integrate the Facility into the existing architecture of the building. . Therefore, AT&T's proposed Facility will remain aesthetically consistent with the exterior finish of the building as well as maintain the concealment elements of the original design.

See FCC Order, §1.40001(b)(7)(i)-(v).

VII. COMPLIANCE WITH THE CAMBRIDGE ZONING ORDINANCE

In the alternative, AT&T respectfully requests the Board to grant a special permit for the proposed modifications to the existing Facility.⁶

A. AT&T complies with the Wireless Communications provisions set forth in Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance.

AT&T's proposed modifications comply with Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance as follows:⁷

Section 4.32(g)(1): Section 4.32(g)(1) of the Ordinance allows for the use of a “[t]elephone exchange (including switching, relay, and transmission facilities serving mobile communications systems) and any towers or antennas accessory thereto.” Under the Table of Use Regulations beginning at Section 4.30, AT&T's proposed use of the Facility as a transmission facility serving a mobile communications system is permitted by special permit in the PUD-2 & Residence C-3A zoning district (see the table at Section 4.32(g)(1)).

Section 4.40, Footnote 49: Section 4.32(g)(1) includes a reference to Section 4.40, Footnote 49 which sets out the standards for granting the special permit. AT&T's proposed Facility complies with Footnote 49's standards as noted below:

- 1. The Board of Zoning Appeal shall consider “[t]he scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.”**

⁶ AT&T's request is made, if and to the extent necessary, all rights reserved. As discussed above, the FCC Order establishes a 60-day period for receipt of all necessary approvals from the time of AT&T's submission, including a building permit, if required. 47 CFR §1.40001(c)(2). If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4). Therefore, AT&T expressly reserves its rights under 47 CFR §1.40001(c)(2) and (4).

⁷ To the extent that Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance purport to require the submission of information that is beyond the scope permitted by the FCC Order or Spectrum Act, AT&T expressly reserves, and does not waive, its right to assert that such information is not required under the Spectrum Act and the submission of such information shall not constitute a waiver of AT&T's rights pursuant thereto.

AT&T's Response: AT&T's FCC license is included with this application and the license information included shows that AT&T is authorized to provide wireless service in the area served by the Facility (*see* Exhibit 2).

2. **The Board of Zoning Appeal shall consider “[t]he extent to which the visual impact of the various elements of the proposed facility is minimized: (1) through the use of existing mechanical elements on the building’s roof or other features of the building as support and background, (2) through the use in materials that in texture and color blend with the materials to which the facilities are attached, or (3) other effective means to reduce the visual impact of the facility on the site.”**

AT&T's Response: The design of the overall Facility, including the choice and placement of replacement antennas and associated equipment, behind the existing screen wall or utilizing the existing mounting frame, minimizes the visual impact of the proposed Facility. This is because the any visible antennas and equipment will be minimally visible and consistent with the elements of the existing Facility. The minimal visual impact of the Facility is shown in the photographs of the existing Facility and the photosimulations that superimpose the proposed modifications to the existing Facility (*see*, Exhibit 5).

3. **The Board of Zoning Appeal shall consider “[w]here it is proposed to erect such a facility in any residential zoning district, the extent to which there is a demonstrated public need for the facility at the proposed locations, the existence of alternative, functionally suitable sites in nonresidential locations, the character of the prevailing uses in the area, and the prevalence of other existing mechanical systems and equipment carried on or above the roof of nearby structures. The Board of Zoning Appeal shall grant a special permit to erect such a facility in a residential zoning district only upon finding that nonresidential uses predominate in the vicinity of the proposed facility’s location and that the telecommunications facility is not inconsistent with the character that does prevail in the surrounding neighborhood.**

In granting a special permit the Board of Zoning Appeal shall set forth in its decision under which circumstances or procedures, if any, the permittee shall be allowed to replace and upgrade its equipment without the necessity of seeking a new special permit.”

AT&T's Response: As demonstrated by the Radio Frequency Report and the associated coverage maps, AT&T has demonstrated an immediate and compelling need for the proposed modifications to its existing Facility located at the Property in order to provide substantially improved indoor coverage to residents, businesses, students and faculty, and the general public in that area.⁸ AT&T also seeks to substantially improve its ability to satisfy the ever-increasing need of its customers for data accessibility, navigation and use. This is especially critical in and around the area Sherman Street which also serves as home for numerous businesses. AT&T proposes to satisfy its RF coverage needs in the area by adding to the existing Facility the antennas and equipment necessary to provide the

⁸ AT&T must generate a signal strength of at least -74 dBm to provide serviceable voice and data coverage on its mobile wireless devices in indoor environments. AT&T also seeks to substantially improve its data navigation service coverage in the area by including antennas and equipment that will provide LTE service.

latest LTE wireless communications service technology. Further, by modifying its existing Facility, and obviating the need to construct an entirely new facility within this area of Cambridge in order to meet its wireless network coverage needs, AT&T's proposed modifications to its existing Facility are consistent with the existing use and character of the neighborhood.

As provided in Footnote 49, AT&T requests that once permission is received from the City to site the Facility at the Property, the Board permit AT&T to replace and upgrade the equipment at this Facility in the future without further zoning proceedings or a new special permit, provided that such equipment shall meet the eligible facilities request criteria set forth in 47 CFR § 1.40001.

B. AT&T complies with the Special Permit Criteria set forth in Section 10.43 of the Ordinance.

Section 10.43 of the Ordinance specifies the following criteria for issuance of a special permit: "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) The requirements of this Ordinance cannot or will not be met, or

AT&T's Response: As provided above, AT&T's proposed modifications comply with the requirements set forth in Section 4.32(g), Footnote 49 of the Ordinance, the Spectrum Act and the eligible facilities request criteria set forth in 47 CFR § 1.40001. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(b) Traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character for the following reasons, or

AT&T's Response: The proposed modifications to AT&T's existing Facility will not result in any change to the existing traffic on or near the Property. The Facility will continue to be unmanned and only require infrequent visits by a technician (typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency), there will be no material increase in traffic or disruption to patterns of access or egress that will cause congestion, hazards or a substantial change in the established neighborhood character. AT&T's maintenance personnel will make use of the existing access roads and parking at the building. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(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

AT&T's Response: As described above and illustrated on the attached photographs and photosimulations (*see* Exhibit 5) the proposed modifications to the existing Facility will result in a *de minimis* change in the appearance of the building. As a result, the Facility as a whole either will be hidden from view or will visually blend with existing characteristics of the building and the surrounding neighborhood. Because the proposed installation will not generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, it will not adversely affect residential uses on neighboring streets. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communications services. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(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

AT&T's Response: Because the proposed modifications to the existing Facility will not cause the Facility to generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, no nuisance or hazard will be created to the detriment of the health, safety, or welfare of the occupants of the building or the residents of the City of Cambridge. To the contrary, the proposed Facility will benefit the City and promote the safety and welfare of its residents, businesses and drivers by providing reliable state-of-the-art digital wireless voice and data services that will improve the reliability of emergency communications with the police and fire departments by eliminating dropped or blocked calls due to inadequate signal strength or insufficient network capacity to handle call volume, particularly important during emergency situations. The Facility, as modified, will continue to comply with all federal, state and local safety requirements including the standards established by the FCC and Federal Aviation Administration (FAA). (*See* Exhibit 8 Maximum Permissible Exposure Study, Theoretical Report). Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(e) For other reasons, the proposed installation would impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this Ordinance, or

AT&T's Response: The purpose of the Ordinance is multifaceted, the relevant aspects of which relating to wireless telecommunications facilities include the lessening of congestion in the streets, conserving health, securing safety from fire, flood, panic and other danger, conserving the value of land and buildings and natural resources, preventing blight and pollution, encouraging the most rational use of land throughout the city, including encouraging appropriate economic development, and protecting residential neighborhoods from incompatible activities.

As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-

art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the Property, the visual impact on the underlying and adjacent zoning districts will be *de minimis*. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying PUD-2 & Residence C-3A district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: As stated in the Section 19.30, the Citywide Urban Design Objectives ("Objectives") "are intended to provide guidance to property owners and the general public as to the city's policies with regard to the form and character desirable for new development in the city. It is understood that application of these principles can vary with the context of specific building proposals in ways that, nevertheless, fully respect the policies' intent. It is intended that proponents of projects, and city staff, the Planning Board and the general public, where public review or approval is required, should be open to creative variations from the detailed provisions presented in this Section as long as the core values expressed are being served. *A project need not meet all the objectives of this Section 19.30 where this Section serves as the basis for issuance of a special permit. Rather the permit granting authority shall find that on balance the objectives of the city are being served.* Nor shall a project subject to special permit review be required to conform to the Required Building and Site Plan Requirements set forth in Section 11.50." [emphasis added]. For the reasons stated in AT&T's response to this Section 10.43(f) of the Zoning Ordinance and in its application generally, "on balance, the objectives of the city are being served" by the installation of the Facility at the Property so that granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

The following are the Objectives' headings as appearing in the Ordinance:

19.31: New projects should be responsive to the existing or anticipated pattern of development.

AT&T's Response: The existing Facility is located on and within the existing building, some of the equipment of which is hidden from view behind the screen wall and within the building, or otherwise obstructed from view, and the remaining equipment utilizes the existing antenna mounting frame and blends with the structures and colors of the building to the extent feasible. The proposed modifications to the existing Facility are consistent with the previously approved design and concealment elements of the existing Facility. Therefore, the proposed modifications are

responsive to the existing pattern of development in the Property's applicable zoning and overlay districts.

19.32: Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.

AT&T's Response: The existing Facility is located on and within the existing building. The Facility is only accessed by authorized AT&T personnel for routine maintenance one to two times per month and is not accessed by the general public. The proposed modifications to the existing Facility will not result in any increase in routine visits nor otherwise result in a change in traffic patterns in the vicinity of the Property that would affect pedestrian flow or cyclists' access to the building or surrounding areas within the Property's applicable zoning districts.

19.33 The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include⁹

(1) Mechanical equipment that is carefully designed, well organized or visually screened from its surroundings and is acoustically buffered from neighbors. Consideration is given to the size, complexity and appearance of the equipment, its proximity to residential areas, and its impact on the existing streetscape and skyline. The extent to which screening can bring order, lessen negative visual impacts, and enhance the overall appearance of the equipment should be taken into account. More specifically:

(a) Reasonable attempts have been made to avoid exposing rooftop mechanical equipment to public view from city streets. Among the techniques that might be considered are the inclusion of screens or a parapet around the roof of the building to shield low ducts and other equipment on the roof from view.

(b) Treatment of the mechanical equipment (including design and massing of screening devices as well as exposed mechanical elements) that relates well to the overall design, massing, scale and character of the building.

(c) Placement of mechanical equipment at locations on the site other than on the rooftop (such as in the basement), which reduces the bulk of elements located on the roof; however, at-grade locations external to the building should not be viewed as desirable alternatives.

(d) Tall elements, such as chimneys and air exhaust stacks, which are typically carried above screening devices for functioning reasons, are carefully designed as features of the building, thus creating interest on the skyline.

⁹ Inasmuch as Section 19.33 is most relevant to the Facility, it is stated here in full.

(e) All aspects of the mechanical equipment have been designed with attention to their visual impact on adjacent areas, particularly with regard to residential neighborhoods and views and vistas.

AT&T's Response: As shown in the photosimulations (*see* Exhibit 5), the existing Facility, as proposed to be modified herein, will continue to be visually consistent with the color and texture of the building, the concealment elements of the design of the Facility, and with other existing wireless communications facilities from competing carriers located on the building. As a result, AT&T's Facility is in keeping with the building's existing features without adversely affecting the building's overall design, massing, scale or character.

(2) Trash that is handled to avoid impacts (noise, odor, and visual quality) on neighbors, e.g. the use of trash compactors or containment of all trash storage and handling within a building is encouraged.

AT&T's Response: The Facility does not generate trash, therefore this design objective is inapplicable.

(3) Loading docks that are located and designed to minimize impacts (visual and operational) on neighbors.

AT&T's Response: The Facility does not utilize any loading dock, therefore this design objective is inapplicable.

(4) Stormwater Best Management Practices and other measures to minimize runoff and improve water quality are implemented.

AT&T's Response: The existing Facility, and the proposed modifications, are located entirely on and within the existing Building on the Property and have no effect on stormwater runoff, therefore this design objective is inapplicable.

(5) Landscaped areas and required Green Area Open Space, in addition to serving as visual amenities, are employed to reduce the rate and volume of stormwater runoff compared to pre-development conditions.

AT&T's Response: The existing Facility and proposed modifications have no effect any landscaped or Green Area Open Space, therefore this design objective is inapplicable.

(6) The structure is designed and sited to minimize shadow impacts on neighboring lots, especially shadows that would have a significant impact on the use and enjoyment of adjacent open space and shadows that might impact the operation of a Registered Solar Energy System as defined in Section 22.60 of this Zoning Ordinance.

AT&T's Response: The existing Facility and proposed modifications are designed so as not to cause shadows on neighboring lots.

(7) Changes in grade across the lot are designed in ways that minimize the need for structural retaining walls close to property lines.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and have no impact on the grade of the Property, therefore this design objective is inapplicable.

(8) Building scale and wall treatment, including the provision of windows, are sensitive to existing residential uses on adjacent lots.

AT&T's Response: The proposed modifications to the existing Facility will not change the building's scale because antennas and equipment will be mounted behind the existing screen wall or on an existing antenna mounting frame already located on the building (*see* Exhibit 3). The existing Facility and proposed modifications are consistent with characteristics of the existing building design, maintain the existing concealment elements of the Facility and therefore minimize any visual impact from the Facility.

(9) Outdoor lighting is designed to provide minimum lighting and necessary to ensure adequate safety, night vision, and comfort, while minimizing light pollution.

AT&T's Response: The existing Facility does not use any outdoor lighting. The proposed modifications to the Facility do not include any additional lighting of the Facility or building. As a result, this design objective is inapplicable.

(10) The creation of a Tree Protection Plan that identifies important trees on the site, encourages their protection, or provides for adequate replacement of trees lost to development on the site.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and have no effect on any trees on the Property, therefore this design objective is inapplicable.

19.34: Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.

AT&T's Response: The existing Facility, including the proposed modifications, is a passive use and will not generate trash, odor, excess noise, or utilize water or wastewater services. As such, it will not burden the City's infrastructure services.

19.35: New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.

AT&T's Response: The proposed modification of the existing Facility located on and within the existing building, will obviate the need for AT&T to construct an additional Facility to address its wireless network coverage need in this area of Cambridge. The existing Facility and the proposed modifications blend the equipment with the building texture and color, and are consistent with the concealment elements of the Facility's design. As a result, the Facility will reinforce the existing Cambridge landscape as it currently is manifested at the Property.

19.36: Expansion of the inventory of housing in the city is encouraged.

AT&T's Response: The Facility and proposed modifications provide wireless services and will not adversely impact the City's housing inventory.

19.37. Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.

AT&T's Response: The Facility and proposed modifications are located on and within the existing building. The Facility and proposed modifications will not adversely impact or otherwise reduce open space amenities within the City.

VIII. SUMMARY

For the foregoing reasons AT&T respectfully requests that the Board to determine that pursuant to the Spectrum Act and the FCC Order, the Request constitutes and eligible facilities request and therefore AT&T's Request must be approved administratively, including the issuance of a building permit, without the need for further relief from the Board. In the alternative, without waiving its rights, AT&T requests the Board grant the foregoing zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the modification and operation of AT&T's proposed Facility.

Best Regards,

Kristina Cottone

Authorized Agent to New Cingular Wireless PCS, LLC ("AT&T")

cc: Jonathan T. Elder, Esq.

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW
 AT&T MOBILITY SPECTRUM LLC
 208 S. AKARD ST., RM 1015
 DALLAS, TX 75202

Call Sign KNLF954	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0014980726

Grant Date 06-29-2017	Effective Date 09-21-2018	Expiration Date 06-27-2027	Print Date
Market Number BTA051	Channel Block D	Sub-Market Designator 0	
Market Name Boston, MA			
1st Build-out Date 06-27-2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNLF954

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW
AT&T MOBILITY SPECTRUM LLC
208 S. AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign KNKA226	File Number
Radio Service CL - Cellular	
Market Numer CMA006	Channel Block A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0014980726

Market Name Boston-Lowell-Brockton-Lawrenc
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Grant Date 09-09-2014	Effective Date 08-29-2018	Expiration Date 10-01-2024	Five Yr Build-Out Date	Print Date
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Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	42-37-42.3 N	070-39-16.8 W	45.7	58.8	

Address: 40 DORY ROAD

City: GLOUCESTER **County:** ESSEX **State:** MA **Construction Deadline:**

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	93.100	97.500	101.800	101.800	100.800	88.700	85.700	101.800
Transmitting ERP (watts)	158.853	205.617	68.628	9.427	0.642	0.431	2.268	29.488

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	93.100	97.500	101.800	101.800	100.800	88.700	85.700	101.800
Transmitting ERP (watts)	0.459	5.462	56.429	198.529	168.403	38.276	3.953	0.786

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	93.100	97.500	101.800	101.800	100.800	88.700	85.700	101.800
Transmitting ERP (watts)	12.078	0.668	0.599	1.024	10.050	68.014	123.413	62.132

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
20	43-03-11.8 N	071-16-02.1 W	179.2	59.4	

Address: 80 Diamond Hill Road

City: Candia County: ROCKINGHAM State: NH Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.200	111.000	159.400	159.000	98.400	148.300	88.600	75.600
Transmitting ERP (watts)	52.325	70.778	16.988	1.425	0.187	0.144	0.491	7.084

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.200	111.000	159.400	159.000	98.400	148.300	88.600	75.600
Transmitting ERP (watts)	0.343	3.851	33.085	100.313	84.855	19.494	2.061	0.299

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.200	111.000	159.400	159.000	98.400	148.300	88.600	75.600
Transmitting ERP (watts)	6.845	0.890	0.107	1.038	6.652	7.633	3.304	6.905

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
24	42-54-55.1 N	071-21-37.4 W	100.9	46.3	1011624

Address: 15 INDEPENDENCE DRIVE

City: LONDONDERRY County: ROCKINGHAM State: NH Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	35.900	30.000	44.800	52.100	54.500	72.000	68.000	66.500
Transmitting ERP (watts)	161.221	224.756	47.602	3.692	0.510	0.437	1.233	19.454

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	35.900	30.000	44.800	52.100	54.500	72.000	68.000	66.500
Transmitting ERP (watts)	0.510	3.172	43.604	213.248	156.639	22.374	1.350	0.496

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	35.900	30.000	44.800	52.100	54.500	72.000	68.000	66.500
Transmitting ERP (watts)	11.168	0.691	0.533	0.586	7.854	87.092	266.329	94.294

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
25	42-00-32.6 N	071-19-15.2 W	90.5	51.8	

Address: 75 WASHINGTON SST

City: PLAINVILLE County: NORFOLK State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	64.500	61.200	95.600	96.100	94.300	64.100	46.000	48.800
Transmitting ERP (watts)	84.752	97.052	31.772	5.158	0.550	0.224	2.803	20.645

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	64.500	61.200	95.600	96.100	94.300	64.100	46.000	48.800
Transmitting ERP (watts)	0.380	5.181	37.013	100.829	79.042	20.699	2.118	0.824

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	64.500	61.200	95.600	96.100	94.300	64.100	46.000	48.800
Transmitting ERP (watts)	24.577	1.736	0.715	2.292	18.444	139.378	281.180	142.336

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
26	41-46-57.1 N	070-44-06.5 W	12.5	58.8	

Address: KENDRICK ROAD

City: WAREHAM County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	46.500	56.700	59.800	50.600	39.100	32.800
Transmitting ERP (watts)	186.898	242.551	75.777	10.617	0.738	0.508	2.730	35.860

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	46.500	56.700	59.800	50.600	39.100	32.800
Transmitting ERP (watts)	0.361	5.818	47.861	150.309	121.062	28.493	2.933	0.991

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	46.500	56.700	59.800	50.600	39.100	32.800
Transmitting ERP (watts)	18.390	1.111	0.538	1.628	13.482	98.897	203.625	103.938

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	41-53-35.2 N	070-56-35.0 W	17.7	106.1	1210211

Address: 326 W GROVE ST

City: Middleboro County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	47.500	46.300	30.000	37.000	40.900	39.500	51.600	42.300
Transmitting ERP (watts)	125.283	153.432	54.208	6.550	0.674	0.363	2.675	27.340

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	47.500	46.300	30.000	37.000	40.900	39.500	51.600	42.300
Transmitting ERP (watts)	0.351	5.901	52.455	151.828	120.612	27.887	2.679	0.991

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	47.500	46.300	30.000	37.000	40.900	39.500	51.600	42.300
Transmitting ERP (watts)	14.428	1.006	0.875	1.215	13.317	87.541	159.641	85.795

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
28	42-14-21.9 N	070-51-09.3 W	54.9	55.8	

Address: 168 Turkey Hill Lane

City: Cohasset County: NORFOLK State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.800	98.300	97.600	71.700	64.800	62.900	86.700	99.100
Transmitting ERP (watts)	185.522	243.217	80.727	11.598	0.756	0.499	2.589	34.953

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.800	98.300	97.600	71.700	64.800	62.900	86.700	99.100
Transmitting ERP (watts)	0.521	6.371	65.693	238.024	196.107	43.191	4.256	0.906

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.800	98.300	97.600	71.700	64.800	62.900	86.700	99.100
Transmitting ERP (watts)	9.488	0.543	0.538	1.234	8.977	53.553	85.290	45.661

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
29	41-56-02.0 N	070-35-08.0 W	82.9	128.0	1007828

Address: 265 STATE ROAD

City: PLYMOUTH County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.000	128.000	128.000	123.500	92.200	86.600	84.900	120.500
Transmitting ERP (watts)	23.222	24.154	10.475	1.931	0.466	0.109	1.398	6.965

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.000	128.000	128.000	123.500	92.200	86.600	84.900	120.500
Transmitting ERP (watts)	0.346	4.427	33.055	88.168	72.485	17.790	1.831	0.701

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.000	128.000	128.000	123.500	92.200	86.600	84.900	120.500
Transmitting ERP (watts)	9.680	0.561	0.550	1.216	9.292	54.685	90.439	45.409

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
30	42-12-47.6 N	071-32-33.4 W	128.0	58.5	

Address: 26 LUMBER STREET

City: HOPKINTON County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	68.900	93.200	99.800	91.500	55.300	59.600	35.700	76.400
Transmitting ERP (watts)	158.662	188.312	64.228	8.830	0.704	0.395	4.080	30.535

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	68.900	93.200	99.800	91.500	55.300	59.600	35.700	76.400
Transmitting ERP (watts)	0.432	6.612	61.028	195.296	166.263	35.500	3.748	0.703

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	68.900	93.200	99.800	91.500	55.300	59.600	35.700	76.400
Transmitting ERP (watts)	18.831	1.074	0.590	1.783	15.144	103.799	219.501	97.060

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
31	42-38-27.0 N	070-36-24.8 W	36.6	38.7	

Address: 38 Thatcher Rd

City: ROCKLAND County: ESSEX State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.500	69.500	69.500	69.500	69.500	66.700	58.400	60.100
Transmitting ERP (watts)	170.519	227.554	76.127	10.393	0.706	0.470	2.520	32.796

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.500	69.500	69.500	69.500	69.500	66.700	58.400	60.100
Transmitting ERP (watts)	0.462	5.689	58.840	206.264	174.760	39.385	4.197	0.837

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.500	69.500	69.500	69.500	69.500	66.700	58.400	60.100
Transmitting ERP (watts)	20.761	1.510	0.812	1.238	15.269	110.467	237.338	124.965

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
32	42-36-37.9 N	071-33-28.9 W	148.4	46.3	

Address: 142 LOWELL RD

City: GROTON County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	129.600	133.000	121.700	118.300	83.000	99.300	81.700	86.000
Transmitting ERP (watts)	209.658	291.175	91.511	11.206	1.156	0.596	4.998	40.617

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	129.600	133.000	121.700	118.300	83.000	99.300	81.700	86.000
Transmitting ERP (watts)	0.597	10.042	80.421	284.569	246.599	46.898	5.186	0.906

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	129.600	133.000	121.700	118.300	83.000	99.300	81.700	86.000
Transmitting ERP (watts)	18.748	1.375	0.781	1.196	15.487	106.791	230.014	118.184

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
33	42-08-01.1 N	070-43-57.5 W	68.3	80.5	1017973

Address: 178 EAMES WAY

City: Marshfield County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	125.300	128.600	128.200	125.800	107.800	113.100	97.600	105.400
Transmitting ERP (watts)	156.993	202.510	73.503	10.210	0.666	0.415	2.429	32.615

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	125.300	128.600	128.200	125.800	107.800	113.100	97.600	105.400
Transmitting ERP (watts)	0.482	5.988	62.083	217.536	187.313	40.576	4.382	0.869

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	125.300	128.600	128.200	125.800	107.800	113.100	97.600	105.400
Transmitting ERP (watts)	21.007	1.466	0.829	1.219	15.907	109.305	228.002	122.541

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
34	41-42-11.1 N	070-46-47.1 W	14.3	59.4	

Address: 55 BENSONBROOK ROAD

City: MARION County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	62.700	66.200	68.700	66.600	60.600	47.100	51.900
Transmitting ERP (watts)	161.079	196.082	67.519	9.213	0.702	0.419	4.077	32.479

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	62.700	66.200	68.700	66.600	60.600	47.100	51.900
Transmitting ERP (watts)	0.446	6.712	62.074	197.767	163.770	38.273	3.886	0.801

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	62.700	66.200	68.700	66.600	60.600	47.100	51.900
Transmitting ERP (watts)	3.819	0.784	0.433	6.729	64.256	202.261	164.916	37.606

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	42-21-20.1 N	071-33-16.6 W	156.1	26.5	

Address: 157 UNION STREET

City: MARLBOROUGH County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

	0	45	90	135	180	225	270	315
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	97.800	119.900	113.500	108.400	76.200	73.000	51.900	77.300
Transmitting ERP (watts)	280.304	377.489	119.970	14.810	1.525	0.802	6.660	52.209

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

	0	45	90	135	180	225	270	315
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	97.800	119.900	113.500	108.400	76.200	73.000	51.900	77.300
Transmitting ERP (watts)	0.801	13.105	105.660	375.949	325.389	63.339	6.978	1.142

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

	0	45	90	135	180	225	270	315
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	97.800	119.900	113.500	108.400	76.200	73.000	51.900	77.300
Transmitting ERP (watts)	30.606	2.831	1.046	2.632	27.909	187.774	419.392	197.441

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
36	42-39-54.6 N	070-38-19.9 W	59.4	44.5	

Address: 68 JOHNSON ROAD

City: ROCKPORT County: ESSEX State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

	0	45	90	135	180	225	270	315
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	103.000	103.000	103.000	100.400	95.400	85.100	98.100	103.000
Transmitting ERP (watts)	126.741	159.124	54.189	7.443	0.564	0.334	3.098	25.685

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

	0	45	90	135	180	225	270	315
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	103.000	103.000	103.000	100.400	95.400	85.100	98.100	103.000
Transmitting ERP (watts)	0.353	5.360	49.103	157.255	130.117	30.639	2.895	0.641

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

	0	45	90	135	180	225	270	315
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	103.000	103.000	103.000	100.400	95.400	85.100	98.100	103.000
Transmitting ERP (watts)	15.787	0.974	0.495	1.442	11.730	84.942	168.331	87.120

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

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Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
37	42-41-29.8 N	071-47-30.8 W	233.8	47.9	

Address: 1140 Greenville Rd

City: ASHBY County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	138.200	163.500	145.000	68.800	30.000	30.000	30.000
Transmitting ERP (watts)	301.383	343.844	123.915	17.212	1.267	0.862	4.339	57.968

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	138.200	163.500	145.000	68.800	30.000	30.000	30.000
Transmitting ERP (watts)	0.559	6.546	72.077	254.800	226.824	50.359	4.678	0.979

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	138.200	163.500	145.000	68.800	30.000	30.000	30.000
Transmitting ERP (watts)	35.557	2.084	1.375	2.194	29.159	209.483	410.600	215.057

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
38	42-38-54.9 N	071-47-40.6 W	240.8	47.2	

Address: 601-603 FITCHBURG STATE ROAD

City: ASHBY County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	31.100	159.800	170.800	147.700	56.300	30.000	30.000	30.000
Transmitting ERP (watts)	204.865	233.420	85.530	11.768	0.897	0.575	2.961	39.554

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	31.100	159.800	170.800	147.700	56.300	30.000	30.000	30.000
Transmitting ERP (watts)	0.570	6.676	74.271	261.076	238.587	50.169	4.787	1.001

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	31.100	159.800	170.800	147.700	56.300	30.000	30.000	30.000
Transmitting ERP (watts)	24.123	1.410	0.948	1.499	20.272	140.599	280.157	146.756

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
40	43-05-58.2 N	070-47-28.6 W	7.6	67.4	

Address: 165 GOSLING RD

City: NEWINGTON County: ROCKINGHAM State: NH Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	34.000	45.500	68.500	72.400	58.800	51.900	57.200	52.000
Transmitting ERP (watts)	205.727	278.300	62.928	5.059	0.711	0.597	1.577	25.136

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	34.000	45.500	68.500	72.400	58.800	51.900	57.200	52.000
Transmitting ERP (watts)	0.559	3.335	47.419	236.351	181.187	26.867	1.510	0.563

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	34.000	45.500	68.500	72.400	58.800	51.900	57.200	52.000
Transmitting ERP (watts)	10.525	0.618	0.497	0.555	7.391	82.592	243.998	90.540

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
41	43-04-39.1 N	071-07-30.3 W	107.0	60.7	1231475

Address: 150 Raymond Road

City: Nottingham County: ROCKINGHAM State: NH Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.900	95.800	122.100	119.300	102.200	66.300	44.100	30.000
Transmitting ERP (watts)	160.334	230.049	54.265	4.271	0.586	0.522	1.415	21.993

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.900	95.800	122.100	119.300	102.200	66.300	44.100	30.000
Transmitting ERP (watts)	0.493	3.289	48.427	238.724	177.920	27.618	1.619	0.581

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.900	95.800	122.100	119.300	102.200	66.300	44.100	30.000
Transmitting ERP (watts)	10.353	0.693	0.601	0.662	8.753	100.864	305.315	110.743

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
42	43-13-24.3 N	071-14-23.2 W	189.0	38.7	

Address: 50 OLD CANTERBURY RD

City: NORTHWOOD County: ROCKINGHAM State: NH Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	114.248	162.456	37.049	2.808	0.392	0.366	0.961	16.015

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	0.544	3.573	49.915	233.638	184.420	30.453	1.413	0.618

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	8.132	0.494	0.387	0.467	6.390	72.302	182.164	77.916

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
43	42-59-40.7 N	070-46-58.5 W	12.5	59.4	

Address: 96 GROVE RD

City: RYE County: ROCKINGHAM State: NH Construction Deadline: 03-29-2013

Antenna: 1

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	49.700	62.100	64.000	64.300	63.700	45.100	38.900	54.200
Transmitting ERP (watts)	146.515	206.846	49.164	3.766	0.505	0.452	1.193	17.877

Antenna: 2

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	49.700	62.100	64.000	64.300	63.700	45.100	38.900	54.200
Transmitting ERP (watts)	0.464	2.913	42.460	206.462	152.606	24.148	1.373	0.460

Antenna: 3

Maximum Transmitting ERP in Watts: 140.820

Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	49.700	62.100	64.000	64.300	63.700	45.100	38.900	54.200
Transmitting ERP (watts)	10.168	0.644	0.536	0.576	7.457	86.483	257.603	87.494

Control Points:

Control Pt. No. 2

Address: 100 LOWDER BROOK DR

City: WESTWOOD County: NORFOLK State: MA Telephone Number: (617)462-7094

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNKA226

File Number:

Print Date:

Waivers/Conditions:

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE A. WILSON
NEW CINGULAR WIRELESS PCS, LLC
208 S. AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign KNLB200	File Number
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0003291192

Grant Date 02-07-2020	Effective Date 02-07-2020	Expiration Date 07-21-2027	Print Date
Market Number MEA001	Channel Block B	Sub-Market Designator 0	
Market Name Boston			
1st Build-out Date 03-13-2017	2nd Build-out Date 09-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/Mexico), future coordination of any base station transmitters shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB200

File Number:

Print Date:

Spectrum Lease associated with this license. See Spectrum Leasing Arrangement Letter dated 04/01/2005 and File No. 0001999501.

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for that license area at the 3/13/2017 construction deadline.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB200

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE A. WILSON
 NEW CINGULAR WIRELESS PCS, LLC
 208 S. AKARD ST., RM 1016
 DALLAS, TX 75202

Call Sign KNLB210	File Number
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0003291192

Grant Date 02-07-2020	Effective Date 02-07-2020	Expiration Date 07-21-2027	Print Date
Market Number MEA001	Channel Block A	Sub-Market Designator 0	
Market Name Boston			
1st Build-out Date 03-13-2017	2nd Build-out Date 09-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/Mexico), future coordination of any base station transmitters shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB210

File Number:

Print Date:

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for that license area at the 3/13/2017 construction deadline.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB210

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE WILSON
NEW CINGULAR WIRELESS PCS, LLC
208 S AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign KNLF216	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 06-02-2015	Effective Date 08-31-2018	Expiration Date 06-23-2025	Print Date
Market Number MTA008	Channel Block A	Sub-Market Designator 27	
Market Name Boston-Providence			
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This license is conditioned upon compliance with the provisions of Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLF216

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW
AT&T MOBILITY SPECTRUM LLC
208 S. AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign WPOI214	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0014980726

Grant Date 06-10-2015	Effective Date 08-29-2018	Expiration Date 06-23-2025	Print Date
Market Number MTA008	Channel Block A	Sub-Market Designator 7	
Market Name Boston-Providence			
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: WPOI214

File Number:

Print Date:

This license is conditioned upon compliance with the provisions of Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: WPOI214

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE WILSON
 NEW CINGULAR WIRELESS PCS, LLC
 208 S AKARD ST., RM 1016
 DALLAS, TX 75202

Call Sign WQIZ616	File Number
Radio Service WY - 700 MHz Lower Band (Blocks A, B & E)	

FCC Registration Number (FRN): 0003291192

Grant Date 06-26-2008	Effective Date 08-31-2018	Expiration Date 03-07-2021	Print Date
Market Number BEA003	Channel Block E	Sub-Market Designator 0	
Market Name Boston-Worcester-Lawrence-Lowe			
1st Build-out Date 03-07-2017	2nd Build-out Date 03-07-2021	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WQIZ616

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW
AT&T MOBILITY SPECTRUM LLC
208 S. AKARD ST.
DALLAS, TX 75202

Call Sign WQJU427	File Number 0008667162
Radio Service WY - 700 MHz Lower Band (Blocks A, B & E)	

FCC Registration Number (FRN): 0014980726

Grant Date 07-24-2019	Effective Date 07-24-2019	Expiration Date 06-13-2029	Print Date 07-25-2019
Market Number CMA006	Channel Block B	Sub-Market Designator 0	
Market Name Boston-Lowell-Brockton-Lawrenc			
1st Build-out Date 12-13-2016	2nd Build-out Date 06-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This license is subject to compliance with the conditions set forth in the Commission's Order of Modification, WT Docket No. 12-69, DA 14-43, released January 16, 2014.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: WQJU427

File Number: 0008667162

Print Date: 07-25-2019

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T WIRELESS SERVICES 3 LLC

ATTN: CECIL J MATHEW
AT&T WIRELESS SERVICES 3 LLC
208 S. AKARD ST., RM 1015
DALLAS, TX 75202

Call Sign WQVN675	File Number
Radio Service AT - AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz)	

FCC Registration Number (FRN): 0023910920

Grant Date 04-08-2015	Effective Date 08-29-2018	Expiration Date 04-08-2027	Print Date
Market Number BEA003	Channel Block J	Sub-Market Designator 0	
Market Name Boston-Worcester-Lawrence-Lowe			
1st Build-out Date 04-08-2021	2nd Build-out Date 04-08-2027	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: AT&T WIRELESS SERVICES 3 LLC

Call Sign: WQVN675

File Number:

Print Date:

700 MHz Relicensed Area Information:

Market	Market Name	Buildout Deadline	Buildout Notification	Status
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ADDRESS INFORMATION

From Address Database

40 Land Blvd

CityViewer Address Map

From Assessing Records

Map-Lot: 9-31**23 Cambridge Pkwy**[See more data](#)

Found At This Address

Royal Sonesta Hotel

RESIDENT INFORMATION

Neighborhood

East Cambridge

Historic Info

This is not a designated historic building.**Buildings over 50 years old may be subject to demolition review**[Contact the CHC for more information](#)

Trash & Recycling Pick Up Day

Thursday

Street Sweeping District

None[See schedule for details](#)

Elected Officials and Voting Info

Ward 2, Precinct 3**Voting Location: M.I.T. (Kresge Auditorium, behind Stratton Center)****State Rep: Jay Livingstone****State Senator: Joseph A. Boncore****US Rep: Ayanna Pressley**

U.S. Census Info

Census Tract: 352102

Demographic and Housing Estimates
Social Characteristics
Economic Characteristics
Housing Characteristics

Zip Code

02142**LOCATION INFORMATION**

Lat/Lon

-71.07488, 42.36684

State Plane NAD 83 Ft

771051, 2958993

State Plane NAD 83 Meters

235017, 901903

UTM Zone 19N

329150, 4692593



For more information about Cambridge GIS maps and interactive viewers, please visit:
www.cambridgema.gov/GIS

Can't find your address? Contact us at Cambridge GIS

GENERAL CONSTRUCTION

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR/CM – SMARTLINK
OWNER – AT&T WIRELESS
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEViate FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.
19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.

20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B-C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.
34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.
35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
39. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
- ANTENNA MOUNTING**
40. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.

41. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
42. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
43. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
44. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
45. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
46. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
47. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO ND-00246.
48. JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.
49. CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.
50. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.
- TORQUE REQUIREMENTS**
51. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
52. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
- FIBER & POWER CABLE MOUNTING**
53. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
54. THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION: WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 338 AND 392 RULES SHALL APPLY.
55. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.
- COAXIAL CABLE NOTES**
62. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO

ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
63. CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.
64. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION.
65. ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".

66. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0" OC.
67. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
68. CONTRACTOR SHALL GROUND ALL EQUIPMENT, INCLUDING ANTENNAS, RET MOTORS, TMA'S, COAX CABLES, AND RET CONTROL CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED WIREMEN IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.
69. CONTRACTOR SHALL PROVIDE STRAIN-RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES, COAX CABLES, AND RET CONTROL CABLES. CABLE STRAIN-RELIEFS AND CABLE SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
70. CONTRACTOR TO VERIFY THAT EXISTING COAX HANGERS ARE STACKABLE SNAP IN HANGERS. IF EXISTING HANGERS ARE NOT STACKABLE SNAP IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SNAP IN HANGERS IF APPLICABLE.
- GENERAL CABLE AND EQUIPMENT NOTES**
71. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
72. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
73. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
74. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.
75. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
A. TEMPERATURE SHALL BE ABOVE 50° F.
B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS
76. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
A. GROUNDING AT THE ANTENNA LEVEL.
B. GROUNDING AT MID LEVEL. TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING REQUIRED.
C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
77. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.



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SITE NAME

SONESTA

SITE NUMBER:

MAL02038

SITE ADDRESS

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SHEET NAME

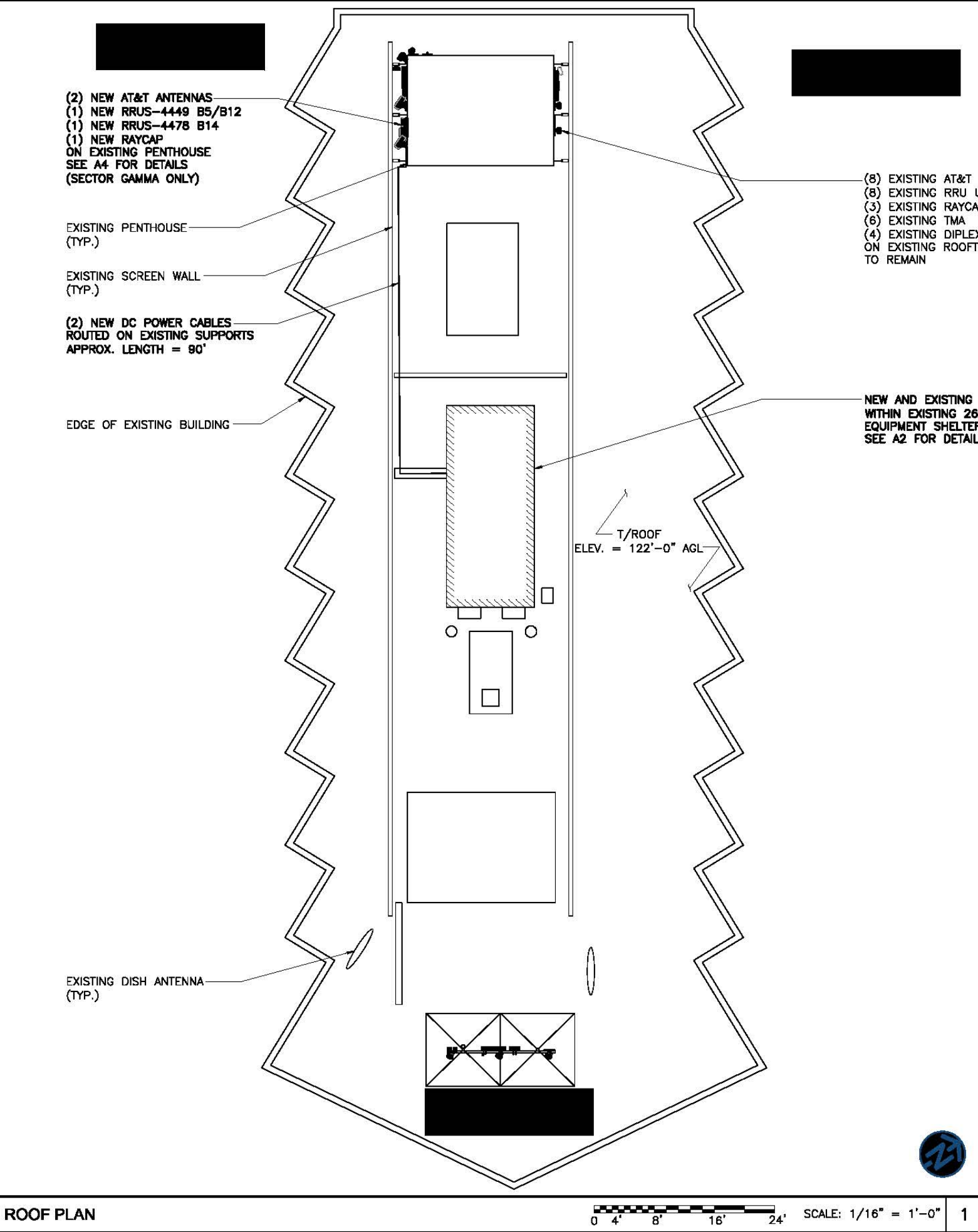
NOTES AND
SPECIFICATIONS

SHEET NUMBER

SP1

ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BTS	BASE TRANSMISSION STATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
(E)	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
F	FIBER
FIF	FACILITY INTERFACE FRAME
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE COMMUNICATION
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MCFA	MULTI-CARRIER POWER AMPLIFIER
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTS	MANUAL TRANSFER SWITCH
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
PPC	POWER PROTECTION CABINET
PL	PROPERTY LINE
RBS	RADIO BASED STATION
RET	REMOTE ELECTRIC TILT
RRU	REMOTE RADIO UNIT
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB(S), #	POUND(S)
SF	SQUARE FOOT
STL	STEEL
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UE/UT	UNDERGROUND ELECTRIC/TELCO
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELE-COMMUNICATION SYSTEM
VIF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER

SYMBOLS	
	REVISION
	WORK POINT
	UTILITY POLE
	COMPRESSED STONE
	BRICK
	CONCRETE
	EARTH
	GRAVEL
	MASONRY
	STEEL
	CENTERLINE
	PROPERTY LINE
	LEASE LINE
	EASEMENT LINE
	CHAIN LINK FENCE
	WOOD FENCE
	BELOW GRADE ELECTRIC
	BELOW GRADE TELEPHONE
	OVERHEAD ELECTRIC/TELEPHONE
	SECTION REFERENCE



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SITE PHOTO 1

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SHEET NAME

ROOF PLAN

SITE PHOTO 2

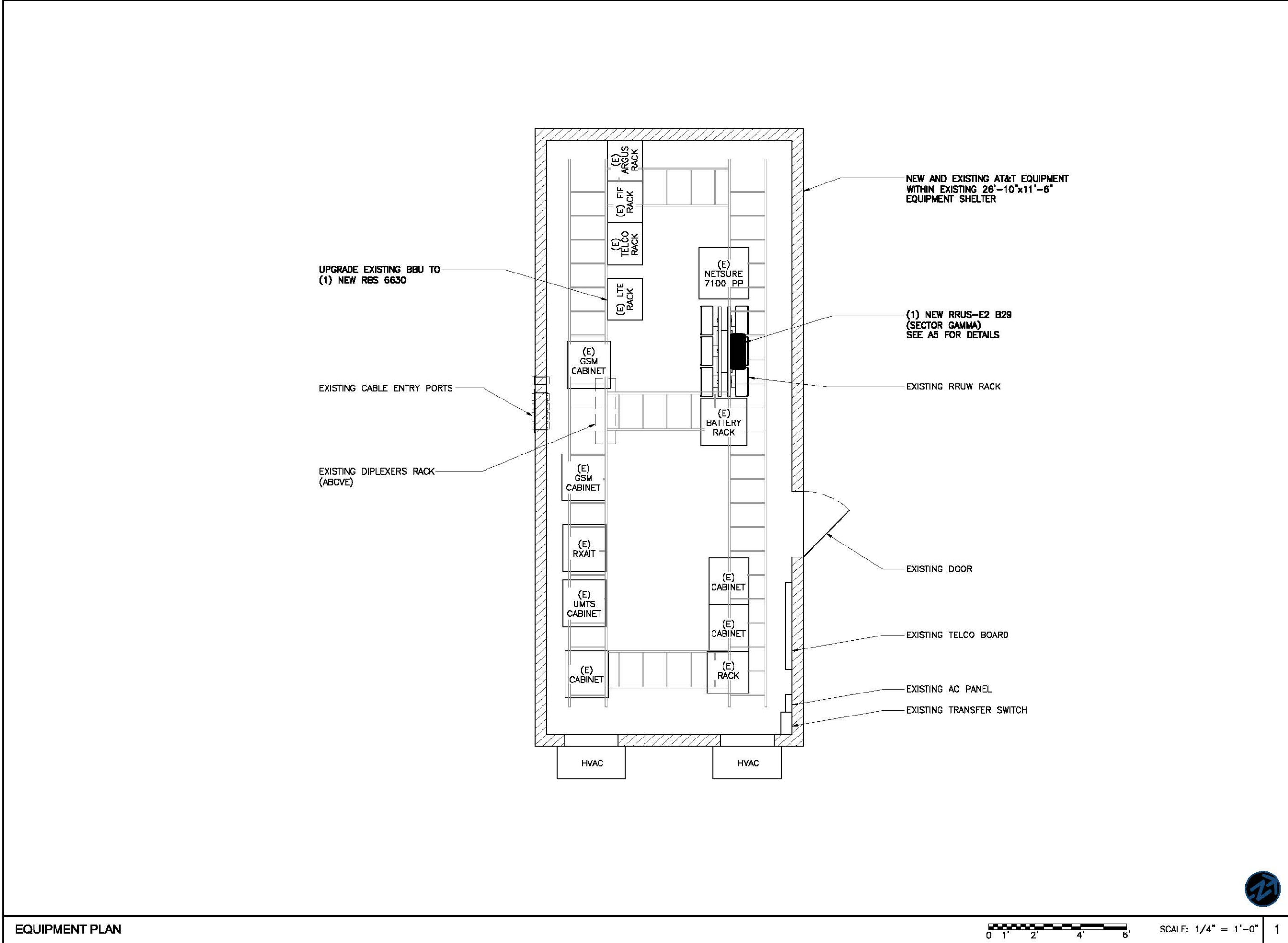
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A1

ROOF PLAN

0 4' 8' 16' 24' SCALE: 1/16" = 1'-0" 1



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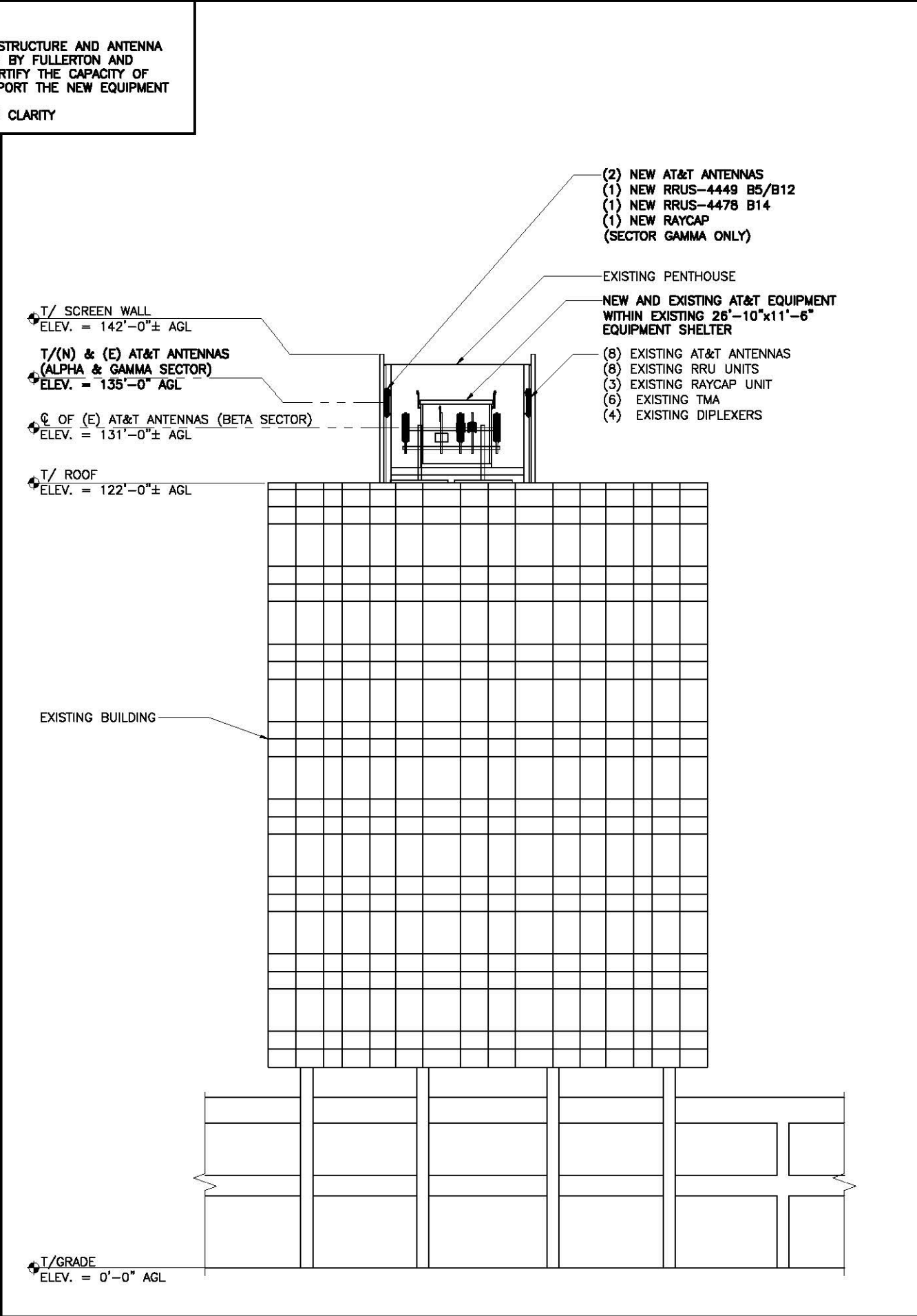
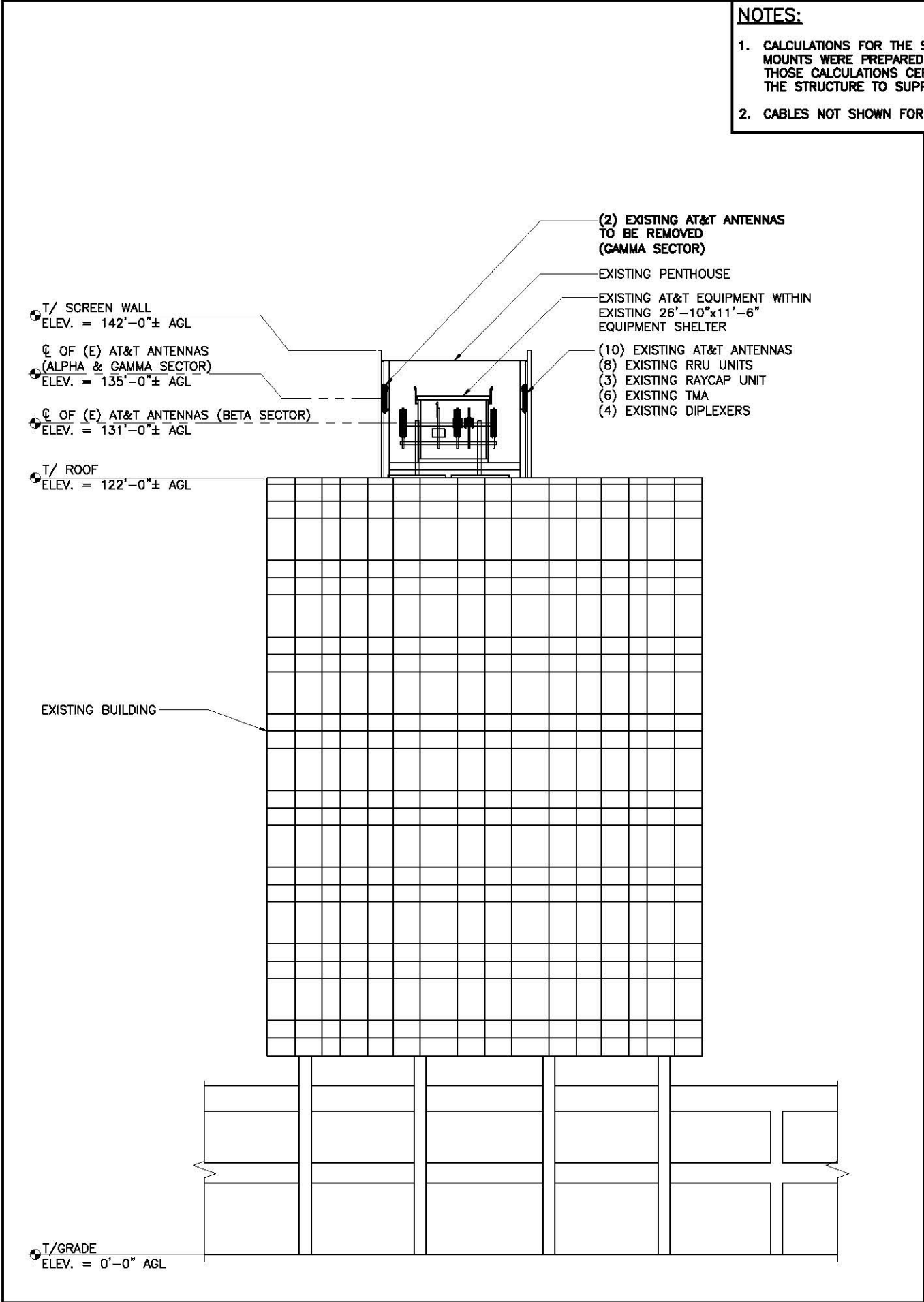
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**EQUIPMENT
PLAN**

SHEET NUMBER

A2



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SHEET NAME

ELEVATIONS

SHEET NUMBER

A3

EXISTING ELEVATION

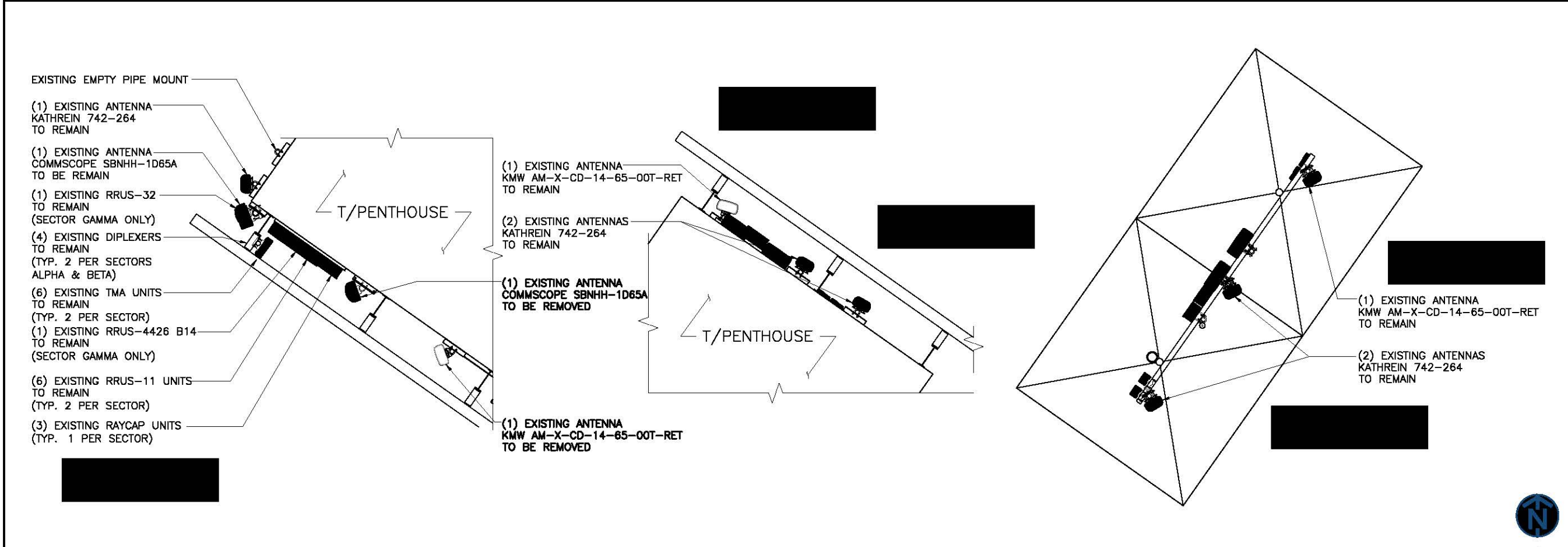
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1

FINAL ELEVATION

SCALE: N.T.S.

2



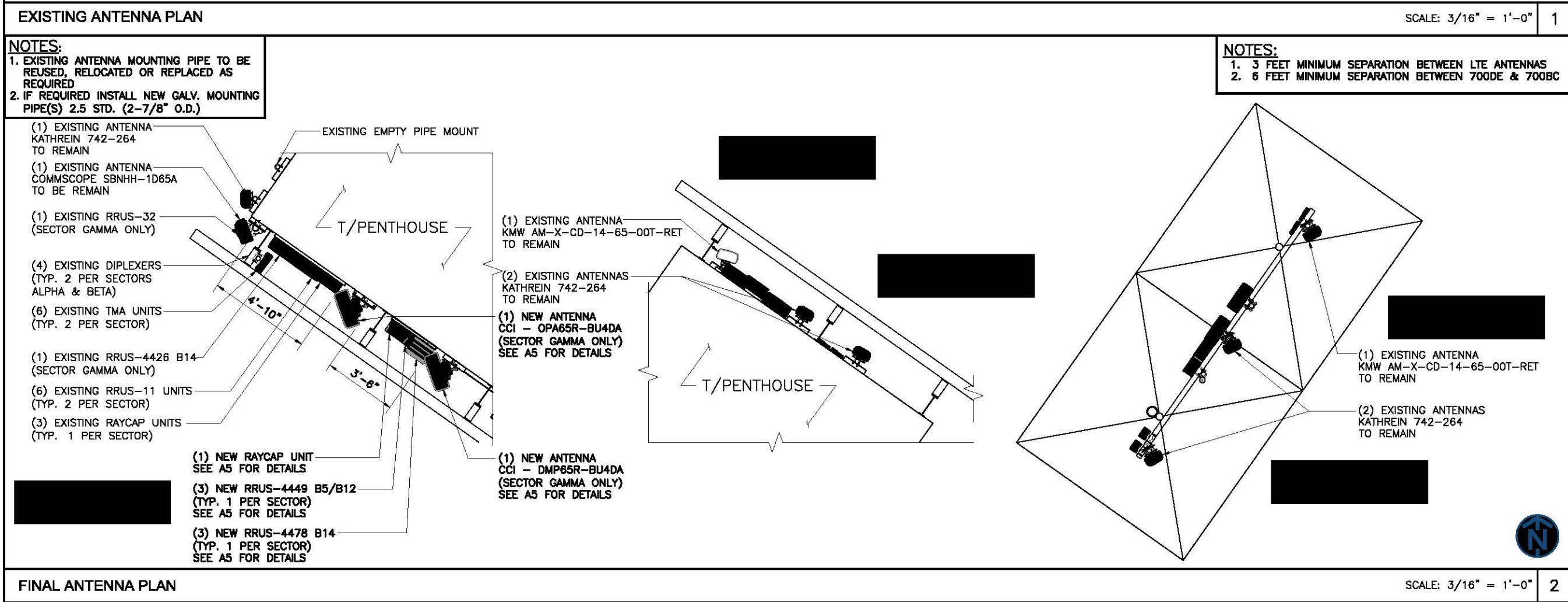
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SHEET NAME

ANTENNA
PLANS

SHEET NUMBER

A4

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550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701



1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/31/20	90% REVIEW	KC
1	04/22/20	FOR PERMIT	KC
2	06/19/20	FOR CONSTRUCTION	KC
3	08/24/20	FOR CONSTRUCTION	KC
4	01/12/21	FOR CONSTRUCTION	KC

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



SITE NAME

SONESTA

SITE NUMBER:

MAL02038

SITE ADDRESS

40 EDWIN LAND BLVD
CAMBRIDGE, MA 02142

SHEET NAME

ANTENNA &
CABLE
CONFIGURATION

SHEET NUMBER

A6

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE
SUPPLIED BY AT&T WIRELESS, FROM RF CONFIG. DATED (05/05/20)

SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT (BY ANTENNAS)	TMA/RRU UNIT (BY EQUIPMENT ON GROUND)	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER		RAYCAP UNIT
									TYPE	LENGTH	
ALPHA	A-1	(E) LTE 700/1900 ANTENNA	AM-X-CD-14-65-00T-RET	KMW	(1) EXISTING RRUS-11 B12 (1) EXISTING RRUS-11 B2	(2) EXISTING DIPLEXERS	17°	135'-0"	(1) EXISTING FIBER CABLE (2) EXISTING DC POWER CABLES	120'-0" 120'-0"	(1) (E) DC6-48-60-0-1E UNIT
	A-2	-	-	-	-	-	-	-	-	-	
	A-3	(E) UMTS ANTENNA	742-264	KATHREIN	(2) EXISTING TMA UNITS POWERWAVE LGP21401	-	30°	135'-0"	1-5/8"ø LDF7-50A	120'-0"	
									1-5/8"ø LDF7-50A	120'-0"	
	A-4	(E) GSM ANTENNA	742-264	KATHREIN	(2) EXISTING DIPLEXERS	(2) EXISTING DIPLEXERS	30°	135'-0"	1-5/8"ø LDF7-50A	120'-0"	
1-5/8"ø LDF7-50A									120'-0"		
BETA	B-1	(E) UMTS ANTENNA	742-264	KATHREIN	(2) EXISTING TMA UNITS	(2) EXISTING DIPLEXERS	150°	131'-0"	1-5/8"ø LDF7-50A	130'-0"	(1) (E) DC6-48-60-0-1E UNIT
									1-5/8"ø LDF7-50A	130'-0"	
	B-2	-	-	-	-	-	-	-	-	-	
	B-3	(E) LTE 700/1900 ANTENNA	AM-X-CD-14-65-00T-RET	KMW	(2) EXISTING TMA UNITS POWERWAVE LGP21401	-	155°	131'-0"	(1) EXISTING FIBER CABLE	130'-0"	
									(2) EXISTING DC POWER CABLES	130'-0"	
B-4	(E) GSM ANTENNA	742-264	KATHREIN	(2) EXISTING DIPLEXERS	(2) EXISTING DIPLEXERS	150°	131'-0"	1-5/8"ø LDF7-50A	130'-0"		
								1-5/8"ø LDF7-50A	130'-0"		
GAMMA	C-1	(N) LTE 700/850/1900/5G ANTENNA	DMP65R-BU4DA	CCI	(2) EXISTING RRUS-11 B2 (1) NEW RRUS-4449 B5/B12	-	250°	135'-0"	(1) EXISTING FIBER CABLE	90'-0"	(1) (E) DC6-48-60-0-1E UNIT (1) (N) DC6-48-60-0-1E UNIT
									(2) EXISTING DC POWER CABLES	90'-0"	
	C-2	(N) LTE 700/AWS ANTENNA	OPA65R-BU4DA	CCI	(1) EXISTING RRUS-4426 B66 (1) NEW RRUS-4478 B14	-	250°	135'-0"	SEE ANTENNA C-1 FOR FIBER		
									(2) NEW DC POWER CABLES	90'-0"	
	C-3	(R) LTE 700/WCS ANTENNA	SBNHH-1D65A	COMMSCOPE	(1) EXISTING RRUS-32 B30	(2) EXISTING DIPLEXERS (1) NEW RRUS-E2 B29	250°	135'-0"	1-5/8"ø LDF7-50A	90'-0"	
1-5/8"ø LDF7-50A									90'-0"		
C-4	(E) UMTS ANTENNA	742-264	KATHREIN	(2) EXISTING TMA UNITS POWERWAVE LGP21401	-	270°	135'-0"	1-5/8"ø LDF7-50A	90'-0"		
								1-5/8"ø LDF7-50A	90'-0"		

1. CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
2. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
4. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
5. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
6. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
7. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
8. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.
9. CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
10. CONTRACTOR TO USE ROSENBERGER FIBER LINE HANGER COMPONENTS (OR ENGINEER APPROVED EQUAL).

ANTENNA AND CABLING NOTES

SCALE: N.T.S.

1

RF, DC, & COAX CABLE MARKING LOCATIONS TABLE	
NO	LOCATIONS
1	EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

CABLE MARKING DIAGRAM

SCALE: N.T.S.

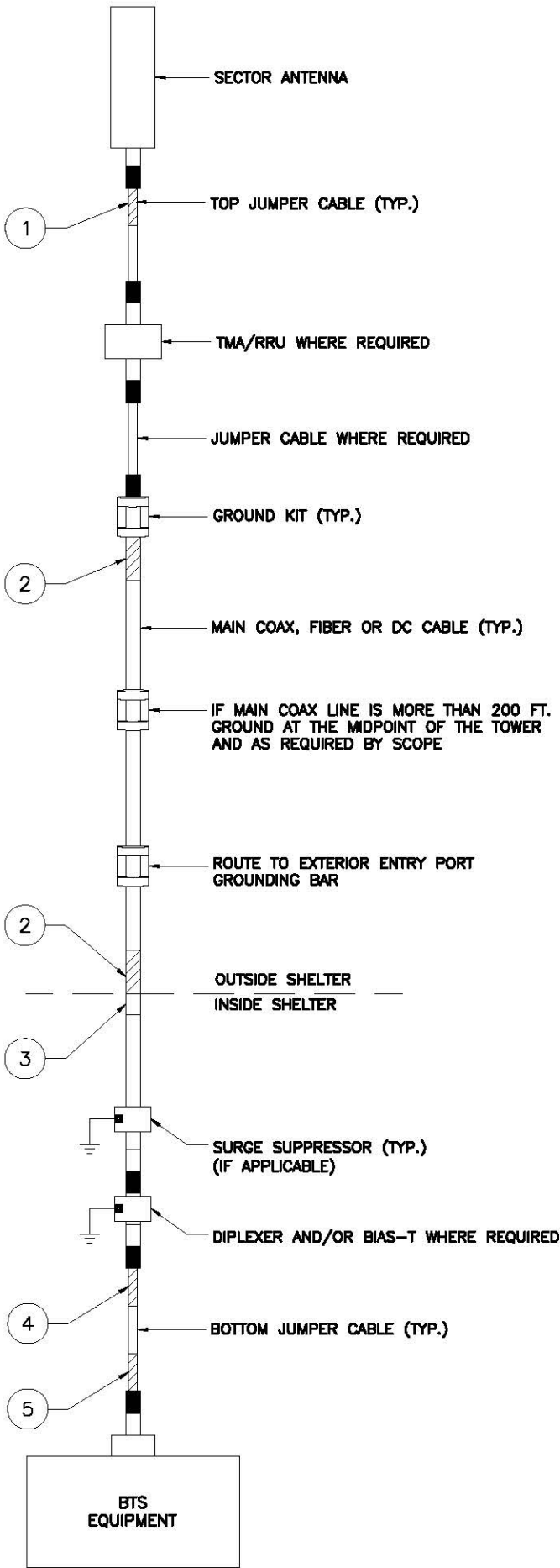
2

1. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
2. THE STANDARD IS BASED ON EIGHT COLORED TAPES-RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
3. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
4. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
5. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
6. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
7. ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
8. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE NEW TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

CABLE MARKING NOTES

SCALE: N.T.S.

3



CABLE COLOR CODING DIAGRAM

SCALE: N.T.S.

4



550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701



1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/31/20	90% REVIEW	KC
1	04/22/20	FOR PERMIT	KC
2	06/19/20	FOR CONSTRUCTION	KC
3	08/24/20	FOR CONSTRUCTION	KC
4	01/12/21	FOR CONSTRUCTION	KC

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



SITE NAME

SONESTA

SITE NUMBER:

MAL02038

SITE ADDRESS

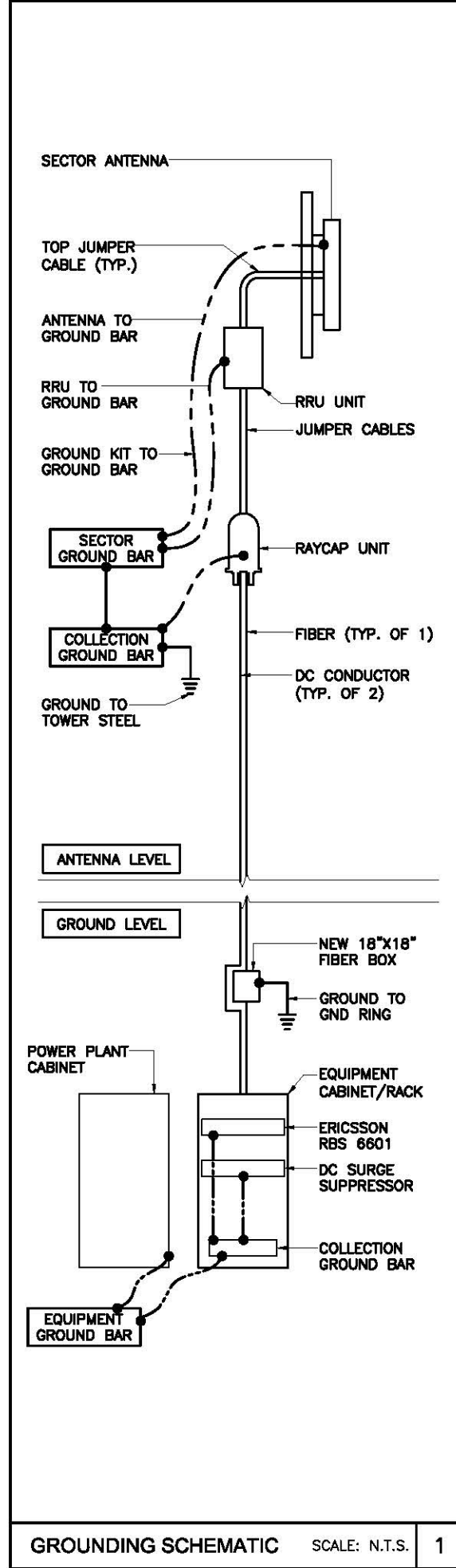
40 EDWIN LAND BLVD
CAMBRIDGE, MA 02142

SHEET NAME

CABLE NOTES
AND COLOR
CODING

SHEET NUMBER

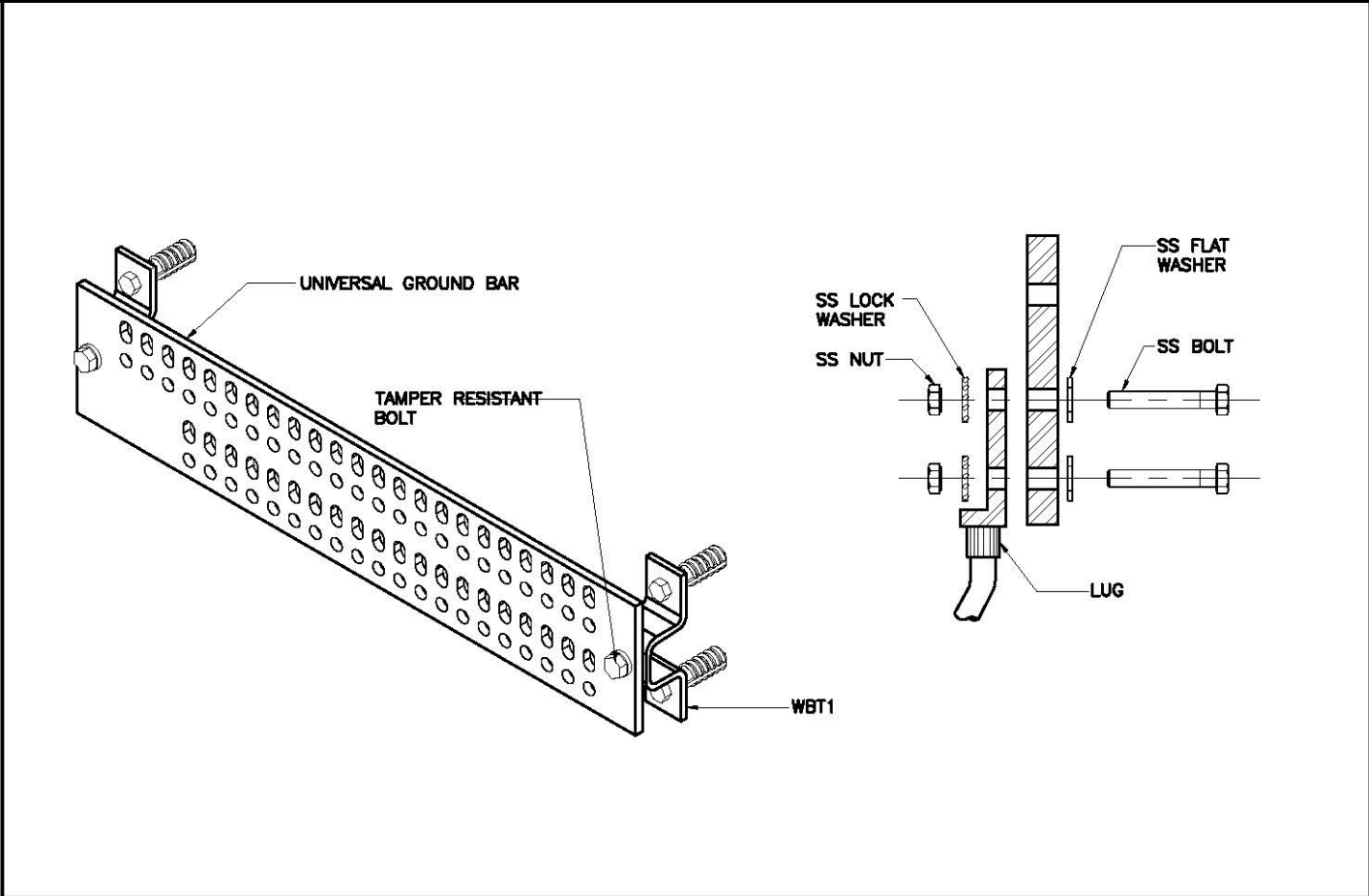
A7



GROUNDING SCHEMATIC

SCALE: N.T.S.

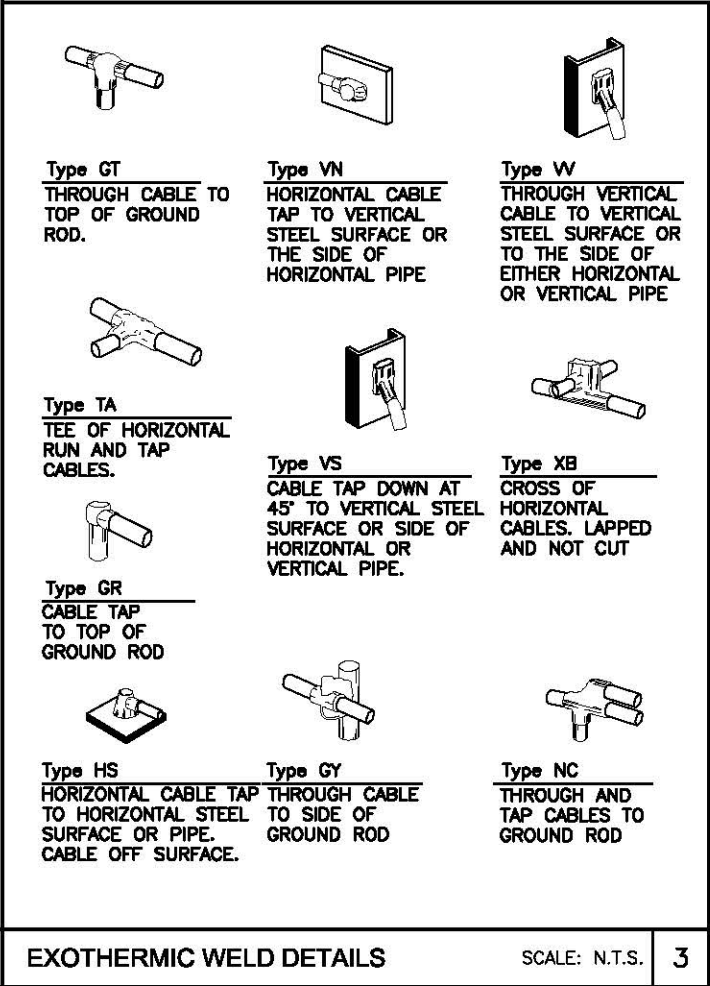
1



GROUND BAR DETAIL

SCALE: N.T.S.

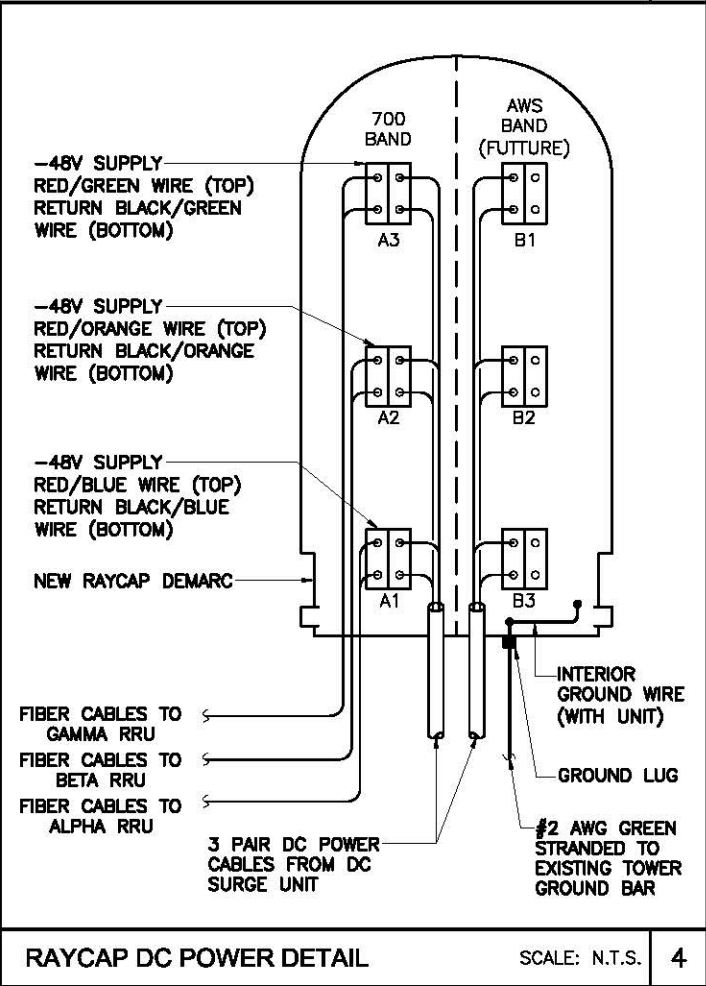
2



EXOTHERMIC WELD DETAILS

SCALE: N.T.S.

3



RAYCAP DC POWER DETAIL

SCALE: N.T.S.

4



NOT USED

SCALE: N.T.S.

5

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HENRY M. BELLAGAMBA
CIVIL
NO. 51235
REGISTERED PROFESSIONAL ENGINEER

SITE NAME

SONESTA

SITE NUMBER:

MAL02038

SITE ADDRESS

40 EDWIN LAND BLVD
CAMBRIDGE, MA 02142

SHEET NAME

GROUNDING DETAILS

SHEET NUMBER

A8



550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701



1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076



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SITE NAME

SONESTA

SITE NUMBER:

MAL02038

SITE ADDRESS

40 EDWIN LAND BLVD
CAMBRIDGE, MA 02142

SHEET NAME

PLUMBING DIAGRAMS

SHEET NUMBER

A9

Diagram - Sector A
Abol Site Name - MAL02038
Location Name - SONESTA
Market - BOSTON
Market Cluster - NEW ENGLAND
Comments - Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna Ratio Connection Drawings Playbook v6.0 Ericsson

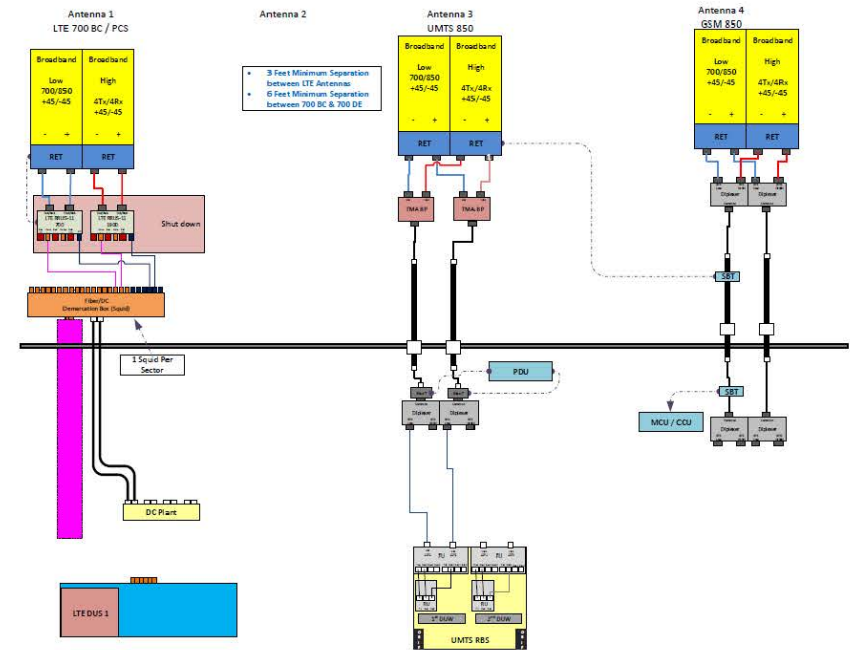


Diagram - Sector B
Abol Site Name - MAL02038
Location Name - SONESTA
Market - BOSTON
Market Cluster - NEW ENGLAND
Comments - Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna Ratio Connection Drawings Playbook v6.0 Ericsson

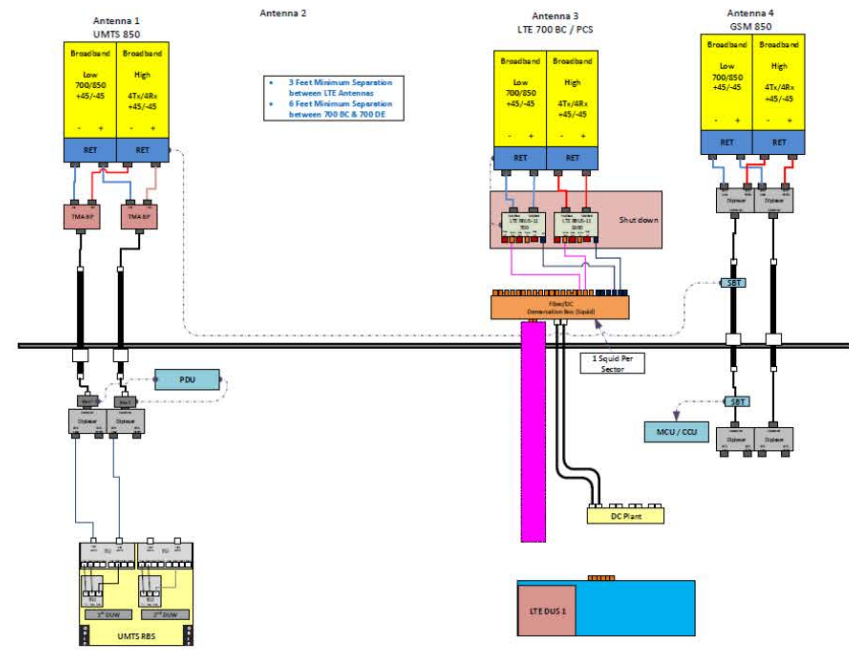
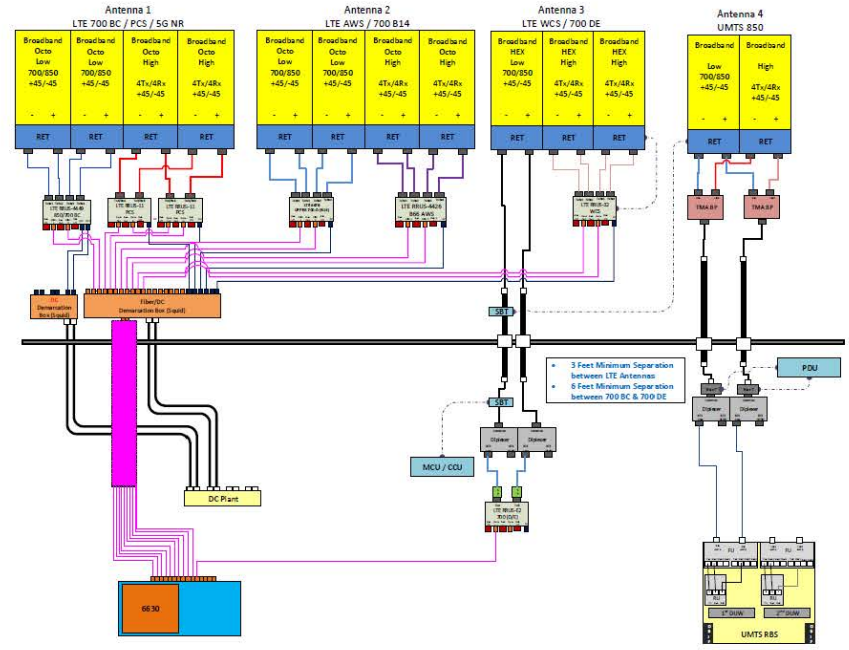


Diagram - Sector C
Abol Site Name - MAL02038
Location Name - SONESTA
Market - BOSTON
Market Cluster - NEW ENGLAND
Comments - Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna Ratio Connection Drawings Playbook v6.0 Ericsson



*BASED ON RFDS V5.0, DATED (05/05/20)

STRUCTURAL ANALYSIS REPORT

Prepared for: Smartlink / AT&T

New Antenna and RRH's Installation on Existing Rooftop

Site No.: MAL02038
FA Number: 10007272
Site Name: **SONESTA**
5 Cambridge Parkway
Cambridge, MA 02142

January 15, 2021

Rev.II: New RFDS REV. 6.0

Abraham J. Rokach, P.E.

Summary

The structural analysis was performed by Fullerton, as requested by the client, to determine the conformance of existing structure with the governing Massachusetts Building Code 9TH Edition (2015 International Building Code with amendments) and the industry standard, TIA-222-G (Structural Standards for Steel Antenna Towers and Antenna Supporting Structures). The analysis considers the existing/new structural properties, existing antennas, proposed antennas and the required loading criteria.

Scope

- Determine adequacy of the existing wall mounts to support the proposed antenna installation.
- Determine adequacy of the existing and new RRH mount to support the proposed RRH installation.
- Determine adequacy of the existing anchors to support the proposed Antenna and RRH installation.

Conclusion

- The existing wall mount is **adequate** to support the proposed antenna installation.
- The existing and new RRH mount is **adequate** to support the proposed RRH installation.
- The existing anchors are **adequate** to support the proposed antennas and RRH installation.

Analysis Data

The following is based on information provided by the client, field investigation, and other determination by Fullerton Engineering Consultants or third parties.

References: Site Walk photos dated 02/17/2020
 Mount Analysis by Fullerton Engineering dated 06/11/2018
 As-Built In Progress RFDS by AT&T dated 05/05/2020, Rev. 6.0

Appurtenance Loading Schedule

ELEV. (FT=AGL)	APPURTENANCE
135'-0"	Proposed (Sector Gamma)
	(1) New CCI DMP65R-BU4DA Antenna (1) New CCI OPA65R-BU4DA Antenna (1) Ericsson RRUS-4478 B14 Unit (1) Ericsson RRUS-4449 B5/B12 Unit (1) DC Squid Unit (1) Ericsson RRUS E2 B29 – at grade New antennas will be installed on existing wall mount attached to the penthouse wall. New RRU units and raycap will be installed on new/existing RRU unistrut frames mounted on existing penthouse wall.
135'-0"	Existing Sector Alpha (To Remain)
	(1) KMW AM-X-CD-14-65-00T-RET Antennas (2) Kathrein 742-264 Antenna (3) Ericsson RRUS – 11 B12 Units (1) DC Fiber Squid (2) Powerwave LGP 21401 TMA's (2) Kathrein 782-10250 Diplexers Antennas and equipment installed on existing wall mounts attached to existing penthouse wall.
131'-0"	Existing Sector Beta (To Remain)
	(1) KMW AM-X-CD-14-65-00T-RET Antennas (2) Kathrein 742-264 Antenna (3) Ericsson RRUS 11 B12 (1) DC Fiber Squid (2) Powerwave LGP 21401 TMA's (2) Kathrein 782-10250 Diplexers Antennas and equipment are attached to the existing sled mount on the existing roof.
135'-0"	Existing Sector Gamma (To Remain)
	(1) Andrew SBNHH-1D65A (1) Kathrein 742-264 (2) Ericsson RRUS – 11 B2 Units (1) Ericsson RRUS – 4426 B66 Units (1) Ericsson RRUS 32 B30 Units (2) Powerwave LGP 210401 TMA's (1) DC Fiber Squid Antennas and equipment are installed on existing wall mounts attached to existing penthouse wall.

Assumptions

This analysis is based on the theoretical capacity of the members and is not a condition assessment of the structure. The analysis is based solely on the information supplied, and the results, in turn, are only as accurate as data extracted from this information. Fullerton has been instructed by the client to assume the information supplied is accurate, and Fullerton has made no independent determination of its accuracy. The exception to the previous statement is if Fullerton has been contracted by the client to provide an independent structural mapping report of the structure and related appurtenances, in which case Fullerton has made an independent determination of the accuracy of the information resulting from the mapping report.

- The structural member sizes and geometry are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and stated in the materials section.
- The existing structure is assumed to have been properly maintained. The existing structure is assumed to be in good condition with no structural defects and with no deterioration to its member capacities.
- The antenna configuration is as supplied and/or stated in the analysis section. It is assumed to be complete and accurate. All antennas, mounts, remote radios, cables and cable supports are assumed to be properly installed and supported as per the manufacturer's requirements.
- The antennas, mounts, remote radios, cables and cable supports stated in the appurtenance loading schedule represent Fullerton's understanding of the overall antenna configuration. If the actual configuration is different than above, then this analysis is invalid. Please refer to this report for the projected wind areas used in the calculations for antennas and mounts. If variations or discrepancies are identified, please inform Fullerton.
- Some assumptions are made regarding antenna and mount sizes and their projected areas based on a best interpretation of the data supplied and a best knowledge of antenna type and industry practice.
- All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
- All prior structural modifications, if any, are assumed to be as per date supplied/ available, to be properly installed and to be fully effective.

Scope and Limitations

The engineering services rendered by Fullerton Engineering Consultants, LLC. (Fullerton) in connection with this structural analysis are limited to an analysis of the structure, size and capacity of its members. Fullerton does not analyze the fabrication, including welding and connection capacities, except as included in this report.

The information and conclusions contained in this report were determined by application of the current engineering standards and analysis procedures and formulae, and Fullerton assumes no obligation to revise any of the information or conclusions contained in this report in the event such engineering and analysis procedures and formulae are hereafter modified or revised.

Fullerton makes no warranties, expressed or implied in connection with this report and disclaims any liability arising from original design, material, fabrication and erection deficiencies or the “as-built” condition of this structure.

Installation procedures and loading are not within the scope of this report and should be performed and evaluated by a competent contractor.

Section I

Structural Calculations

Site Name: SONESTA
 Site No.: MAL02038
 Prepared By: AA/THC
 Checked By: BTK

Fullerton Engineering Consultants, LLC.

Date: 1/15/2021

Analysis and Design Criteria

Type of Structure	<input type="text" value="Rooftop"/>	
Elevation of Antenna Centerline Above Ground	$z := 135\text{ft}$	
Structure Height Above Grade	$h := 122$	
Ultimate Design 3-Second Gust Wind Speed	$V_{ult} := 128\text{mph}$	IBC 2015: Section 1609
Equivalent Nominal Wind Speed	$V := V_{ult} \sqrt{0.6} = 99.15\text{mph}$	IBC 2015: Section 1609.3.1
Basic Wind Speed: 3-Second Gust	$V := 105\text{ mph}$ (Governs)	ANSI/TIA-222-G: ANNEX B
Basic Wind Speed (with ice): 3-Second Gust	$V_i := 40\text{ mph}$	ANSI/TIA-222-G: ANNEX B
Ice Thickness	$t_i := 1\text{in}$	ANSI/TIA-222-G: ANNEX B
Structure Class	<input type="text" value="II"/>	ANSI/TIA-222-G: Section 2.6.6.2
Exposure Category	<input type="text" value="C"/>	ANSI/TIA-222-G: Section 2.6.6.2
Topographic Category	<input type="text" value="1"/>	ANSI/TIA-222-G: Section 2.6.6.2
Gust Effect Factor	$G_h := 1$	ANSI/TIA-222-G, Section 2.6.9
Height of Crest Above Surrounding Terrain	$H := 5\text{ft}$	
		
Importance Factor for Wind	$I_{wind} = 1$	ANSI/TIA-222-G: Table 2-3
Importance Factor for Wind with Ice	$I_{windice} = 1$	ANSI/TIA-222-G: Table 2-3
Wind Direction Probability Factor	$K_d = 0.95$	ANSI/TIA-222-G: Table 2-2
Velocity Pressure Coefficient	$K_z = 1.35$	ANSI/TIA-222-G: Section 2.6.5.2
Topographic Factor	$K_{zt} = 1$	ANSI/TIA-222-G: Section 2.6.6.4
$q_z := \max(0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot I_{wind} \cdot V^2 \cdot \text{psf})$	$q_z = 36.15 \cdot \text{psf}$	Velocity Pressure ANSI/TIA-222-G: Section 2.6.9.6.
$q_{z,ice} := \max(0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot I_{windice} \cdot V_i^2 \cdot \text{psf})$	$q_{z,ice} = 5.25 \cdot \text{psf}$	Velocity Pressure ANSI/TIA-222-G: Section 2.6.9.6.

Site Name: SONESTA
 Site No.: MAL02038
 Prepared By: AA/THC
 Checked By: BTK

Fullerton Engineering Consultants, LLC.

Date: 1/15/2021

Proposed CCI DMP65R-BU4DA Antenna

Height

height := 48in

Width/Diameter

width := 20.7in

Depth/Diameter

depth := 7.7in

Weight

weight := 67.9lbf

Shape

☒ Flat
☐ Round



DL₁ := weight

$$\frac{DL_1}{2} = 33.95 \text{ lbf}$$

Dead Load

F_{F1} := F_F

$$\frac{F_{F1}}{2} = 149.65 \text{ lbf}$$

Wind Load on Front Face

F_{S1} := F_S

$$\frac{F_{S1}}{2} = 63.37 \text{ lbf}$$

Wind Load on Side Face

DL_{1.ice} := DL_{ice}

$$\frac{DL_{1.ice}}{2} = 78.72 \text{ lbf}$$

Dead Load Ice

F_{F1.ice} := F_{F.ice}

$$\frac{F_{F1.ice}}{2} = 29.1 \text{ lbf}$$

Wind Load on Front Face

F_{S1.ice} := F_{S.ice}

$$\frac{F_{S1.ice}}{2} = 15.08 \text{ lbf}$$

Wind Load on Side Face

Proposed CCI OPA65R-BU4DA Antenna

Height

height := 48.2in

Width/Diameter

width := 21in

Depth/Diameter

depth := 7.8in

Weight

weight := 74.5lbf

Shape

☒ Flat
☐ Round



DL₂ := weight

$$\frac{DL_2}{2} = 37.25 \text{ lbf}$$

Dead Load

F_{F2} := F_F

$$\frac{F_{F2}}{2} = 152.45 \text{ lbf}$$

Wind Load on Front Face

F_{S2} := F_S

$$\frac{F_{S2}}{2} = 64.34 \text{ lbf}$$

Wind Load on Side Face

DL_{2.ice} := DL_{ice}

$$\frac{DL_{2.ice}}{2} = 79.8 \text{ lbf}$$

Dead Load Ice

F_{F2.ice} := F_{F.ice}

$$\frac{F_{F2.ice}}{2} = 29.55 \text{ lbf}$$

Wind Load on Front Face

F_{S2.ice} := F_{S.ice}

$$\frac{F_{S2.ice}}{2} = 15.25 \text{ lbf}$$

Wind Load on Side Face

Site Name: SONESTA
 Site No.: MAL02038
 Prepared By: AA/THC
 Checked By: BTK

Fullerton Engineering Consultants, LLC.

Date: 1/15/2021

Proposed Ericsson RRUS-4449 B5/B12

Height

height := 14.16in

Width/Diameter

width := 13.19in

Depth/Diameter

depth := 10.19in

Weight

weight := 73lbf

Shape

☒ Flat
☐ Round



DL₆ := weight

$$\frac{DL_6}{2} = 36.5 \text{ lbf}$$

Dead Load

F_{F6} := F_F

$$\frac{F_{F6}}{2} = 28.13 \text{ lbf}$$

Wind Load on Front Face

F_{S6} := F_S

$$\frac{F_{S6}}{2} = 21.73 \text{ lbf}$$

Wind Load on Side Face

DL_{6,ice} := DL_{ice}

$$\frac{DL_{6,ice}}{2} = 37.55 \text{ lbf}$$

Dead Load

F_{F6,ice} := F_{F,ice}

$$\frac{F_{F6,ice}}{2} = 7.3 \text{ lbf}$$

Wind Load on Front Face

F_{S6,ice} := F_{S,ice}

$$\frac{F_{S6,ice}}{2} = 6.07 \text{ lbf}$$

Wind Load on Side Face

Proposed Ericsson 4478 B14

Height

height := 16.5in

Width/Diameter

width := 13.4in

Depth/Diameter

depth := 7.7in

Weight

weight := 60lbf

Shape

☒ Flat
☐ Round



DL₇ := weight

$$\frac{DL_7}{2} = 30 \text{ lbf}$$

Dead Load

F_{F7} := F_F

$$\frac{F_{F7}}{2} = 33.3 \text{ lbf}$$

Wind Load on Front Face

F_{S7} := F_S

$$\frac{F_{S7}}{2} = 19.14 \text{ lbf}$$

Wind Load on Side Face

DL_{7,ice} := DL_{ice}

$$\frac{DL_{7,ice}}{2} = 33.98 \text{ lbf}$$

Dead Load

F_{F7,ice} := F_{F,ice}

$$\frac{F_{F7,ice}}{2} = 8.31 \text{ lbf}$$

Wind Load on Front Face

F_{S7,ice} := F_{S,ice}

$$\frac{F_{S7,ice}}{2} = 5.68 \text{ lbf}$$

Wind Load on Side Face

Site Name: SONESTA
 Site No.: MAL02038
 Prepared By: AA/THC
 Checked By: BTK

Fullerton Engineering Consultants, LLC.

Date: 1/15/2021

Proposed RRUS E2 B29 - at grade

<u>Height</u>	<u>Width/Diameter</u>	<u>Depth/Diameter</u>	<u>Weight</u>	<u>Shape</u>
height := 20.4in	width := 18.5in	depth := 7.5in	weight := 60lbf	<input checked="" type="radio"/> Flat <input type="radio"/> Round



DL ₈ := weight	$\frac{DL_8}{2} = 30 \text{ lbf}$	Dead Load
F _{F8} := F _F	$\frac{F_{F8}}{2} = 56.84 \text{ lbf}$	Wind Load on Front Face
F _{S8} := F _S	$\frac{F_{S8}}{2} = 23.23 \text{ lbf}$	Wind Load on Side Face
DL _{8,ice} := DL _{ice}	$\frac{DL_{8,ice}}{2} = 42.34 \text{ lbf}$	Dead Load
F _{F8,ice} := F _{F,ice}	$\frac{F_{F8,ice}}{2} = 12.63 \text{ lbf}$	Wind Load on Front Face
F _{S8,ice} := F _{S,ice}	$\frac{F_{S8,ice}}{2} = 6.62 \text{ lbf}$	Wind Load on Side Face

Proposed Raycap DC6-48-60-18-8C

<u>Height</u>	<u>Width/Diameter</u>	<u>Depth/Diameter</u>	<u>Weight</u>	<u>Shape</u>
height := 22.25in	width := 11in	depth := 11in	weight := 32.8lbf	<input type="radio"/> Flat <input checked="" type="radio"/> Round



DL ₉ := weight	$\frac{DL_9}{2} = 16.4 \text{ lbf}$	Dead Load
F _{F9} := F _F	$\frac{F_{F9}}{2} = 15.36 \text{ lbf}$	Wind Load on Front Face
F _{S9} := F _S	$\frac{F_{S9}}{2} = 15.36 \text{ lbf}$	Wind Load on Side Face
DL _{9,ice} := DL _{ice}	$\frac{DL_{9,ice}}{2} = 24.33 \text{ lbf}$	Dead Load
F _{F9,ice} := F _{F,ice}	$\frac{F_{F9,ice}}{2} = 3.82 \text{ lbf}$	Wind Load on Front Face
F _{S9,ice} := F _{S,ice}	$\frac{F_{S9,ice}}{2} = 3.82 \text{ lbf}$	Wind Load on Side Face

Site Name: SONESTA
 Site No.: MAL02038
 Prepared By: AA/THC
 Checked By: BTK

Fullerton Engineering Consultants, LLC.

Date: 1/15/2021

Antenna Mounting Pipe

$$H_{\text{pipe}} := 72\text{in}$$

$$\text{Pipe} := 2.0$$



$$DL_{p1} := LW_{\text{pipe}} \cdot H_{\text{pipe}}$$

$$DL_{p1} = 21.96\text{ lbf}$$

Dead Load (total weight of pipe)

$$F_{p1} := F_p$$

$$F_{p1} = 51.62\text{ lbf}$$

Wind Load

$$F_{p1.\text{ice}} := F_{p.\text{ice}}$$

$$F_{p1.\text{ice}} = 17.31\text{ lbf}$$

Wind Load with ice

$$DL_{p1.\text{ice}} := DL_{\text{ice}}$$

$$DL_{p1.\text{ice}} = 79.04\text{ lbf}$$

Dead Load of ice

$$DL_{p1.\text{ice_linear}} := \frac{DL_{\text{ice}}}{H_{\text{pipe}}}$$

$$DL_{p1.\text{ice_linear}} = 13.17\text{ plf}$$

Dead Load of ice per linear foot

$$F_{p1_linear} := F_{p_linear}$$

$$F_{p1_linear} = 9\text{ plf}$$

Linear Wind Load on Pipe

$$F_{p1_linear.\text{ice}} := F_{p_linear.\text{ice}}$$

$$F_{p1_linear.\text{ice}} = 3\text{ plf}$$

Linear Wind Load with ice on Pipe

Site Name: SONESTA
 Site No.: MAL02038
 Prepared By: AA/THC
 Checked By: BTK

Fullerton Engineering Consultants, LLC.

Date: 1/15/2021

Unistrut (P1000):

Height

height := 36in

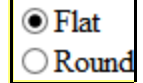
Width/Diameter

width := 1.6in

Depth/Diameter

depth := 1.6in

Shape



$F_{F.M1} := F_F$

$F_{F.M1} = 27.71 \text{ lbf}$

Wind Load on Front Face

$F_{S.M1} := F_S$

$F_{S.M1} = 27.71 \text{ lbf}$

Wind Load on Side Face

$F_{M1_Flinear} := \frac{F_F}{\text{height}}$

$F_{M1_Flinear} = 9.24 \cdot \text{plf}$

*Wind Load per Linear Foot on
Front Face*

$F_{M1_Slinear} := \frac{F_S}{\text{height}}$

$F_{M1_Slinear} = 9.24 \cdot \text{plf}$

*Wind Load per Linear Foot on
Side Face*

$DL_{M1_ice} := DL_{ice}$

$DL_{M1_ice} = 38.53 \text{ lbf}$

Dead Load of Ice

$DL_{M1_icelinear} := \frac{DL_{ice}}{\text{height}}$

$DL_{M1_icelinear} = 12.84 \cdot \text{plf}$

Dead Load of Ice per Linear Foot

$F_{F.ice.M1} := F_{F.ice}$

$F_{F.ice.M1} = 12.66 \text{ lbf}$

Wind Load with Ice on Front Face

$F_{S.ice.M1} := F_{S.ice}$

$F_{S.ice.M1} = 12.66 \text{ lbf}$

Wind Load with Ice on Side Face

$F_{M1_F.ice.linear} := \frac{F_{F.ice}}{\text{height}}$

$F_{M1_F.ice.linear} = 4.22 \cdot \text{plf}$

*Wind Load with Ice per Linear Foot
Front Face*

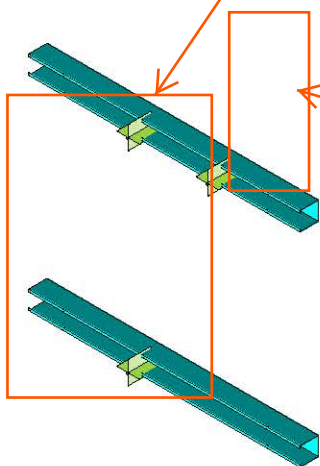
$F_{M1_S.ice.linear} := \frac{F_{S.ice}}{\text{height}}$

$F_{M1_S.ice.linear} = 4.22 \cdot \text{plf}$

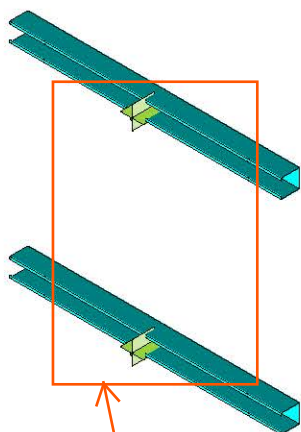
*Wind Load with Ice per Linear Foot
Side Face*



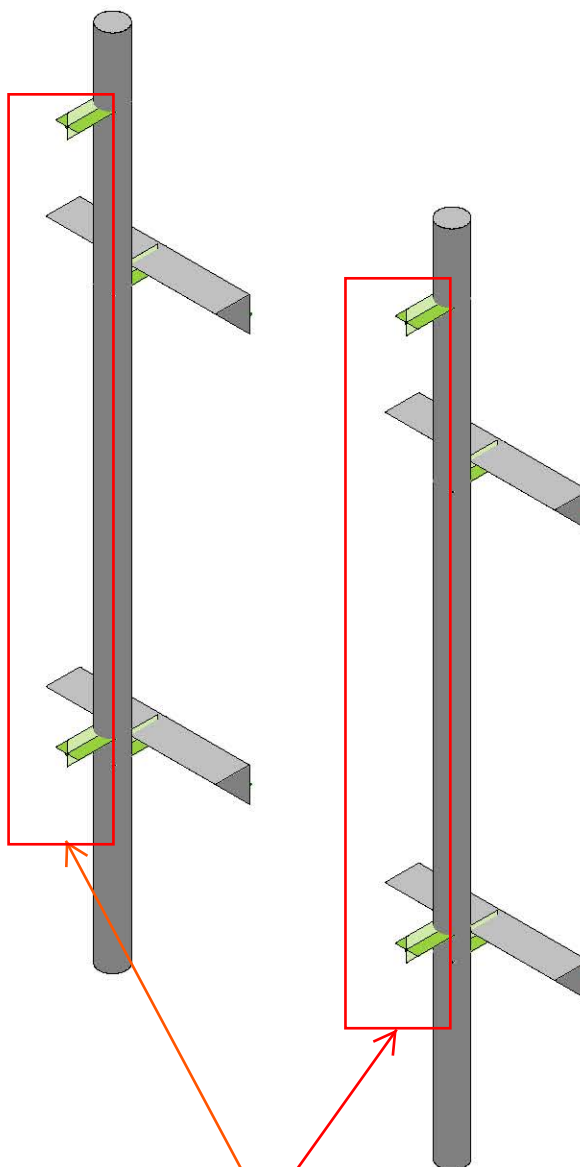
(1) Proposed Ericsson RRUS-4478 B14 Unit



(1) Proposed DC Squid Unit



(1) Proposed Ericsson RRUS-4449 B5/B12 Unit



Proposed Antennas
(Typ. of 2 at sector Gamma)

Envelope Only Solution

Fullerton Engineering Con...

AA/THC

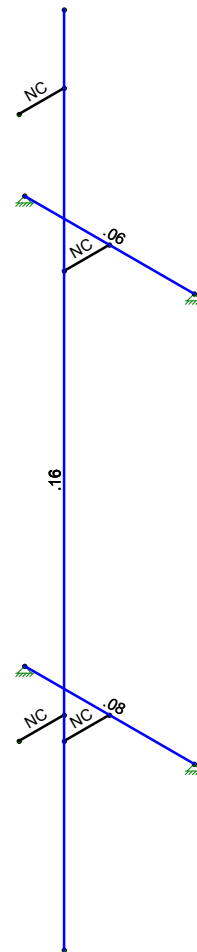
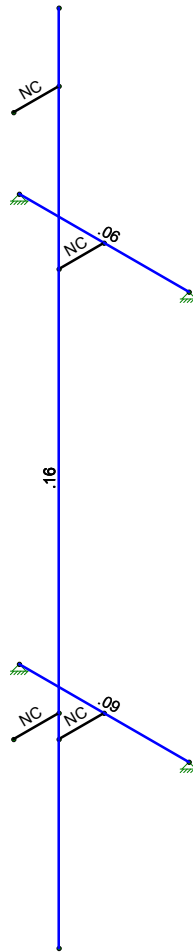
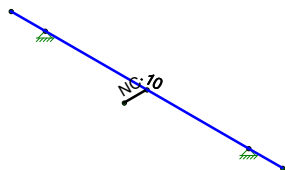
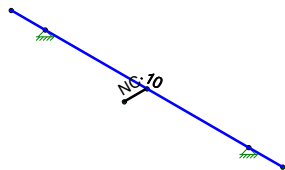
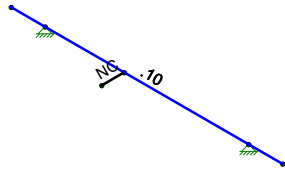
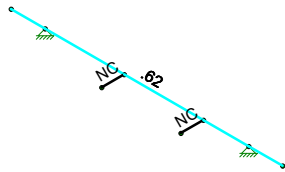
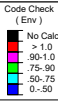
MAL02038

Mount Analysis
3D VIEW

SK - 1

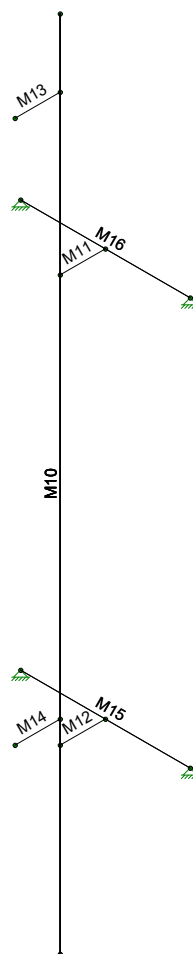
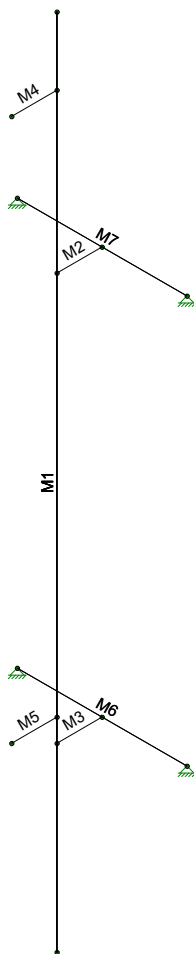
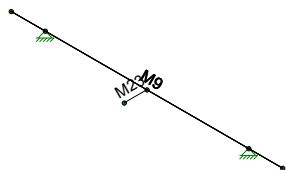
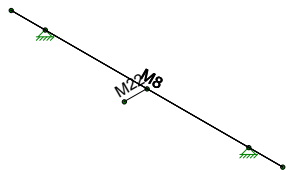
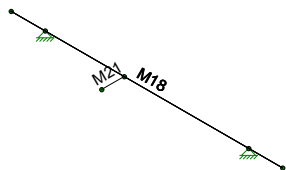
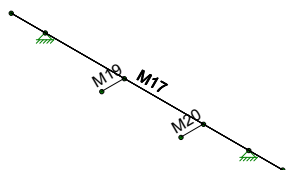
Jan 15, 2021 at 11:05 AM

MAL02038 - Mount Analysis - Gam...



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Fullerton Engineering Con...	Mount Analysis Unity Graphic	SK - 2
AA/THC		Jan 15, 2021 at 11:46 AM
MAL02038		MAL02038 - Mount Analysis - Gam...



Envelope Only Solution

Fullerton Engineering Con...

AA/THC

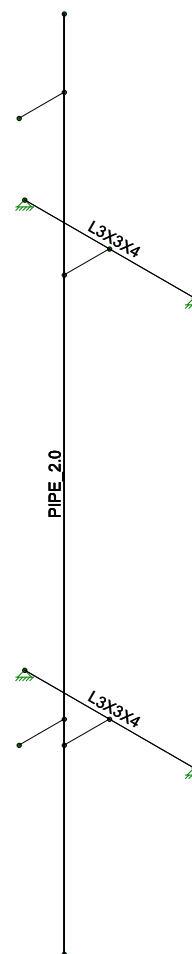
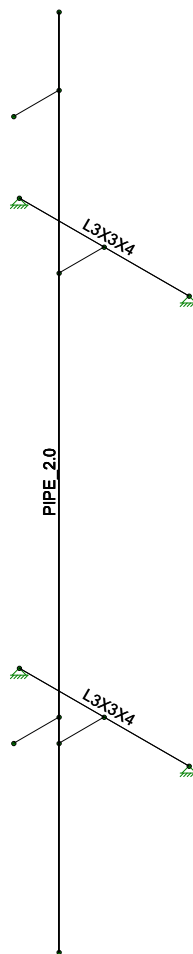
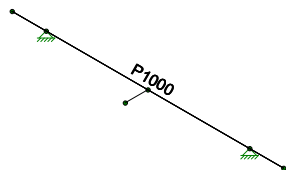
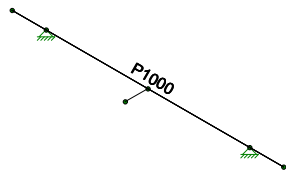
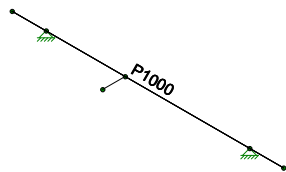
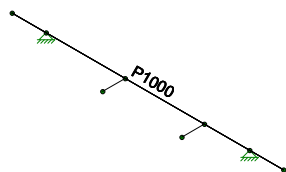
MAL02038

Mount Analysis
Member Labels

SK - 3

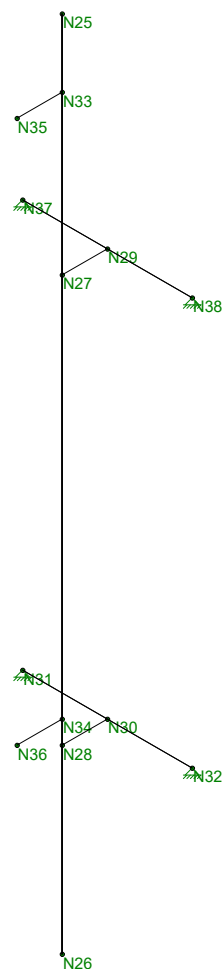
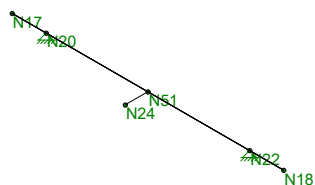
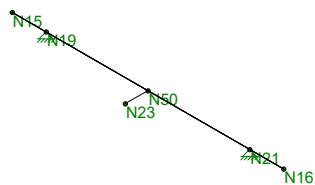
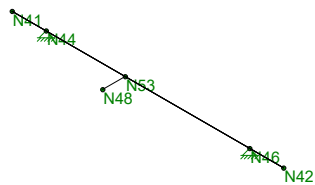
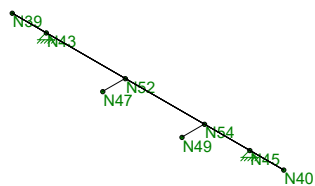
Jan 15, 2021 at 11:46 AM

MAL02038 - Mount Analysis - Gam...



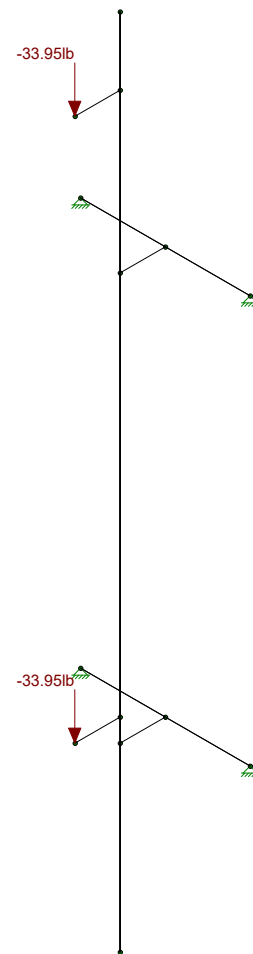
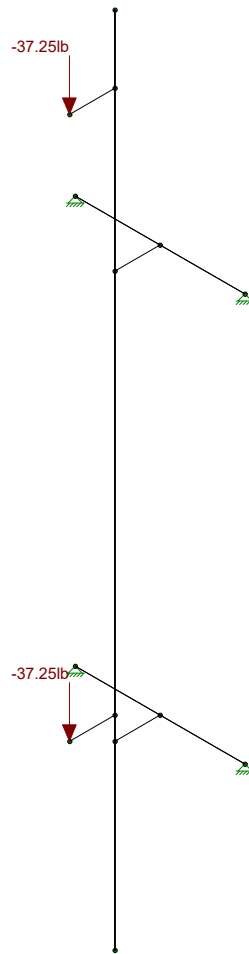
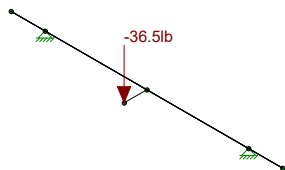
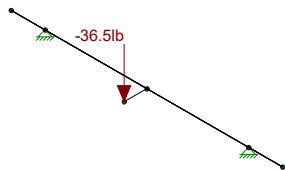
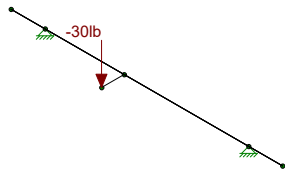
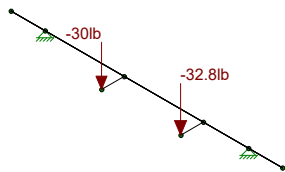
Envelope Only Solution

Fullerton Engineering Con ...	Mount Analysis Shapes	SK - 4
AA/THC		Jan 15, 2021 at 11:47 AM
MAL02038		MAL02038 - Mount Analysis - Gam...



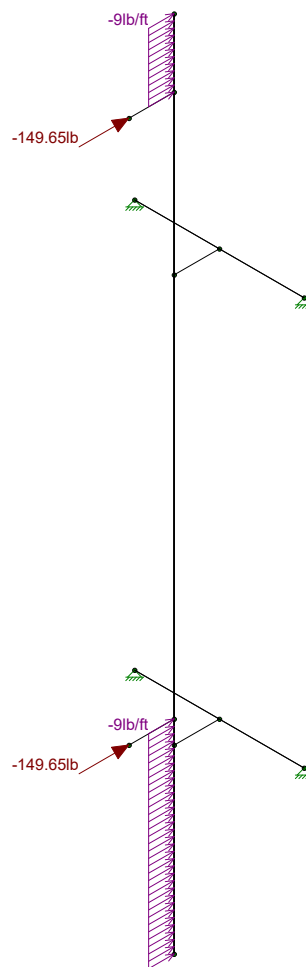
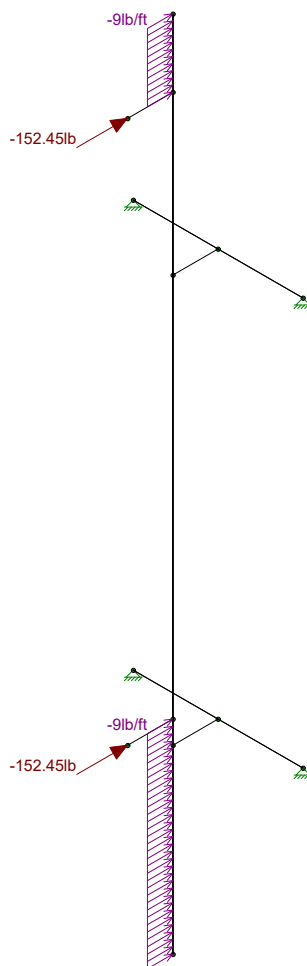
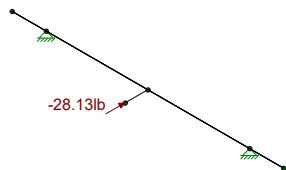
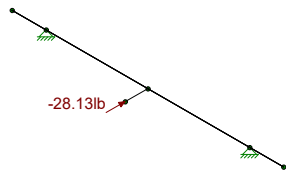
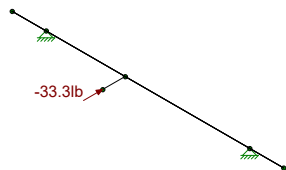
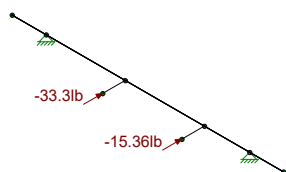
Envelope Only Solution

Fullerton Engineering Con...	Mount Analysis Nodes	SK - 5
AA/THC		Jan 15, 2021 at 11:48 AM
MAL02038		MAL02038 - Mount Analysis - Gam...



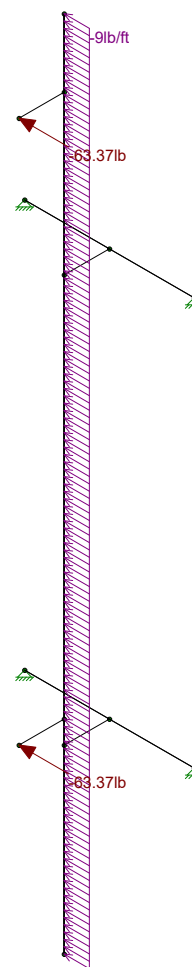
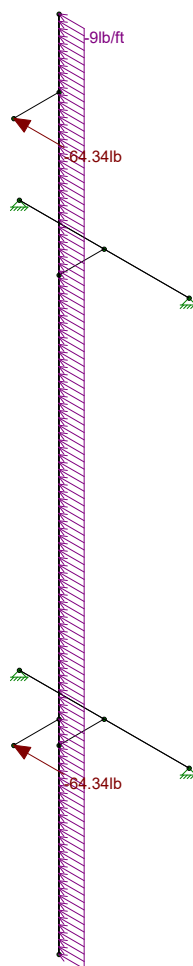
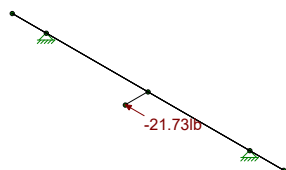
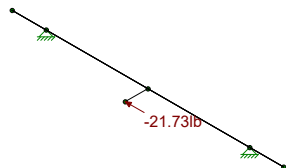
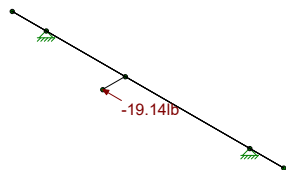
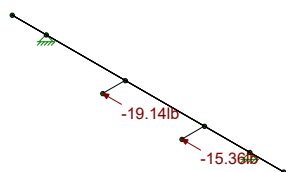
Loads: BLC 1, DL
Envelope Only Solution

Fullerton Engineering Con...	Mount Analysis Dead Load	SK - 6
AA/THC		Jan 15, 2021 at 11:49 AM
MAL02038		MAL02038 - Mount Analysis - Gam...



Loads: BLC 3, WL(0)
Envelope Only Solution

Fullerton Engineering Con...	Mount Analysis Wind Load (Z-Direction)	SK - 7
AA/THC		Jan 15, 2021 at 11:49 AM
MAL02038		MAL02038 - Mount Analysis - Gam...



Loads: BLC 4, WL(90)
Envelope Only Solution

Fullerton Engineering Con...

AA/THC

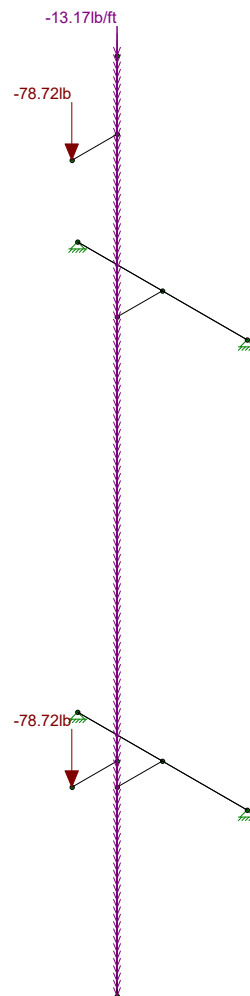
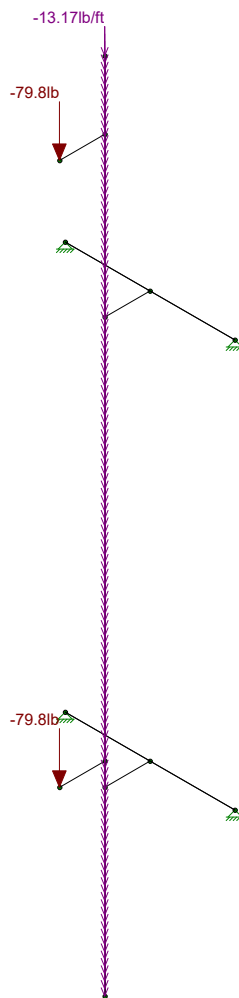
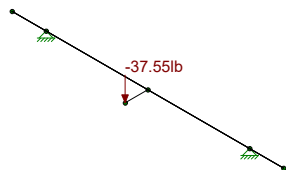
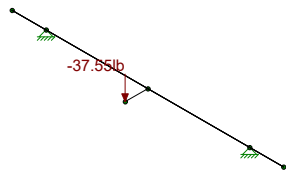
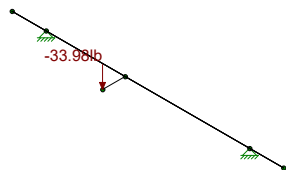
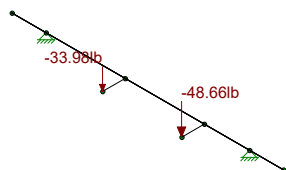
MAL02038

Mount Analysis
Wind Load (X-Direction)

SK - 8

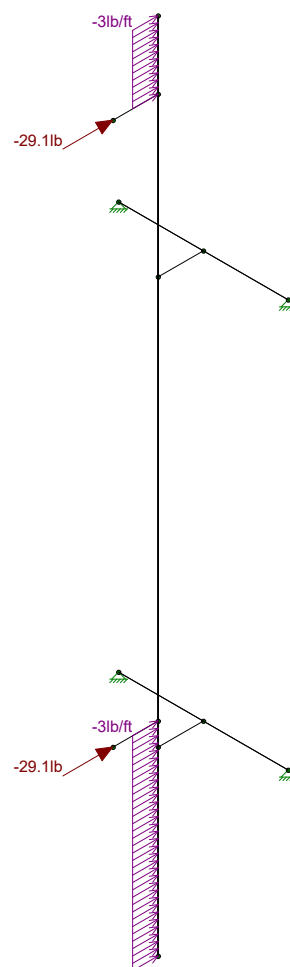
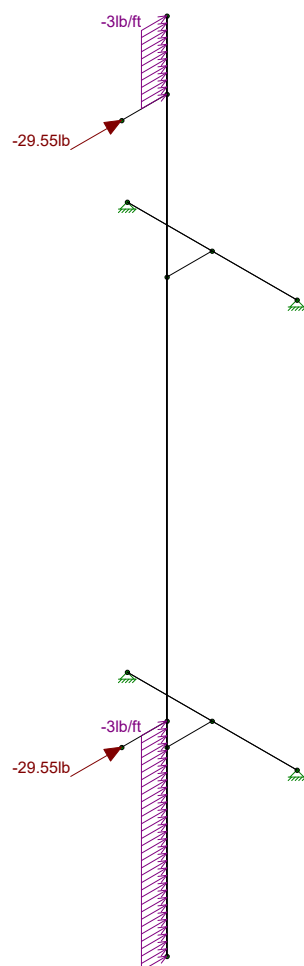
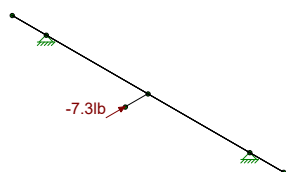
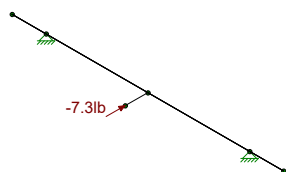
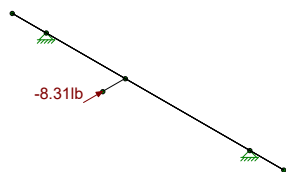
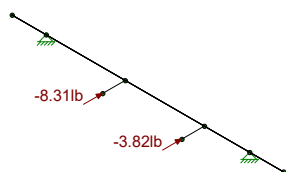
Jan 15, 2021 at 11:50 AM

MAL02038 - Mount Analysis - Gam...



Loads: BLC 2, DLI
Envelope Only Solution

Fullerton Engineering Con...	Mount Analysis Ice Load	SK - 9
AA/THC		Jan 15, 2021 at 11:51 AM
MAL02038		MAL02038 - Mount Analysis - Gam...



Loads: BLC 5, WL.i(0)
Envelope Only Solution

Fullerton Engineering Con...

AA/THC

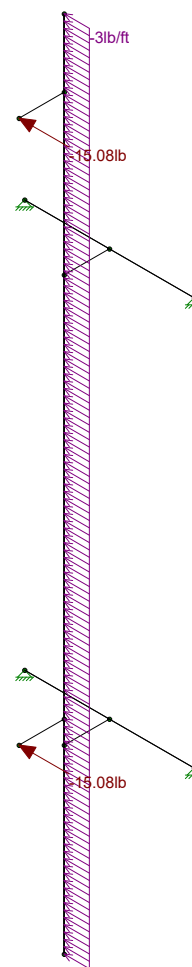
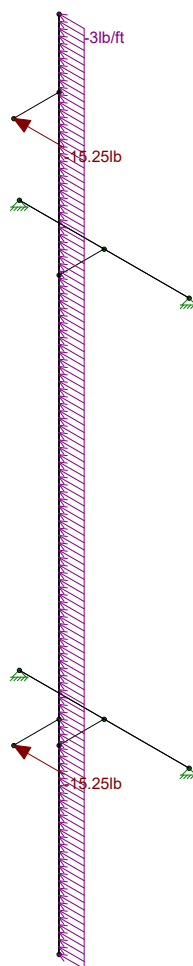
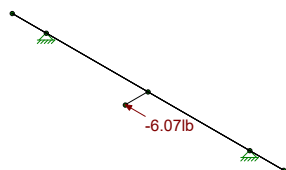
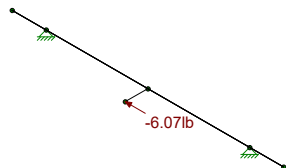
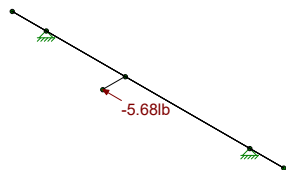
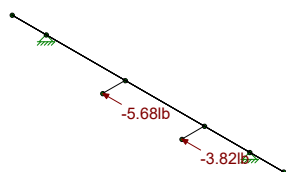
MAL02038

Mount Analysis
Wind Load with Ice (Z-Direction)

SK - 10

Jan 15, 2021 at 11:52 AM

MAL02038 - Mount Analysis - Gam...



Loads: BLC 6, WL.i(90)
Envelope Only Solution

Fullerton Engineering Con...

AA/THC

MAL02038

Mount Analysis
Wind Load with Ice (X-Direction)

SK - 11

Jan 15, 2021 at 11:52 AM

MAL02038 - Mount Analysis - Gam...

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)
RISACONNECTION CODE	AISC 14th(360-10): LRFD
Cold Formed Steel Code	AISI S100-12: LRFD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parame Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Hot Rolled Steel Design Parameters

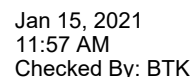
	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	PIPE 2.0	72			Lbyy						Lateral
2	M6	L3X3X4	15			Lbyy						Lateral
3	M7	L3X3X4	15			Lbyy						Lateral
4	M10	PIPE 2.0	72			Lbyy						Lateral
5	M15	L3X3X4	15			Lbyy						Lateral
6	M16	L3X3X4	15			Lbyy						Lateral

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		13	42	0
3	Total General		13	42	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L3X3X4	4	60	.024
7	ASTM A53 Gr. 35	PIPE 2.0	2	144	.042
8	Total HR Steel		6	204	.066
9					
10	Cold Formed Steel				
11	A570 Gr.33	P1000	4	96	.012
12	Total CF Steel		4	96	.012

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	DL	None		-1		9			
2	DLi	None				9		2	
3	WL(0)	None				9		4	

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Envelope AISI S100-12: LRFD Cold Formed Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	ϕP_n	ϕT_n	ϕM_{ux}	ϕM_{uy}	C_b	C_{my}	C_{mz}	Eqn
1	M8	P1000	.099	12	24	.081	3	y	24	7867....	13275.9	.442	.515	1	.6	.85	C3.3....
2	M9	P1000	.099	12	24	.081	3	y	24	7867....	13275.9	.442	.515	1	.6	.85	C3.3....
3	M17	P1000	.615	17	13	.612	7	y	13	7867....	13275.9	.442	.515	1	.6	.85	C3.3....
4	M18	P1000	.097	10	16	.085	3	y	16	7867....	13275.9	.442	.515	1	.6	.85	C3.3....

Max. Stress Ratio < 1
Members are adequate

HILTI HY-70

2016 Hilti

Anchor Calculations (Gamma Sector)

New antennas will be installed on existing wall mounts (Site Pro 1 P/N # WMA300) attached to existing penthouse wall with (2) 1/2" ϕ Hilti HIT HY-70 Adhesive Anchors w/ 2" minimum embedment, per support. New RRH units will be installed on existing/proposed unistrut wall mounts attached to existing penthouse wall with (2) 1/2" ϕ Hilti HIT HY-70 Adhesive Anchors w/ 2" minimum embedment, per support.

Maximum Reactions from Risa Mount Analysis Node :

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	69.691	28	198.874	7	110.844	2	0	37	0	37	0	37
2		min	-69.691	34	-139.334	25	-91.14	32	0	1	0	1	0	1
3	N8	max	69.691	28	198.874	7	110.844	12	0	37	0	37	0	37
4		min	-69.691	34	-139.334	25	-91.14	30	0	1	0	1	0	1
5	N13	max	76.454	4	221.649	2	182.834	26	0	37	0	37	0	37
6		min	-76.454	10	-168.317	32	-202.527	8	0	1	0	1	0	1
7	N14	max	76.454	4	221.649	12	182.834	36	0	37	0	37	0	37
8		min	-76.454	10	-168.317	30	-202.527	6	0	1	0	1	0	1
17	N31	max	68.95	28	193.947	7	108.5	2	0	37	0	37	0	37
18		min	-68.95	34	-138.148	25	-90.332	32	0	1	0	1	0	1
19	N32	max	68.95	28	193.947	7	108.5	12	0	37	0	37	0	37
20		min	-68.95	34	-138.148	25	-90.332	30	0	1	0	1	0	1
21	N37	max	75.642	4	216.738	2	180.238	26	0	37	0	37	0	37
22		min	-75.642	10	-166.593	32	-198.394	8	0	1	0	1	0	1
23	N38	max	75.642	4	216.738	12	180.238	36	0	37	0	37	0	37
24		min	-75.642	10	-166.593	30	-198.394	6	0	1	0	1	0	1

$$X := 76.454 \text{ lbf}$$

Maximum Reaction - X direction

$$Y := 221.649 \text{ lbf}$$

Maximum Reaction - Y direction

$$Z := 202.527 \text{ lbf}$$

Maximum Reaction - Z direction

$$P_t := \frac{Z}{1.35}$$

$$P_t = 150.02 \text{ lbf}$$

Design Tensile Force

$$P_v := \frac{\sqrt{X^2 + Y^2}}{1.35}$$

$$P_v = 173.68 \text{ lbf}$$

Design Shear Force

$$d_b := 0.5 \text{ in}$$

Diameter of anchor

Site Name: Sonesta
Site Number: MAL02038
Prepared By: AA/THC
Checked By: RKM

Fullerton Engineering Consultants, LLC

1100 E. Woodfield Road, Suite 500
Schaumburg, IL 60173
(847) 908-8400

Date: 01/15/2021

$$A_b := \frac{\pi \cdot d_b^2}{4}$$

$$A_b = 0.2 \cdot \text{in}^2$$

Area of anchor

$$P_{t_anchor} := P_t$$

$$P_{t_anchor} = 150.02 \text{ lbf}$$

Tension/Compression at each anchor

$$P_{v_anchor} := P_v$$

$$P_{v_anchor} = 173.68 \text{ lbf}$$

Shear at each anchor

$$Anchor_T := \min(3755 \text{ lbf}, 390 \text{ lbf})$$

$$Anchor_T = 390 \text{ lbf}$$

Allowable tensile strength per Hilti
Anchoring Fastening Technical
Guide 2016

$$Anchor_V := \min(1935 \text{ lbf}, 670 \text{ lbf})$$

$$Anchor_V = 670 \text{ lbf}$$

Allowable shear strength per Hilti
Anchoring Fastening Technical
Guide 2016

$$\frac{P_{t_anchor}}{Anchor_T} + \frac{P_{v_anchor}}{Anchor_V} = 0.64$$

StressCheck = "Anchors are adequate."

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)		ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL		AM-X-CD-14-65-00T-RET				742-264		742-264							
ANTENNA VENDOR		KMW				Kathrein		Kathrein							
ANTENNA SIZE (H x W x D)		48X11.8X5.9				51.8X10.3X5.5		51.8X10.3X5.5							
ANTENNA WEIGHT		36.4				36.4		36.4							
AZIMUTH		17				30		30							
MAGNETIC DECLINATION															
RADIATION CENTER (feet)		135				135		135							
ANTENNA TIP HEIGHT		137				137		137							
MECHANICAL DOWNTILT		0				0		0							
FEEDER AMOUNT						2		2							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)															
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)															
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)															
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)															
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)															
Antenna RET Motor (QTY/MODEL)			Internal			2	Kathrein 860-10025	2	Kathrein 860-10025						
SURGE ARRESTOR (QTY/MODEL)		1	DC/Fiber Squid												
DIPLEXER (QTY/MODEL)						2	Kathrein 782-10250	4	Kathrein 782-10250						
DUPLXER (QTY/MODEL)															
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH					1	Kathrein / 860-10006						
DC BLOCK (QTY/MODEL)															
TMA/LNA (QTY/MODEL)						2	Powerwave LGP 21401 (DB - 850 Bypass)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)						2	Polyphaser 1000860								
PDU FOR TMAS (QTY/MODEL)						1	LGP 12104 (1900 AND 850 Bypass TMA)								
FILTER (QTY/MODEL)															
SQUID (QTY/MODEL)															
FIBER TRUNK (QTY/MODEL)															
DC TRUNK (QTY/MODEL)															
REPEATER (QTY/MODEL)															
RRH - 700 band (QTY/MODEL)		1	RRUS-11 B12												
RRH - 850 band (QTY/MODEL)															
RRH - 1900 band (QTY/MODEL)		2	RRUS-11 B2												
RRH - AWS band (QTY/MODEL)															
RRH - WCS band (QTY/MODEL)															
Additional RRH #1 - any band (QTY/MODEL)															
Additional RRH #2 - any band (QTY/MODEL)															
Additional Component 1 (QTY/MODEL)								2	Kathrein / 782-10253 (1) & 782-10254 (1)						
Additional Component 2 (QTY/MODEL)															
Additional Component 3 (QTY/MODEL)															
Local Market Note 1		// Antennae & Radio positions according to PD- Replace Hexport antenna with octo port Antenna- Replace LTE RRH with 4449- Add LTE B14 RRH 4478- Add DC Squid- Replace BB with 6630- Baseband configuration as per PD / Section-7													
Local Market Note 2		LTE only on Gamma													
Local Market Note 3		xxxxx / 6630 / xxxxx													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/IT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1					Shutdown	LTE	AM-X-CD-14-65-00T-RET_725MHz_05DT	14.1	17	5	Top	FIBER	0						1475.7065		1	
	PORT 3					Shutdown	LTE	AM-X-CD-14-65-00T-RET_1930MHz_02DT	16.3	17	2	Top	FIBER	0						4842.058		2	
ANTENNA POSITION 3	PORT 1	54479.A.850.3G.1	54479.A.850.3G.1	MAV20381	MAV20381		UMTS 850	742-264 @ 850MHz_14DT	14	30	14	None	Commscope 1-5/8	110									

ANTENNA POSITION 4	PORT 5					DECO M	GSM 850																
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Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)		ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL		742-264				AM-X-CD-14-65-00T-RET		742-264							
ANTENNA VENDOR		Kathrein				KMW		Kathrein							
ANTENNA SIZE (H x W x D)		51.8X10.3X5.5				48X11.8X5.9		51.8X10.3X5.5							
ANTENNA WEIGHT		36.4				36.4		36.4							
AZIMUTH		150				155		150							
MAGNETIC DECLINATION															
RADIATION CENTER (feet)		131				131		131							
ANTENNA TIP HEIGHT		133				133		133							
MECHANICAL DOWNTILT		0				1		0							
FEEDER AMOUNT		2						2							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)															
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)															
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)															
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)															
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)															
Antenna RET Motor (QTY/MODEL)		2		Kathrein 860-10025			Internal	2		Kathrein 860-10025					
SURGE ARRESTOR (QTY/MODEL)					1		DC/Fiber Squid								
DIPLEXER (QTY/MODEL)		2		Kathrein 782-10250				4		Kathrein 782-10250					
DUPLXER (QTY/MODEL)															
Antenna RET CONTROL UNIT (QTY/MODEL)							LTE RRH								
DC BLOCK (QTY/MODEL)															
TMA/LNA (QTY/MODEL)		2		Powerwave LGP 21401 (DB - 850 Bypass)											
CURRENT INJECTORS FOR TMA (QTY/MODEL)		2		Polyphaser 1000860											
PDU FOR TMA5 (QTY/MODEL)															
FILTER (QTY/MODEL)															
SQUID (QTY/MODEL)															
FIBER TRUNK (QTY/MODEL)															
DC TRUNK (QTY/MODEL)															
REPEATER (QTY/MODEL)															
RRH - 700 band (QTY/MODEL)					1		RRUS-11 B12								
RRH - 850 band (QTY/MODEL)															
RRH - 1900 band (QTY/MODEL)					2		RRUS-11 B2								
RRH - AWS band (QTY/MODEL)															
RRH - WCS band (QTY/MODEL)															
Additional RRH #1 - any band (QTY/MODEL)															
Additional RRH #2 - any band (QTY/MODEL)															
Additional Component 1 (QTY/MODEL)								2		Kathrein / 782-10253 (1) & 782-10254 (1)					
Additional Component 2 (QTY/MODEL)															
Additional Component 3 (QTY/MODEL)															
Local Market Note 1		// Antennae & Radio positions according to PD- Replace Hexport antenna with octo port Antenna- Replace LTE RRH with 4449- Add LTE B14 RRH 4478- Add DC Squid- Replace BB with 6630- Baseband configuration as per PD / Section-7													
Local Market Note 2		LTE only on Gamma													
Local Market Note 3		xxxxx / 6630 / xxxxx													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQ UENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	54479.B.850.3G.1	54479.B.850.3G.1	MAV20382	MAV20382		UMTS 850	742-264 @850MHz_14DT	14	150	14	None	Commscope 1-5/8	110								9	
ANTENNA POSITION 3	PORT 1					Shut down	LTE	AM-X-CD-14-65-00T-RET_725MHz_10DT	14.1	155	10	Top	FIBER	0						1475.7065		13	
	PORT 3					Shut down	LTE	AM-X-CD-14-65-00T-RET_1930MHz_02DT	16.3	155	2	Top	FIBER	0								14	

ANTENNA POSITION 4	PORT 5					DECO M	GSM 850																
--------------------	--------	--	--	--	--	-----------	---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)		ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL		DMP65R-BU4DA		OPA65R-BU4DA		SBNHH-1D65A		742-264							
ANTENNA VENDOR		CCI		CCI		Andrew		Kathrein							
ANTENNA SIZE (H x W x D)		48.0X20.7X7.7		48.2X21X7.8		55X11.9X7.1		51.8X10.3X5.5							
ANTENNA WEIGHT		67.9		52.5		33.5		36.4							
AZIMUTH		250		250		250		270							
MAGNETIC DECLINATION															
RADIATION CENTER (feet)		135		135		135		135							
ANTENNA TIP HEIGHT		137		137		137		137							
MECHANICAL DOWNTILT		0		0		0		0							
FEEDER AMOUNT						Fiber + 2 Coax		2							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)															
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)															
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)															
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)															
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)															
Antenna RET Motor (QTY/MODEL)			Internal		Internal		Internal	2	Kathrein 860-10025						
SURGE ARRESTOR (QTY/MODEL)		1	DC/Fiber Squid	1	DC Squid										
DIPLEXER (QTY/MODEL)								2	Kathrein 782-10250						
DUPLEXER (QTY/MODEL)															
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH		LTE RRH		LTE RRH								
DC BLOCK (QTY/MODEL)															
TMA/LNA (QTY/MODEL)								2	Powerwave LGP 21401 (DB - 850 Bypass)						
CURRENT INJECTORS FOR TMA (QTY/MODEL)								2	Polyphaser 1000860						
PDU FOR TMAS (QTY/MODEL)															
FILTER (QTY/MODEL)															
SQUID (QTY/MODEL)															
FIBER TRUNK (QTY/MODEL)															
DC TRUNK (QTY/MODEL)															
REPEATER (QTY/MODEL)															
RRH - 700 band (QTY/MODEL)		1	4449 B5/B12	1	4478 B14	1	RRUS-E2 B29								
RRH - 850 band (QTY/MODEL)			RRH is shared with another band												
RRH - 1900 band (QTY/MODEL)		2	RRUS-11 B2												
RRH - AWS band (QTY/MODEL)				1	4426 B66										
RRH - WCS band (QTY/MODEL)						1	RRUS-32 B30								
Additional RRH #1 - any band (QTY/MODEL)															
Additional RRH #2 - any band (QTY/MODEL)															
Additional Component 1 (QTY/MODEL)						2	Kathrein / 782-10253 (1) & 782-10254 (1)								
Additional Component 2 (QTY/MODEL)															
Additional Component 3 (QTY/MODEL)															
Local Market Note 1		// Antennae & Radio positions according to PD- Replace Hexport antenna with octo port Antenna- Replace LTE RRH with 4449- Add LTE B14 RRH 4478- Add DC Squid- Replace BB with 6630- Baseband configuration as per PD / Section-7													
Local Market Note 2		LTE only on Gamma													
Local Market Note 3		xxxxxx / 6630 / xxxxxx													

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RX/IT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	54479.C.700.4G.1		MAL02038_7C_1	MAL02038_7C_1		LTE 700	DMP65R-BU4D_725MHz_09DT	10.8	250	9	Top	FIBER	0						1475.7065		17	
	PORT 2	54479.C.850.4G.1		MAL02038_8C_1	MAL02038_8C_1		LTE 850	DMP65R-BU4D_850MHz_09DT	12.4	250	9	Top	FIBER	0						1000		17	
	PORT 3	54479.C.1900.4G.1		MAL02038_9C_1	MAL02038_9C_1		LTE 1900	DMP65R-BU4D_1930MHz_06DT	15.9	250	6	Top	FIBER	0								18	
	PORT 5	54479.C.850.5G.1		MAMN002038_N005C	MAMN002038_N005C		5G 850	DMP65R-	12.4	250	9	Top	FIBER	0						1000		17	

				_1	_1			BU4D_850MHz_09DT															
ANTENNA POSITION 2	PORT 1	54479.C.700.4G.5		MAL02038_7C_3_F	MAL02038_7C_3_F		LTE 700	OPA65R-BU4D_725MHz_09DT	12.1	250	9	Top	FIBER	0						2951.413		19	
	PORT 3	54479.C.AWS.4G.4		MAL02038_2C_2	MAL02038_2C_2		LTE AWS	OPA65R-BU4D_2130MHz_08DT	16.5	250	8	Top	FIBER	0						5070.2572		20	
ANTENNA POSITION 3	PORT 1	54479.C.700.4G.4		MAL02038_7C_2_E	MAL02038_7C_2_E		LTE 700	SBNHH-1D65A_722MHz_09DT	12.9	250	9	Top	FIBER	0						1475.7065		21	
	PORT 3	54479.C.WCS.4G.1		MAL02038_3C_1	MAL02038_3C_1		LTE WCS	SBNHH-1D65A_2355MHz_08DT	17.1	250	8	Top	FIBER	0						1285.2866		22	
ANTENNA POSITION 4	PORT 1	54479.C.850.3G.1		MAV20383	MAV20383		UMTS 850	742-264@850MHz_14DT	14	270	14	None	Commscope 1-5/8	110								23	



at&t

Site Name: Sonesta

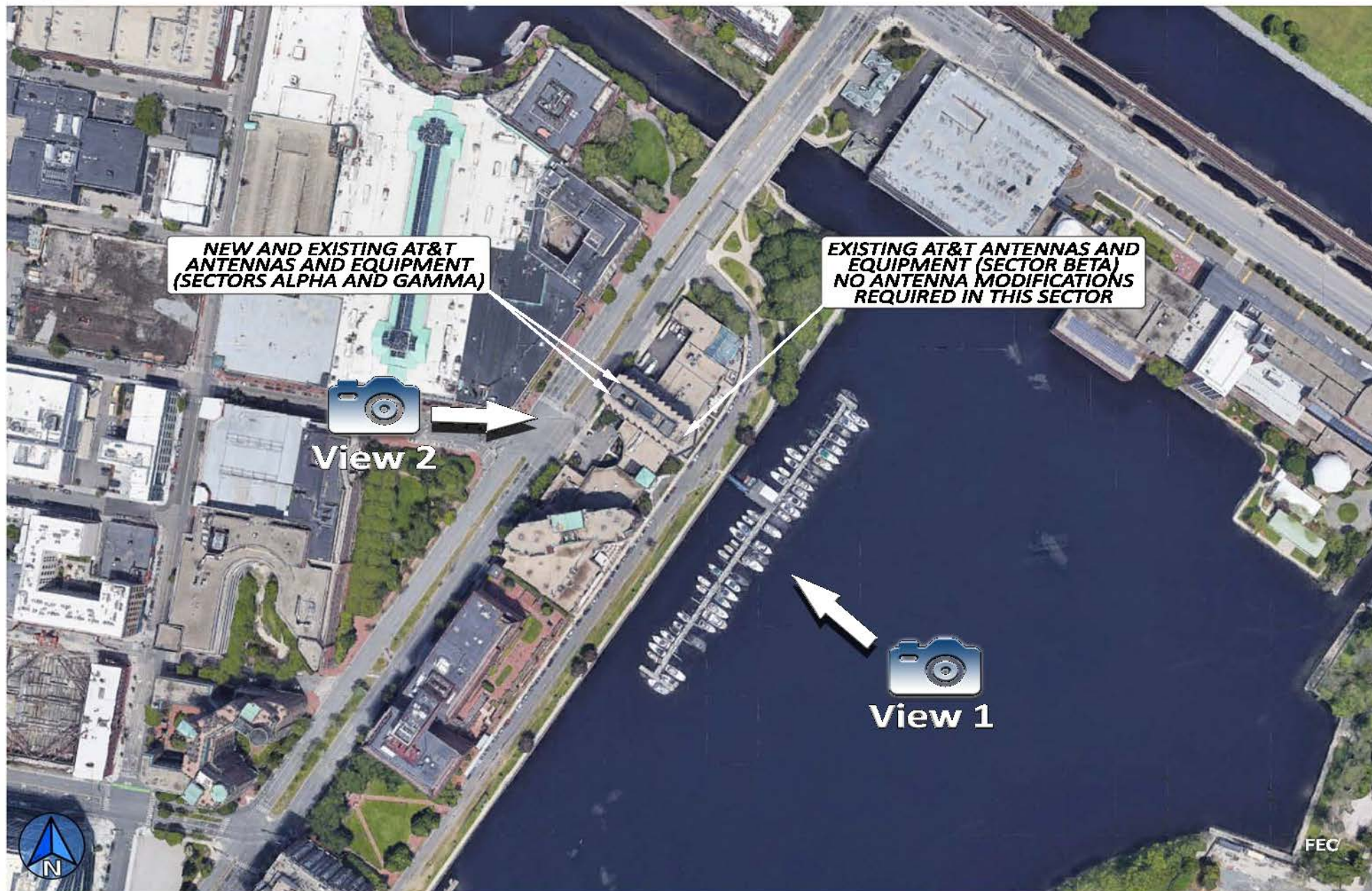
Site Number: MAL02038

Address: 5 Cambridge Parkway

FULLERTON

Cambridge, MA 02142

ENGINEERING · DESIGN



Vicinity Area

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



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Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

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ENGINEERING · DESIGN



**EXISTING AT&T ANTENNAS
AND EQUIPMENT (SECTOR BETA)**

View 1- Before [Looking Northwest from 400']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



at&t

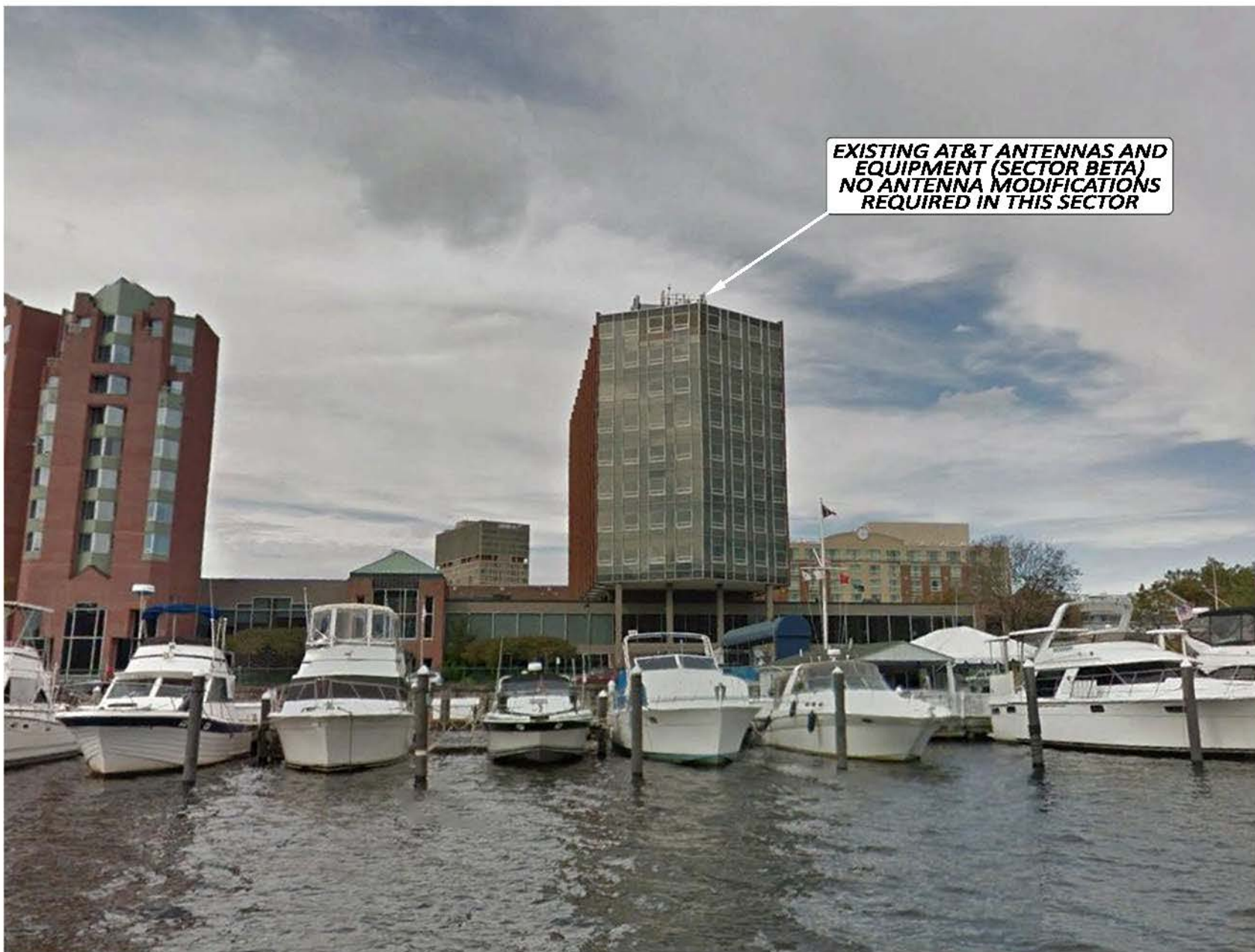
Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

FULLERTON
ENGINEERING · DESIGN



**EXISTING AT&T ANTENNAS AND
EQUIPMENT (SECTOR BETA)
NO ANTENNA MODIFICATIONS
REQUIRED IN THIS SECTOR**

View 1- After [Looking Northwest from 400']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



at&t

Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

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ENGINEERING · DESIGN

**EXISTING AT&T ANTENNAS AND
EQUIPMENT BEHIND SCREEN WALLS
(SECTORS ALPHA AND GAMMA)**



View 2- Before [Looking East from 200']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



at&t

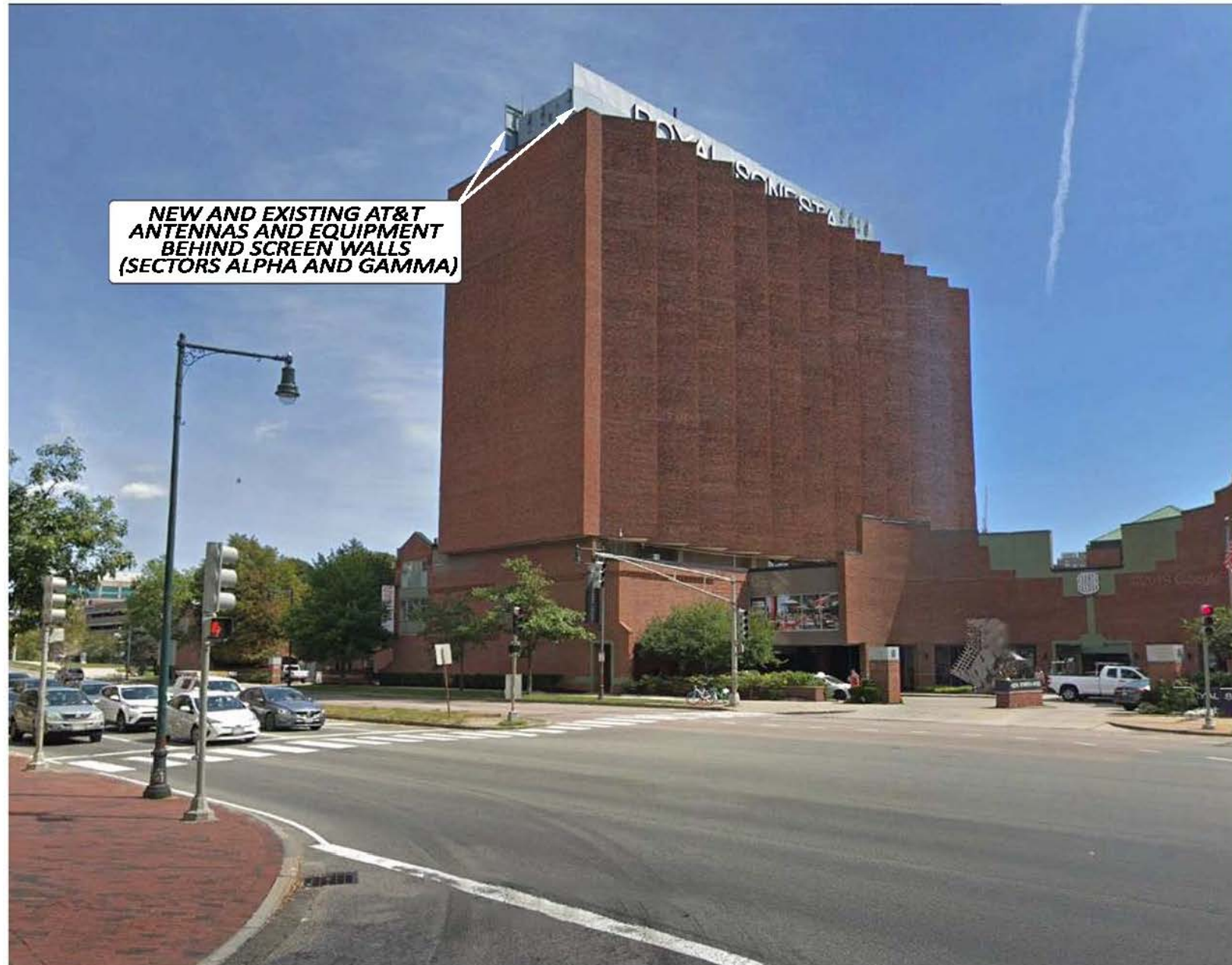
Site Name: Sonesta

Site Number: MAL02038

Address: 5 Cambridge Parkway

Cambridge, MA 02142

FULLERTON
ENGINEERING · DESIGN



View 2- After [Looking East from 200']

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of the site.



**Smartlink on behalf of
AT&T Mobility, LLC
Site FA – 10007272
Site ID – MAL02038
USID – 54479
Site Name – SONESTA
(MRCTB043921)**

**5 Cambridge Parkway
Cambridge, MA 02142**

Latitude: N42-22-00.98
Longitude: W71-04-28.98
Structure Type: Rooftop

Report generated date: July 1, 2020
Report by: Sophie Thein
Customer Contact: William Noel

**AT&T Mobility, LLC will be compliant when the
remediation recommended in Section 5.2 or
other appropriate remediation is implemented.**

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1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Max Cumulative Simulated RFE Level on the Rooftop	154.0% General Public Limit 1" in front of AT&T Mobility, LLC's Beta Sector Antenna 4
Max Cumulative Simulated RFE Level on the Rooftop Walking Surface	154.0% General Public Limit 1" in front of AT&T Mobility, LLC's Beta Sector Antenna 4
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
Compliant per FCC Rules and Regulations?	Will Be Compliant
Compliant per AT&T Mobility, LLC's Policy?	No

The following documents were provided by the client and were utilized to create this report:

RFDS: NEW-ENGLAND_BOSTON_MAL02038_2020-LTE-Next-Carrier_LTE_DR701e_2101A0RWE2_10007272_54479_08-22-2019_Final-Approved_v5.00

CD's: 10007272_AE201_200422_MAL02038_REV1 5C-6C-5G NR










RF Powers Used: Max RRH Power

1.2 Fall Arrest Anchor Point Summary



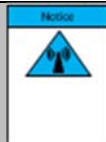






Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	N/A	N

1.3 Signage Summary

a. Pre-Site Visit AT&T Signage (Existing Signage)

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)	1								
Alpha	1								
Beta	2		2						
Gamma	1								
Delta									
Epsilon									

b. Proposed AT&T Signage

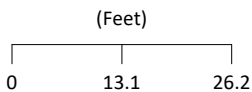
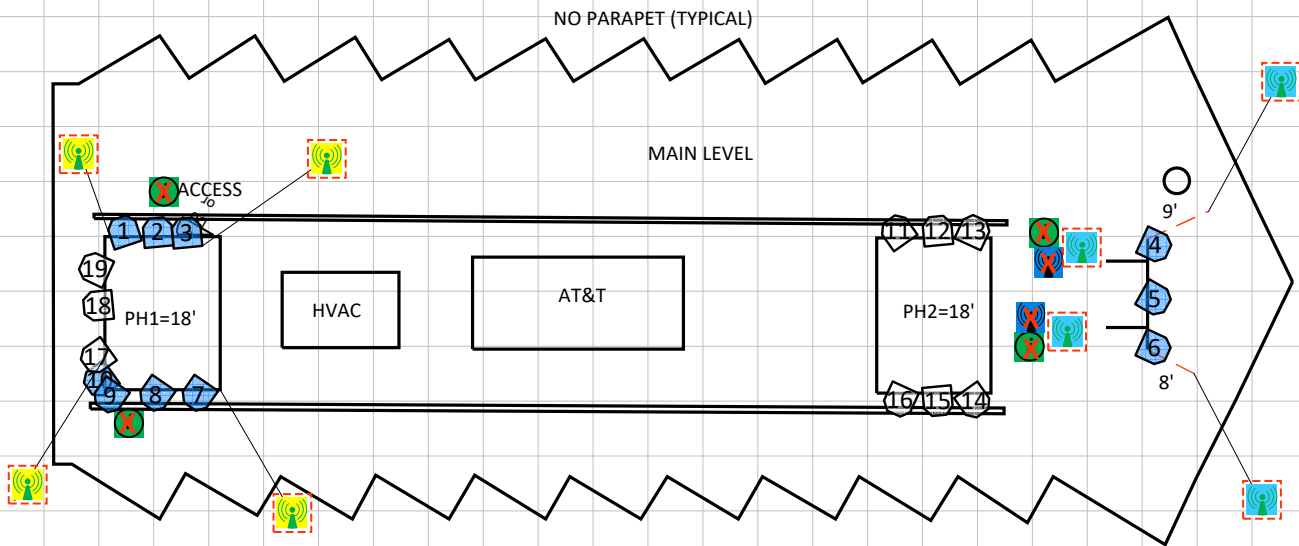
AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)									
Alpha						2			
Beta				4					X
Gamma						2			
Delta									
Epsilon									

2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- AT&T Mobility, LLC Contribution

Site Scale Map For: SONESTA



Carrier Identification

- AT&T MOBILITY LLC
- VERIZON WIRELESS
- T-MOBILE
- SPRINT
- UNKNOWN CARRIER

Sign Legend

- Caution 1
- Caution 2
- Notice 2
- Notice 1
- Warning
- Warning 2
- Info 1
- Info 2
- RFED
- RF Emissions Diagram
- Locked Ladder

Existing Barrier ——— **Proposed Barrier/Sign** - - - **Remove Sign** X

3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
1	AT&T MOBILITY LLC (Shutdown)	KMW AM-X-CD-14-65-00T	Panel	737	LTE	17	67.0	4	0	TPO	Watt	0	1	0	11.66	11'	0°	5°
1	AT&T MOBILITY LLC (Shutdown)	KMW AM-X-CD-14-65-00T	Panel	1900	LTE	17	65.0	4	0	TPO	Watt	0	1	0	13.86	11'	0°	2°
2	AT&T MOBILITY LLC	Kathrein-Scala 742-264	Panel	850	UMTS	30	68.4	4.3	40	TPO	Watt	0	1	634	12.00	10.8'	0°	14°
3	AT&T MOBILITY LLC (Decommissioned)	Kathrein-Scala 742-264	Panel	850	GSM	30	68.4	4.3	0	TPO	Watt	0	1	0	12.00	10.8'	0°	0°
4	AT&T MOBILITY LLC	Kathrein-Scala 742-264	Panel	850	UMTS	150	68.4	4.3	40	TPO	Watt	0	1	634	12.00	6.8'	0°	14°
5	AT&T MOBILITY LLC (Shutdown)	KMW AM-X-CD-14-65-00T	Panel	737	LTE	155	67.0	4	0	TPO	Watt	0	1	0	11.66	7'	1°	10°
5	AT&T MOBILITY LLC (Shutdown)	KMW AM-X-CD-14-65-00T	Panel	1900	LTE	155	65.0	4	0	TPO	Watt	0	1	0	13.86	7'	1°	2°
6	AT&T MOBILITY LLC (Decommissioned)	Kathrein-Scala 742-264	Panel	850	GSM	150	68.4	4.3	0	TPO	Watt	0	1	0	12.00	6.8'	0°	0°
7	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU4D	Panel	737	LTE	250	65.4	4	160	TPO	Watt	0	1	1581.7	9.95	11'	0°	9°
7	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU4D	Panel	850	LTE	250	68.8	4	80	TPO	Watt	0	1	847.4	10.25	11'	0°	9°
7	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU4D	Panel	850	5G	250	68.8	4	80	TPO	Watt	0	1	847.4	10.25	11'	0°	9°
7	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU4D	Panel	1900	LTE	250	67.9	4	80	TPO	Watt	0	1	1770.5	13.45	11'	0°	6°
8	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU4D	Panel	763	LTE	250	65.4	4	160	TPO	Watt	0	1	1581.7	9.95	11'	0°	9°
8	AT&T MOBILITY LLC (Proposed)	Cci DMP65R-BU4D	Panel	2100	LTE	250	67.1	4	240	TPO	Watt	0	1	6098.3	14.05	11'	0°	8°
9	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	722	LTE	250	66.0	4.6	80	TPO	Watt	0	1	1076.7	11.29	10.7'	0°	9°
9	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	2300	LTE	250	61.0	4.6	100	TPO	Watt	0	1	2691.5	14.30	10.7'	0°	8°
10	AT&T MOBILITY LLC	Kathrein-Scala 742-264	Panel	850	UMTS	270	68.4	4.3	40	TPO	Watt	0	1	634	12.00	10.8'	0°	14°
11	METRICOM	Generic	Panel	2500		0	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
12	METRICOM	Generic	Panel	2500		30	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
13	METRICOM	Generic	Panel	2500		60	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
14	METRICOM	Generic	Panel	2500		180	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
15	METRICOM	Generic	Panel	2500		210	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
16	METRICOM	Generic	Panel	2500		240	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
17	METRICOM	Generic	Panel	2500		270	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
18	METRICOM	Generic	Panel	2500		300	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°
19	METRICOM	Generic	Panel	2500		330	65.0	4.1	0	ERP	Watt	0	0	0	15.01	17'	0°	0°

Note: The Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience. Proposed equipment is tagged as *(Proposed)* under Operator or Antenna Make & Model.

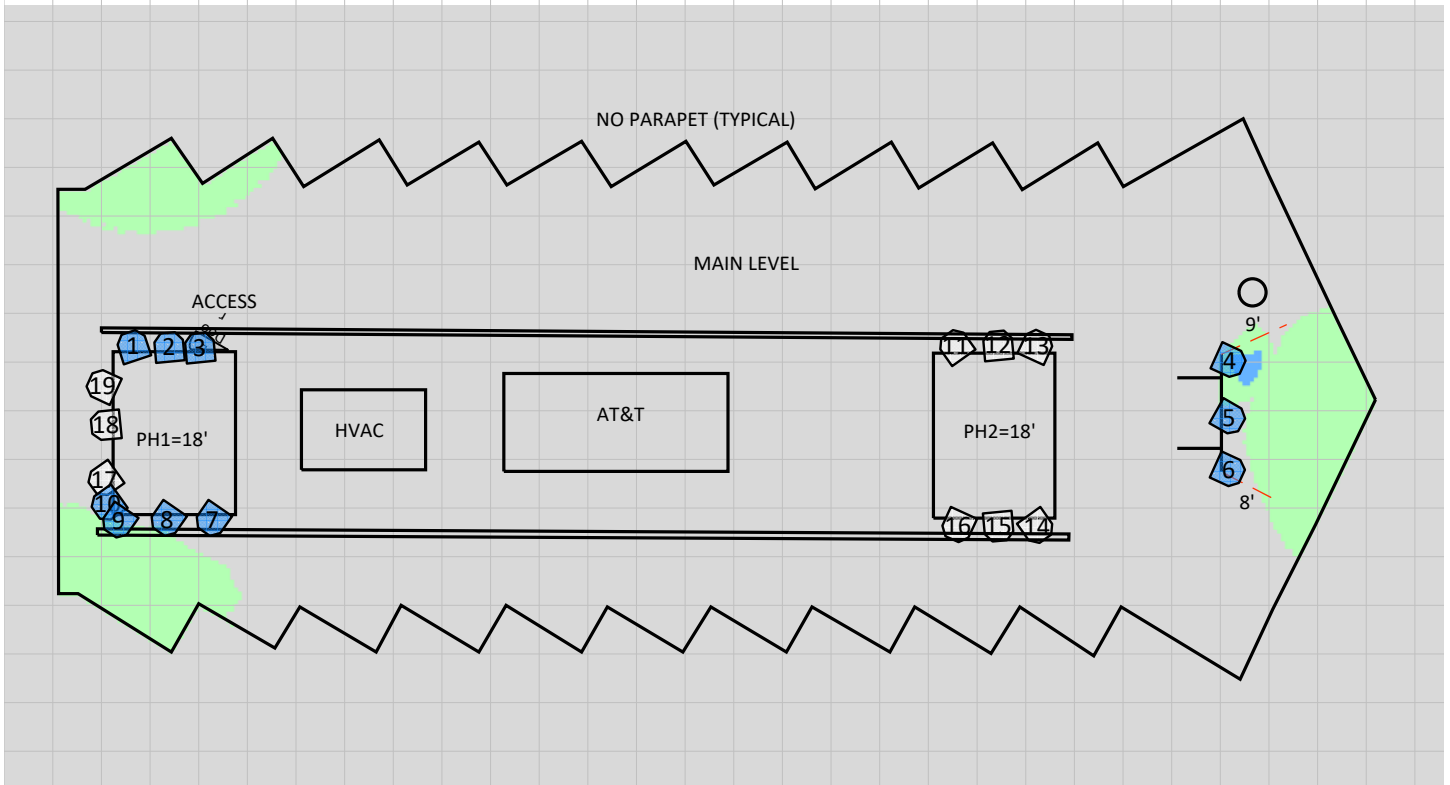
4 Emission Predictions

In the RF Exposure Simulations below, all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

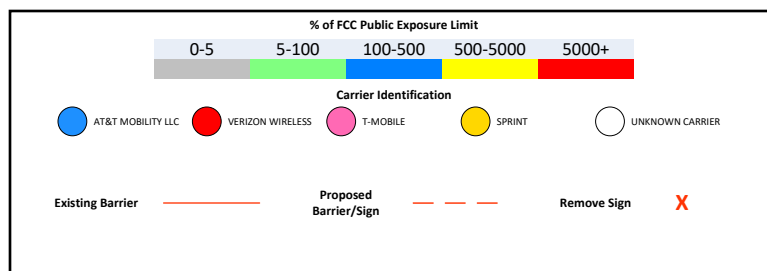
- MAIN LEVEL = 0'
- PH1 = 18'
- PH2 = 18'

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: SONESTA Composite View

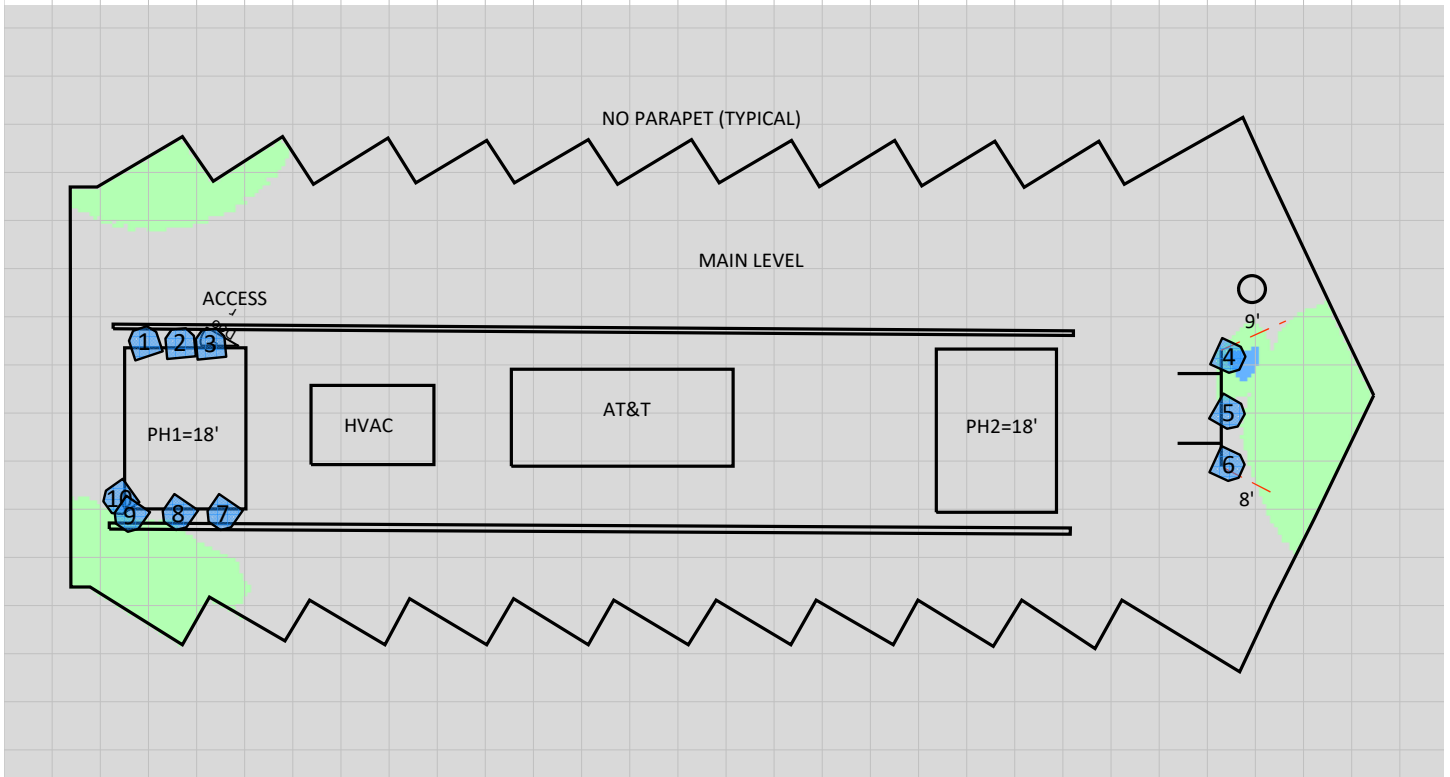


% of FCC Public Exposure Limit
Spatial Average 0' - 6'

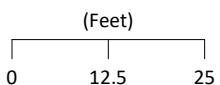
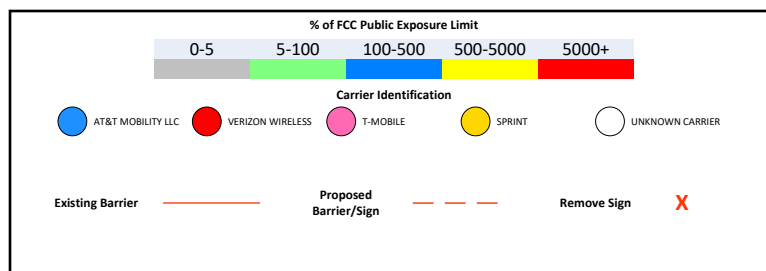


(Feet)
0 12.3 24.6

RF Exposure Simulation For: SONESTA AT&T Mobility Contribution



% of FCC Public Exposure Limit
Spatial Average 0' - 6'



5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, and the level of restricted access to the antennas at the site.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC's RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

AT&T Mobility, LLC Beta Sector Location

- (2) Blue Notice 2 signs required, one at each end of the antenna sector.
- Install a barrier that is 9' long, comprised of (1) segment and an estimated (2) stanchions, as depicted in the site scale map.
- Install (1) total Blue Notice 2 sign on the proposed barrier stanchions.
- Install a barrier that is 8' long, comprised of (1) segment and an estimated (2) stanchions, as depicted in the site scale map.
- Install (1) total Blue Notice 2 sign on the proposed barrier stanchions.

Recommended per AT&T Mobility, LLC's Policy:

Site Access Location

Sitesafe recommends that all AT&T Mobility, LLC signage be removed from all access points, as they are not required by AT&T Mobility, LLC's signage policy.

AT&T Mobility, LLC Alpha Sector Location

- (2) Caution 2 signs required at the bottom tip of the antennas.
- Remove the existing Information 1 sign from this sector.

AT&T Mobility, LLC Beta Sector Location

Remove the existing Information 1 and Notice 1 signs from this sector.

AT&T Mobility, LLC Gamma Sector Location

- (2) Caution 2 signs required at the bottom tip of the antennas.
- Remove the existing Information 1 sign from this sector.

Notes:

- Signage on the barriers should be placed on the stanchions no more than 8' apart from each other.
- Barriers were only recommended in areas predicted to exceed the General Public MPE limit greater than 6' from the unprotected roof edge. All other predicted to exceed areas are within 6' of the unprotected roof edge.
- Any existing signage that conflicts with the proposed signage in this report should be removed per AT&T Signage Posting Rules.

6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Site Safe, LLC, in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Sophie Thein.

July 1, 2020

Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for evaluating the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996, the FCC periodically reviews these rules and regulations as per their congressional mandate.

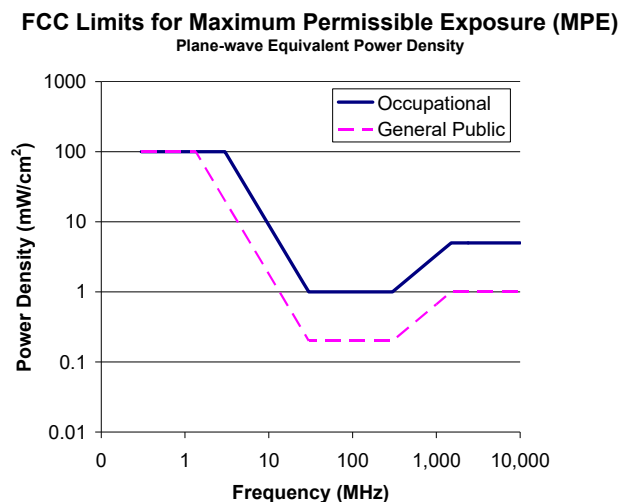
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

*Plane-wave equivalent power density

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lockout/Tagout procedure aimed to control the unexpected energization or startup of machines when maintenance or service is being performed.

Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a worker's understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet-based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3-foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram(s): Section 4 of this report contains RF Diagram(s) that outline various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst-case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit. **Gray areas are accessible to anyone.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

If trained occupational personnel require access to areas that are delineated as above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Appendix F – Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible for taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site complies with FCC standards with regards to Human Exposure to Radio Frequency Electromagnetic Fields from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to a half-wave dipole antenna.

Gain (of an antenna) – The ratio of the maximum power in a given direction to the maximum power in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antenna as compared to an omnidirectional antenna.

General Population/Uncontrolled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **unaware** of the potential for exposure and who have no control over their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use its industry specific knowledge of antenna models to select a worst-case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC as an area where RF exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of RF exposure on humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency Exposure or Electromagnetic Fields – Electromagnetic waves that are propagated from antennas through space.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy a 6-foot tall human body will absorb while present in an electromagnetic field of energy.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

Appendix G – References

The following references can be followed for further information about RF Health and Safety.

Site Safe, LLC

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

http://ec.europa.eu/health/ph_risk/committees/04_scenihp/docs/scenihp_o_022.pdf

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-Ionizing Radiation

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>

Rethink Possible

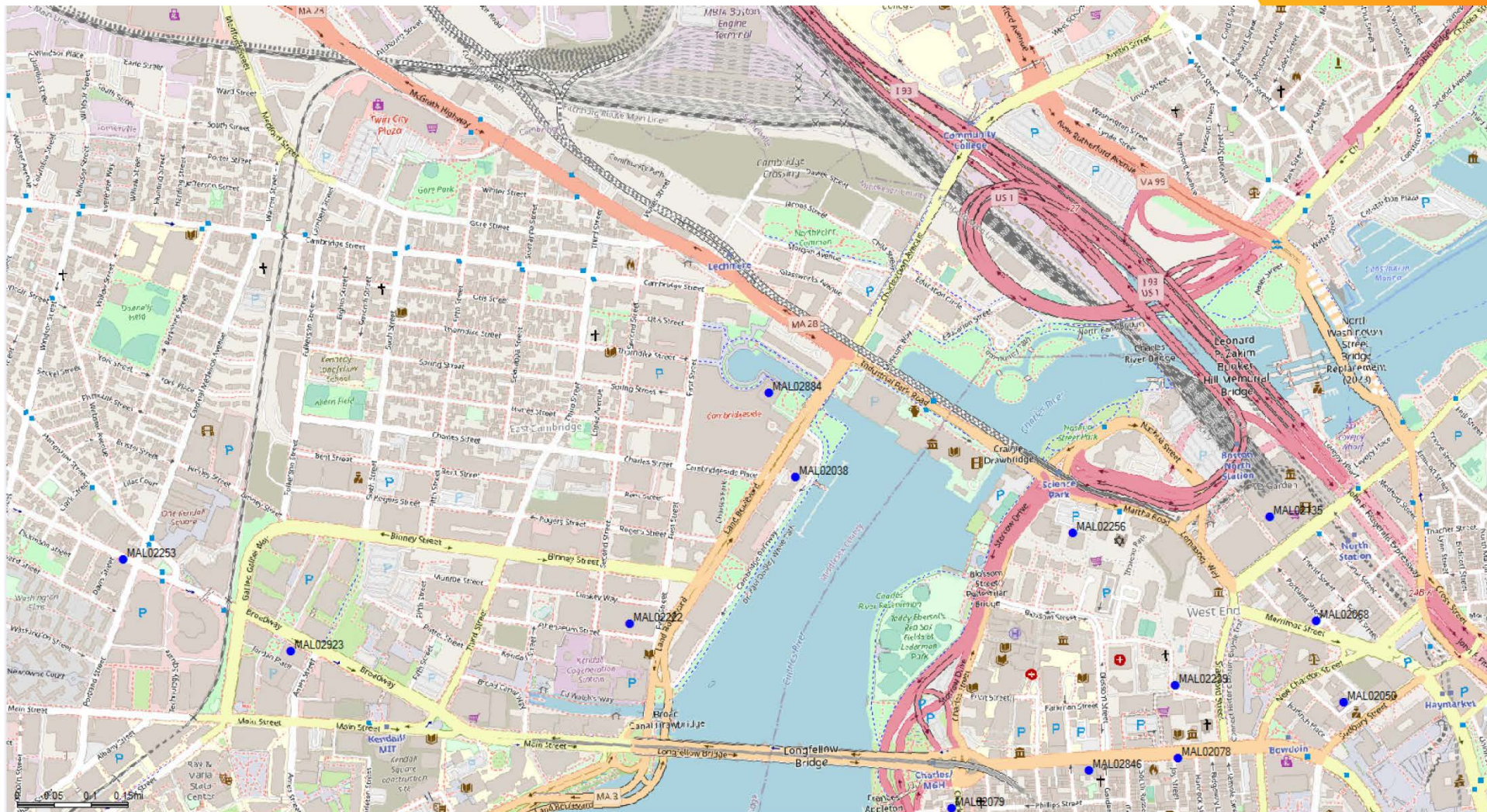


MAL02038 CoveragePlots

- Zoning 850 5G, LTE 700 Band 14, LTE 700 DE Band Plots



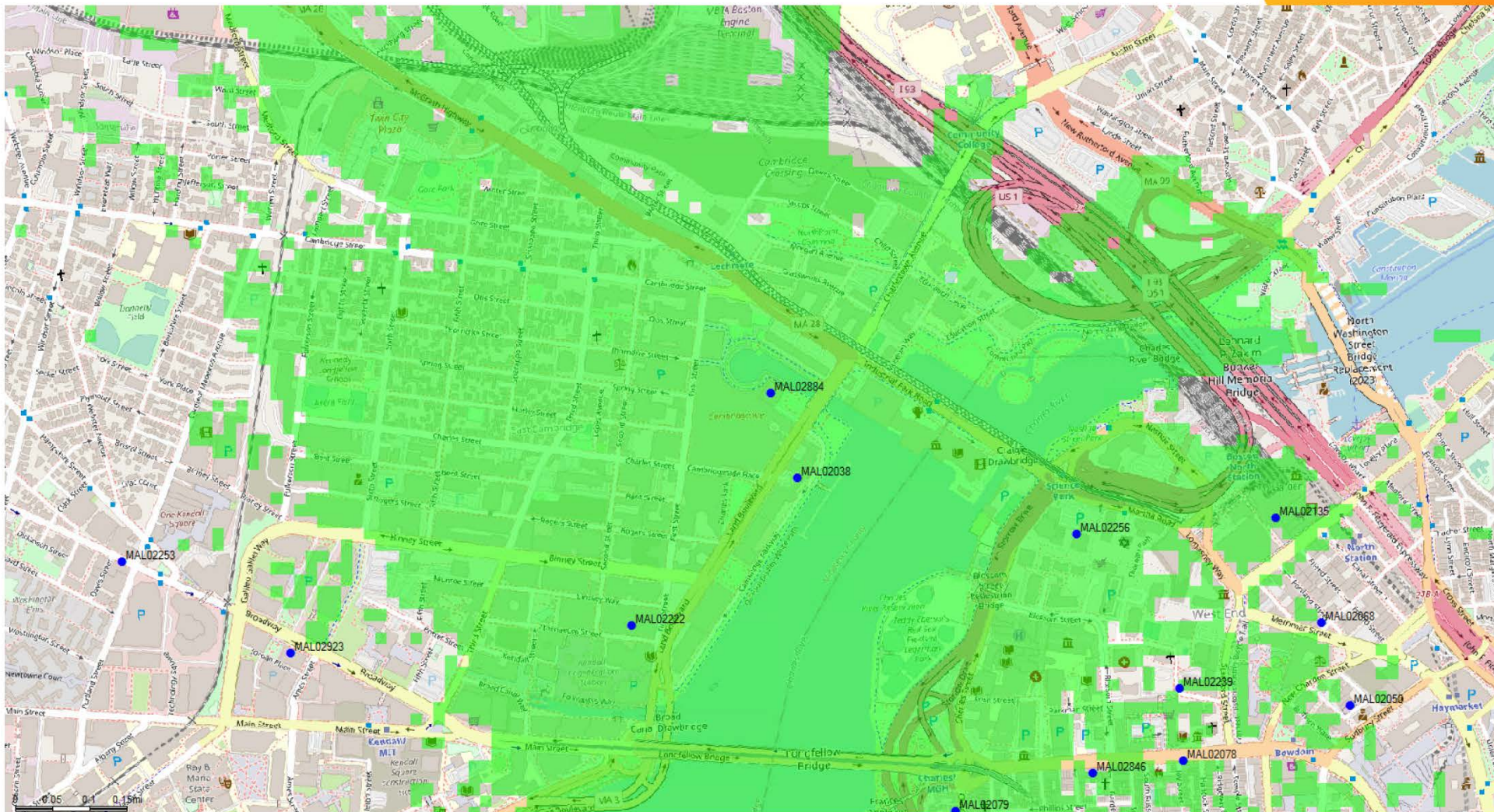
Current 850 5G Band Coverage



AT&T Proprietary (Internal Use Only), Not for use or disclosure outside the AT&T companies except under written agreement



With Proposed MAL02038 5G 850 Band Coverage



AT&T Proprietary (Internal Use Only), Not for use or disclosure outside the AT&T companies except under written agreement



Current 700 Band 14 Band LTE Coverage



With Proposed MAL02038 700 Band 14 LTE Band Coverage



Existing 700 DE LTE Band Coverage



With Proposed MAL02038 700 DE LTE Band Coverage



AT&T Proprietary (Internal Use Only), Not for use or disclosure outside the AT&T companies except under written agreement



QUITCLAIM DEED

THE CITY OF CAMBRIDGE (the CITY), a body politic and corporate and a political subdivision of the Commonwealth of Massachusetts, for good and valuable consideration and in full consideration of \$1,582,860, grants to Brian T. Owen, Roger P. Sonnabend and John J. Duane, Trustees of Charterhouse of Cambridge Trust, under deed of trust dated December 27, 1963, recorded with Middlesex South District Registry of Deeds in Book 11160, Page 340, an amended (TRUSTEES), a Massachusetts business trust having a mailing address c/o NONESTA INTERNATIONAL HOTELS CORPORATION, 200 Clarendon Street, Boston, Massachusetts, with quitclaim covenants, the land situated in Cambridge, County of Middlesex and Commonwealth of Massachusetts, more particularly described as follows (the Premises):

The land between the easterly side of Commercial Avenue and the western side of the Northern Traffic Artery (Cambridge Parkway) and shown on a plan by the City of Cambridge titled "Land Acquisition Plan-Cambridge, Massachusetts", dated November 1980, and described as follows:

Beginning at a point at the most northeasterly corner of the parcel to be described; said point being S 15° 28' 39" W and 193.76 feet from a stone bound on the westerly side line of Cambridge Parkway;

THENCE, N 54° 31' 21" W along land now or formerly of Brian T. Owen & Roger Sonnabend, said line being in the middle of a Right-Of-Way, to a distance of 175.00 feet to a point;

RECORDED IN THE OFFICE OF THE CLERK OF THE SUPERIOR COURT, MIDDLESEX COUNTY, MASSACHUSETTS, ON 11/13/80, AT 11:00 AM.

THENCE, S 35° 28' 39" W, along the easterly
sideline of Commercial Avenue, a distance of
260.50 feet to a point;

THENCE, S 54° 31' 21" E, through land now or
formerly of Real Estate Investment Trust of
America, a distance of 175.00 feet to a point;

THENCE, N 35° 28' 39" E, along the westerly
sideline of Cambridge Parkway, a distance of
260.50 feet to the point of beginning.

The above described parcel contains 46,907.5
square feet, more or less.

Meaning and intending to convey and hereby conveying the
same premises shown as "Area = 46,907 S.F. ±" on the plan en-
titled "LAND ACQUISITION PLAN FOR CITY OF CAMBRIDGE," dated
November 19, 1980 by Cullinan Engineering Co., Inc., recorded
with said Deeds in Book 14159, Page 51.

This deed shall be deemed to correct the following
conveyancer's errors which occurred in the Order of Taking: (i)
the reference to "...the westerly side line of Cambridge
Parkway..." was inadvertently described as "easterly"; (ii) the
proper name "Brian T. Owen" was inadvertently spelled "Ownen";
and (iii) the reference to "...the easterly sideline of Commer-
cial Avenue..." was inadvertently described as "westerly."

The Premises are conveyed subject to the provisions of
an Attorney's Certificate of Affidavit of even date and record
herewith relating to the provisions of a Development Agreement
referred to therein affecting the Premises.

The CITY warrants to TRUSTEES that it has not dedicated
the Premises for use as a public park in such manner as to
require a special legislative act for approval of the deed pur-
suant to Article 97 of the Amendments to the Massachusetts
Constitution.

The CITY further warrants that no new right-of-way over the Premises is expressly granted or implied as a result of this deed or the plan described herein.

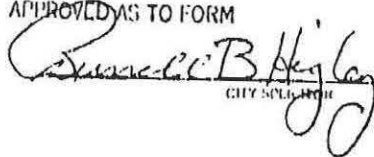
Furthermore, to ensure that the officer executing this deed has power to deliver the same it is hereby declared that there has been full compliance with the provisions of Section 61A of Chapter 44 of the Massachusetts General Laws.

For the title of the CITY see the Order of Taking recorded with the Middlesex South District Registry of Deeds in Book 14159, Pages 51-52.

WITNESS the execution hereof under seal by the City of Cambridge, this 10th day of January, 1983.

CITY OF CAMBRIDGE

By 
Robert W. Hooley
City Manager


APPROVED AS TO FORM

Samuel B. Hooley
City Solicitor

COMMONWEALTH OF MASSACHUSETTS

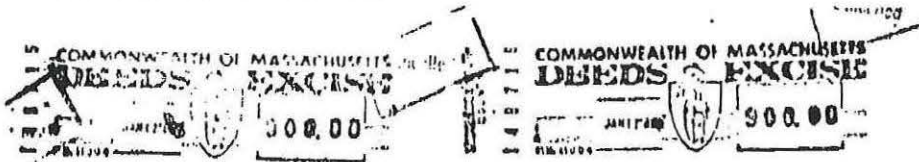
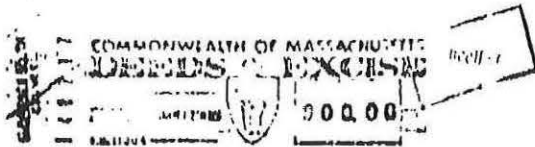
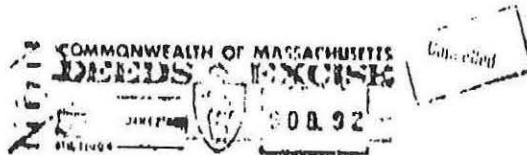
Middlesex, ss.

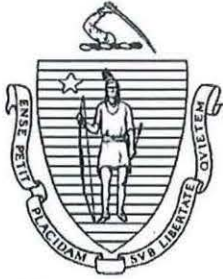
January 10, 1983

Then personally appeared the above-named Robert W. Hoaly, City Manager of the City of Cambridge and acknowledged the foregoing instrument to be the free act and deed of said City of Cambridge, before me.


Notary Public

My commission Expires 12/23/85





MARTHA COAKLEY
ATTORNEY GENERAL

THE COMMONWEALTH OF MASSACHUSETTS OFFICE OF THE ATTORNEY GENERAL

CENTRAL MASSACHUSETTS DIVISION
10 MECHANIC STREET, SUITE 301
WORCESTER, MA 01608

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(508) 795-1991 fax
www.mass.gov/ago

June 12, 2013

Gail Garrett, Town Clerk
Town of Mount Washington
118 East Street
Mount Washington, MA 01258

**RE: Mount Washington Special Town Meeting of April 1, 2013 - Case # 6642
Warrant Articles # 1, 2, and 3 (Zoning)**

Dear Ms. Garrett:

Articles 1, 2, and 3 - We approve the amendments to the Town by-laws adopted under Articles 1, 2, and 3 on the warrant for the Mount Washington Special Town Meeting that convened on April 1, 2013, and the map pertaining to Article 3. Our comments on Articles 1 and 2 are provided below.

Article 1 - The amendments adopted under Article 1 add a new Section 215-27 to the zoning by-laws entitled "Wireless Telecommunication Facility Zoning Bylaw." We approve the new Section 215-27, but offer the following comments.

I. Applicable Law

The federal Telecommunications Act of 1996, 47 U.S.C. § 332 (7) preserves state and municipal zoning authority to regulate personal wireless service facilities, subject to the following limitations:

1. Zoning regulations "shall not unreasonably discriminate among providers of functionally equivalent services." 47 U.S.C. §332(7) (B) (i) (I)
2. Zoning regulations "shall not prohibit or have the effect of prohibiting the provisions of personal wireless services." 47 U.S.C. § 332 (7) (B) (i) (II).
3. The Zoning Authority "shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time." 47 U.S.C.

§ 332 (7) (B) (ii).

4. Any decision “to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.” 47 U.S.C. § 332 (7) (B) (iii).
5. “No state or local government or instrumentality thereof may regulate the placement, construction and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communications] Commission’s regulations concerning emissions.” 47 U.S.C. § 332(7) (B) (iv).

Federal courts have construed the limitations listed under 47 U.S.C. § 332(7) as follows. First, even a facially neutral by-law may have the effect of prohibiting the provision of wireless coverage if its application suggests that no service provider is likely to obtain approval. “If the criteria or their administration effectively preclude towers no matter what the carrier does, they may amount to a ban ‘in effect’....” Town of Amherst, N.H. v. Omnipoint Communications Enters, Inc., 173 F.3d 9, 14 (1st Cir. 1999).

Second, local zoning decisions and by-laws that prevent the closing of significant gaps in wireless coverage have been found to effectively prohibit the provision of personal wireless services in violation of 47 U.S.C. § 332(7). See, e.g., Nat’l Tower, LLC v. Plainville Zoning Bd. of Appeals, 297 F.3d 14, 20 (1st Cir. 2002) (“local zoning decisions and ordinances that prevent the closing of significant gaps in the availability of wireless services violate the statute”); Omnipoint Communications MB Operations, LLC v. Town of Lincoln, 107 F. Supp. 2d 108, 117 (D. Mass. 2000) (by-law resulting in significant gaps in coverage within town had effect of prohibiting wireless services).

Third, whether the denial of a permit has the effect of prohibiting the provision of personal wireless services depends in part upon the availability of reasonable alternatives. See 360 Degrees Communications Co. v. Bd. of Supervisors, 211 F.3d 79, 85 (4th Cir. 2000). Zoning regulations must allow cellular towers to exist somewhere. Towns may not effectively ban towers throughout the municipality, even under the application of objective criteria. See Virginia Metronet, Inc. v. Bd. of Supervisors, 984 F. Supp. 966, 971 (E.D. Va. 1998).

State law also establishes certain limitations on a municipality’s authority to regulate wireless communications facilities and service providers. Under General Laws Chapter 40A, Section 3, wireless service providers may apply to the Department of Telecommunications and Cable for an exemption from local zoning requirements. If a telecommunication provider does not apply for or is not granted an exemption under c. 40A, § 3, it remains subject to local zoning requirements pertaining to cellular towers. See Building Comm’r of Franklin v. Dispatch Communications of New England, Inc., 48 Mass. App. Ct. 709, 722 (2000). Also, G.L. c. 40J, § 6B, charges the Massachusetts Broadband Institute with the task of promoting broadband access throughout the state. Municipal regulation of broadband service providers must not frustrate the achievement of this statewide policy.

In addition, Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012

requires that “[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.” (emphasis added). The Act defines “eligible facilities request” as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies “[n]otwithstanding section 704 of the Telecommunications Act of 1996.” The Act’s requirement that a local government “may not deny, and shall approve, any eligible facilities request” means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

We approve the new Section 215-27. However, the Town must apply the by-law in a manner consistent with the applicable law outlined above. In particular, Section IV of the new by-law requires that Wireless Telecommunication Facilities are only allowed by special permit in the Wireless Telecommunication Overlay District. This requirement cannot be applied to eligible facilities requests for modification to existing facilities which qualify for required approval under Section 6409 of the Act, as described above. We urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

II. Analysis of Mount Washington’s Wireless Telecommunication Facility By-Law

A. Section VIII “Criteria For Approval and Conditions”.

This section provides as follows:

5. The applicant will remove the Facility, should the Facility be abandoned or cease to operate. The Planning Board may require the applicant to provide a bond, or other form of financial guarantee acceptable to the Planning Board to cover the cost of removal of the Facility, should the Facility be abandoned or cease to operate, and ensure other compliance hereunder.

The Town must apply any bond or other financial guarantee proceeds in a manner consistent with state law. Bond proceeds do not become Town funds unless and until the applicant defaults on the obligation under the proposed by-law. Moreover, if the Town must use the bond to pay for removal of a wireless communication facility or the repair and/or restoration of the premises, an appropriation is required before expenditure is made to do the work. General Laws Chapter 44, Section 53, provides that “[a]ll moneys received by a city, town or district officer or department, except as otherwise provided by special acts and except fees provided for by statute, shall be paid by such officers or department upon their receipt into the city, town or district treasury.” Under Section 53 all moneys received by the Town become a part of the general fund, unless the Legislature has expressly made other provisions that are applicable to such receipt. In the absence of any general or special law to the contrary, performance security funds of the sort contemplated here must be deposited with the Town Treasurer and made part of the Town’s general fund, pursuant to G.L. c. 44, § 53. The Town must then appropriate the money for the specific purpose of completing the work required for removal and/or restoration.

B. Section X "Permit Revocation For Non-Performance".

Section X authorizes the Planning Board to revoke a special permit for failure to comply with certain conditions. We approve Section X. However, before the Planning Board revokes a permit for failure to comply with certain conditions provided in Section X, the Planning Board should discuss with Town Counsel what due process, including notice and hearing requirements, are required. We suggest that the Town discuss this issue in more detail with Town Counsel.

Finally, the word "ordinance" is used in the by-law. Towns enact "by-laws" and cities enact "ordinances." The Town may wish delete the word "ordinance" from the new Section 215-27 and insert the word "by-law" at a future Town Meeting.

Article 2 - The amendments adopted under Article 2 add a new Section 215-28, "Solar Photovoltaic Installation Moratorium Bylaw," to the Town's zoning by-laws. The temporary moratorium (through one year from the date of enactment of Section 215-28) on solar photovoltaic installation other than those mounted on an existing structure provides as follows:

Whereas, the Town of Mount Washington is undertaking a comprehensive study with respect to regulating the use of land for Solar Photovoltaic Installations, and

Whereas, there have been significant changes in law regarding Solar Photovoltaic Installations; and,

Whereas, the Town wishes to act carefully in a field with evolving law and technology, to investigate ways to preserve the character of the community while serving the needs of its people, and to devise an orderly process for granting permits by drafting an amendment to the Bylaw which is comprehensive, practical, equitable, and addresses the concerns of the Town on number, size, appearance, site standards, and location of Solar Photovoltaic Installations; and,

Whereas, it is desired to protect the Town from ill-advised and inappropriate development of Solar Photovoltaic Installations pending a thorough review and the formulation of such a zoning amendment; and,

Whereas, the Planning Board has determined that one year is necessary for such a comprehensive review and development of a Bylaw Subsection on Solar Photovoltaic Installations.

Now, therefore, no Solar Photovoltaic Installations other than those mounted on an existing structure, in the usual manner, shall be permitted for one year from the date of enactment of this Bylaw.

We approve the temporary moratorium adopted under Article 2 because the Town has the authority to "impose reasonable time limitations on development, at least where those restrictions are temporary and adopted to provide controlled development while the municipality engages in comprehensive planning studies." Sturges v. Chilmark, 380 Mass. 246, 252-253 (1980). Such a temporary moratorium is within the Town's zoning power where there is a stated need for "study, reflection and decision on a subject matter of [some] complexity..." W.R.

Grace v. Cambridge City Council, 56 Mass. App. Ct. 559, 569 (2002) (City's temporary moratorium on building permits in two districts was within city's authority to zone for public purposes.) The time limit Mount Washington has selected for its temporary moratorium (one year from the date of enactment of the by-law) appears to be reasonable in the circumstances. The moratorium is limited in time period and scope (to the use of land and structures for solar photovoltaic installations), and thus does not present the problem of a rate-of-development bylaw of unlimited duration which the Zuckerman court determined was unconstitutional. Zuckerman v. Hadley, 442 Mass. 511, 512 (2004) ("[A]bsent exceptional circumstances not present here, restrictions of unlimited duration on a municipality's rate of development are in derogation of the general welfare and thus are unconstitutional.")

While we approve the temporary one year moratorium on solar photovoltaic installations, we note that G.L. c. 40A, § 3, protects solar energy systems and the building of structures that facilitate the collection of solar energy from certain local zoning requirements. General Laws Chapter 40A, Section 3, provides in pertinent part as follows:

No zoning ordinance or by-law shall prohibit or unreasonably regulate the installation of solar energy systems or the building of structures that facilitate the collection of solar energy, except where necessary to protect the public health, safety or welfare.

General Laws Chapter 40A, Section 3, prohibits towns from adopting zoning by-laws that prohibit or *unreasonably regulate* the installation of solar energy systems or the building of structures that facilitate the collection of solar energy, except where necessary to protect the public health, safety or welfare. A temporary moratorium longer than one year may be vulnerable to a challenge in court that it is an unreasonable regulation of solar energy systems under G.L. c. 40A, § 3. We suggest the Town consult closely with Town Counsel on this issue.

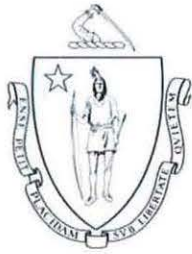
Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

Very truly yours,
MARTHA COAKLEY
ATTORNEY GENERAL

Kelli E. Gunagan

By: Kelli E. Gunagan
Assistant Attorney General
Municipal Law Unit
10 Mechanic Street, Suite 301
Worcester, MA 01608
(508) 792-7600

cc: Town Counsel Joel Bard (via electronic mail)



MAURA HEALEY
ATTORNEY GENERAL

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February 23, 2015

Debra A. Bourbeau, Town Clerk
Town of Montague
1 Avenue A
Montague, MA 01376

**RE: Montague Special Town Meeting of October 29, 2014 - Case # 7451
Warrant Article # 17 (Zoning)**

Dear Ms. Bourbeau:

Article 17 - We approve Article 17 from the October 29, 2014 Montague Special Town Meeting. Article 17 amends several portions of the Town's zoning by-laws pertaining to site plan review.

1. Section 5.2 (d), Permitted Uses and Special Permits - Procedures

Section 5.2 (d) was deleted in its entirety and replaced with new text that provides as follows (with emphasis added):

All applications for Special Permits and Site Plan Review from the Board of Appeals or the Planning Board shall be subject to the procedural requirements established by the respective Board. The Board of Appeals or Planning Board may determine that the assistance of outside professional expertise is required due to the size, scale, or complexity of a given project or its potential impact on the health, safety, and welfare of the Town. When outside review is determined to be necessary, the Board may require the applicant pay all reasonable expenses for this purpose, in accordance with the Board's regulations and M.G.L. Chapter 44 Section 53G.

General Laws Chapter 44, Section 53G, authorizes zoning boards, planning boards, boards of health, and conservation commissions, acting under authority conferred by G.L. c. 40A, § 9 and 12, c. 41, § 81Q, c. 40B, § 21, c. 111; and c. 40, § 8C, to impose consultant review fees, to disburse the funds collected, and to return unused portions to the applicant. However, the Legislature did not include Boards acting under the authority conferred solely by a local law within the small class of local boards that enjoy the benefits of G.L. c. 44, § 53G. When the Board is reviewing a site plan application based solely on the authority granted under local law, it cannot avail itself of the provisions of G.L. c. 44, § 53G. We suggest that the Town discuss this issue in more detail with Town Counsel.

2. Section 7.5.2, Telecommunication Facilities - General Provisions

Section 7.5.2, was deleted in its entirety and replaced with new text that provides as follows:

Telecommunication Facilities may be allowed by Special Permit from the Board of Appeals pursuant to Sections 5.2 and Section 7.5. Conditions shall maximize the shared use of any new or existing structures to minimize the required number of such facilities; and shall minimize[e] adverse visual impacts through careful design, siting, and screening. No facility shall be located in a (RS) Residential District. (see: Section 2, Definitions).

Section 7.5.2 must be applied in a manner consistent with Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, which requires that “[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.” (emphasis added). The Act defines “eligible facilities request” as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies “[n]otwithstanding section 704 of the Telecommunications Act of 1996.” The Act’s requirement that a local government “may not deny, and shall approve, any eligible facilities request” means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

The Town must apply Section 7.5.2 in a manner consistent with the applicable law outlined above. We also urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the

date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

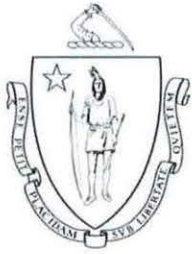
Very truly yours,

MAURA HEALEY
ATTORNEY GENERAL

Nicole B. Caprioli

By: Nicole B. Caprioli
Assistant Attorney General
Municipal Law Unit
10 Mechanic Street, Suite 301
Worcester, MA 01608
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cc: Town Counsel Gregg J. Corbo



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February 10, 2015

Trudy L. Reid, Town Clerk
Town of Lynnfield
55 Summer Street
Lynnfield, MA 01940

RE: Lynnfield Fall Annual Town Meeting of October 20, 2014 - Case # 7408
Warrant Articles # 12, 13 and 14 (Zoning)
Warrant Articles # 16 and 17 (General)

Dear Ms. Reid:

Articles 12, 13, 14, 16 and 17 - We approve Articles 12, 13, 14, 16 and 17 from the October 20, 2014 Lynnfield Fall Annual Town Meeting. Our comments regarding Article 14 are provided below.

Article 14 - Article 14 makes a number of changes to the Town's zoning by-laws pertaining to Radio Telecommunication Facilities (RTF) and Personal Wireless Service Facilities (PWSF) including adding new definitions to Section 2, amending Section 7.4, "Site Plan" to add a new sub-section 7.4A "Additional Requirements for Personal Wireless Service Facilities"; and amending Section 8, "Special Permits" to add a new sub-section 8.7, "Siting of Radio Telecommunications Facilities."

I. Applicable Law

The federal Telecommunications Act of 1996, 47 U.S.C. § 332 (7) preserves state and municipal zoning authority to regulate personal wireless service facilities, subject to the following limitations:

1. Zoning regulations "shall not unreasonably discriminate among providers of functionally equivalent services." 47 U.S.C. §332(7) (B) (i) (I)
2. Zoning regulations "shall not prohibit or have the effect of prohibiting the provisions of personal wireless services." 47 U.S.C. § 332 (7) (B) (i) (II).
3. The Zoning Authority "shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time." 47 U.S.C. § 332 (7) (B) (ii).

4. Any decision “to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.” 47 U.S.C. § 332 (7) (B) (iii).
5. “No state or local government or instrumentality thereof may regulate the placement, construction and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communications] Commission’s regulations concerning emissions.” 47 U.S.C. § 332(7) (B) (iv).

Federal courts have construed the limitations listed under 47 U.S.C. § 332(7) as follows. First, even a facially neutral by-law may have the effect of prohibiting the provision of wireless coverage if its application suggests that no service provider is likely to obtain approval. “If the criteria or their administration effectively preclude towers no matter what the carrier does, they may amount to a ban ‘in effect’....” Town of Amherst, N.H. v. Omnipoint Communications Enters, Inc., 173 F.3d 9, 14 (1st Cir. 1999).

Second, local zoning decisions and by-laws that prevent the closing of significant gaps in wireless coverage have been found to effectively prohibit the provision of personal wireless services in violation of 47 U.S.C. § 332(7). See, e.g., Nat’l Tower, LLC v. Plainville Zoning Bd. of Appeals, 297 F.3d 14, 20 (1st Cir. 2002) (“local zoning decisions and ordinances that prevent the closing of significant gaps in the availability of wireless services violate the statute”); Omnipoint Communications MB Operations, LLC v. Town of Lincoln, 107 F. Supp. 2d 108, 117 (D. Mass. 2000) (by-law resulting in significant gaps in coverage within town had effect of prohibiting wireless services).

Third, whether the denial of a permit has the effect of prohibiting the provision of personal wireless services depends in part upon the availability of reasonable alternatives. See 360 Degrees Communications Co. v. Bd. of Supervisors, 211 F.3d 79, 85 (4th Cir. 2000). Zoning regulations must allow cellular towers to exist somewhere. Towns may not effectively ban towers throughout the municipality, even under the application of objective criteria. See Virginia Metronet, Inc. v. Bd. of Supervisors, 984 F. Supp. 966, 971 (E.D. Va. 1998).

State law also establishes certain limitations on a municipality’s authority to regulate wireless communications facilities and service providers. Under General Laws Chapter 40A, Section 3, wireless service providers may apply to the Department of Telecommunications and Cable for an exemption from local zoning requirements. If a telecommunication provider does not apply for or is not granted an exemption under c. 40A, § 3, it remains subject to local zoning requirements pertaining to cellular towers. See Building Comm’r of Franklin v. Dispatch Communications of New England, Inc., 48 Mass. App. Ct. 709, 722 (2000). Also, G.L. c. 40J, § 6B, charges the Massachusetts Broadband Institute with the task of promoting broadband access throughout the state. Municipal regulation of broadband service providers must not frustrate the achievement of this statewide policy.

In addition, Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 requires that “[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.” (emphasis added). The Act defines “eligible facilities request” as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies “[n]otwithstanding section 704 of the Telecommunications Act of 1996.” The Act’s requirement that a local government “may not deny, and shall approve, any eligible facilities request” means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

The Town must apply Article 14 in a manner consistent with the applicable law outlined above. In particular, Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act. We also urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

II. Section 8.7, Siting of Radio Telecommunications Facilities

A. Section 8.7.2, Purpose

Section 8.7.2 provides that the purpose of the by-law is to establish general guidelines for the siting of RTFs. Section 8.7.2 (4) establishes one of the by-law’s goals as “[t]o make all RTF locations available for municipal agencies use where feasible.”

It is unclear whether Section 8.7.2 (4) would require the Town’s use of the RTF, and whether such use would be compensated or uncompensated. When applying the by-law, the Town cannot require an applicant to transfer property to the public without fair compensation. “The Fifth Amendment to the United States Constitution, made applicable to the States through the Fourteenth Amendment, provides that private property shall not ‘be taken for public use, without just compensation.’” This protection is “designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole.” Giovanella v. Conservation Commission of Ashland, 447 Mass. 720, 724 (2006) (quoting Armstrong v. United States, 364 U.S. 40, 49 (1960)). More recently, the court in Collins v. Stow, 79 Mass. App. Ct. 447 (2011) ruled that a town cannot condition subdivision approval on the dedication of open space for public use and actual conveyance of the land to the Town in exchange for waivers. “Although a planning board’s authority under the subdivision control law certainly encompasses, in appropriate circumstances, requiring open space, it does not extend to requiring the transfer of that open space to the public for reasons unrelated to adequate access and safety of the subdivision without providing just compensation.” Id. at 453. We suggest that the Town consult with Town Counsel regarding the proper application of Section 8.7.2 (4).

B. Section 8.7.5.4, General

Section 8.7.5.4.1 provides in relevant part that:

An undertaking shall be required, secured by a BOND appropriate in form and amount for removal of the PWSF within 6 months of cessation of operation of said facility or such other activity which may be appropriate to prevent the structures from becoming a nuisance or aesthetic blights.

The Town must apply any bond proceeds in a manner consistent with state law. Bond proceeds do not become Town funds unless and until the applicant defaults on the obligation under the by-law. Moreover, if the Town must use the bond to pay for removal of a PWSF or for other activity to prevent nuisance or blight, an appropriation is required before expenditure is made to do the work. General Laws Chapter 44, Section 53, provides that "[a]ll moneys received by a city, town or district officer or department, except as otherwise provided by special acts and except fees provided for by statute, shall be paid by such officers or department upon their receipt into the city, town or district treasury." Under Section 53 all moneys received by the Town become a part of the general fund, unless the Legislature has expressly made other provisions that are applicable to such receipt. In the absence of any general or special law to the contrary, performance security funds of the sort contemplated here must be deposited with the Town Treasurer and made part of the Town's general fund, pursuant to G.L. c. 44, § 53. The Town must then appropriate the money for the specific purpose of completing the work required for removal and/or other activities. The Town should consult with Town Counsel regarding the proper application of Section 8.7.5.4.

C. Section 8.7.5.5, Application Procedures

Section 8.7.5.5 pertaining to the Special Permit application provides in relevant part, that:

The Application Phase of the process begins with the receipt by the SPGA of a complete application including all materials required by the Zoning Bylaw and any applicable regulations.

Within 30 days of receipt, the SPGA or its designee shall review the application for consistency and completeness with respect to the Application Requirements in the bylaw and any applicable regulations and shall notify the Applicant in writing of any deficiency in the completeness of the application.

The SPGA shall take regulatory notice of the Federal Communications Commission (FCC) presumption that the final action of the SPGA on a new Antenna Tower should take no more than 150 days from the date of receipt of the completed application, and that final action on a Collocation or Site Sharing application should take no more than 90 days from the date of receipt of the completed application except upon written

extension of these timelines by mutual agreement between the SPGA and the Applicant.

Section 8.7.5.5 must be applied in a manner consistent with the time limits established in G.L. c. 40A, § 9. General Laws Chapter 40A, Section 9, requires that the special permit granting authority “shall hold a public hearing for which notice has been given as provided in section eleven, on any application for a special permit within sixty-five days from the date of filing of such application. . . . The decision of the special permit granting authority shall be made within ninety days following the date of such public hearing. . . . Failure by the special permit granting authority to take final action within . . . ninety days . . . shall be deemed to be a grant of the special permit.” (emphasis added).

Pursuant to G.L. c. 40A, § 9, the filing of a special permit application “starts the clock” on the time period within which the special permitting authority must act. Section 8.7.5.5 cannot be applied in a manner that “starts the clock” only when a *completed* application is filed. The Town must apply Section 8.7.5.5 consistent with G.L. c. 40A, § 9. *See Massachusetts Broken Stone Co. v. Town of Weston*, 430 Mass. 637, 642 (2000). The Town should consult with Town Counsel regarding the proper application of Section 8.7.5.5.

Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

Very truly yours,

MAURA HEALEY
ATTORNEY GENERAL

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CITY OF CAMBRIDGE, MASSACHUSETTS
P L A N N I N G B O A R D
CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE

January 27, 2016

To: The Board of Zoning Appeal

From: The Planning Board

RE: BZA #9059- 2016, 1815 Massachusetts Avenue

The Planning Board reviewed the Special Permit application for the communication antenna at Lesley University and finds that ~~the~~ ^{this} proposal is no worse than the current installations. The Planning Board does suggest that the antennas be located in such a way as to not break the roof line when viewed from the street, and that they be painted to match the facades. For example to match either the red brick or the gray stone band around the top of the tower.
