



# CITY OF CAMBRIDGE

BOARD OF ZONING APPEAL

831 Massachusetts Avenue, Cambridge MA 02139

617-349-6100

2023 AUG 29 PM 4: 07  
OFFICE OF THE CITY CLERK  
CAMBRIDGE, MASSACHUSETTS

## BZA Application Form

**BZA Number: 237886**

### General Information

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

Special Permit:   X                        Variance:                             Appeal:       

**PETITIONER:** T-Mobile Northeast LLC for GH Holdings LP C/O Adam F. Braillard of Prince Lobel Tye LLP, for T-Mobile Northeast LLC

**PETITIONER'S ADDRESS:** One International Place Suite 3700, Boston, MA MA

**LOCATION OF PROPERTY:** 1430 Massachusetts Ave., Cambridge, MA

**TYPE OF OCCUPANCY:** Telecommunications and Business                      **ZONING DISTRICT:** Business B Zone

### **REASON FOR PETITION:**

/Telecommunication Facility (antenna)/

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

The Applicant proposes to modify its facility currently located on the facade of the penthouse on the existing building by replacing the existing five (5) panel antennas and one (1) dish antennas with eight (8) new panel antennas, as well as replacing six (6) existing RRUs with six (6) new like kind RRHs, and replace ancillary radio equipment and cabinets. All of the antennas associated with the Facility will be located in the same locations as the existing antennas, and all antennas will be painted to match the color of the facade of the penthouse of the building.

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

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

Original  
Signature(s):

  
\_\_\_\_\_  
(Petitioner (s) / Owner)

Adam F. Braillard, of Prince Lobel Tye LLP, for the  
Applicant, T-Mobile Northeast LLC.

\_\_\_\_\_  
(Print Name)

Address:

One International Place, Suite 3700

\_\_\_\_\_  
Boston, MA 02110

**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.**

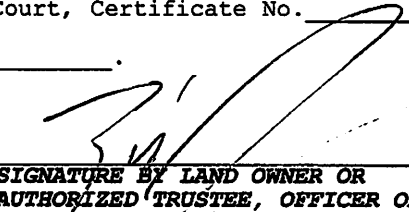
I/We GH Holdings (Mass Ave) LP  
*(OWNER)*

Address: c/o Gazit Horizons Inc. 1696 NE Miami Gardens Drive, North Miami Beach FL 33179

State that I/We own the property located at 1430 Massachusetts Ave,  
which is the subject of this zoning application.

The record title of this property is in the name of \_\_\_\_\_  
GH Holdings (Mass Ave) LP

\*Pursuant to a deed of duly recorded in the date 12/22/2020, Middlesex South  
County Registry of Deeds at Book 76506, Page 367; 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.*

State of New York  
~~Commonwealth of Massachusetts~~, County of New York

The above-name Zvi Gordon personally appeared before me,  
this 10<sup>th</sup> of August, 2023, and made oath that the above statement is true.

  
\_\_\_\_\_  
Notary

My commission expires 11/03/2023 (Notary Seal).

**Lisa Frisfield  
Notary Public, State of New York  
No. 02FR6101117  
Qualified in Nassau County  
Commission Expires 11/03/2023**

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



August 14, 2023

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

Re: Eligible Facilities Request pursuant to Section 6409 of the Spectrum Act and an Application for Special Permit, in the Alternative

Property Address: 1430 Massachusetts Avenue, Cambridge, MA Assessor's Map 169, Lot 99 (the "**Property**")

Applicant: T-Mobile Northeast, LLC ("**Applicant**")

Dear Honorable Members of the Board of Zoning Appeals:

This firm represents T-Mobile Northeast LLC in connection with an application for a special permit from the City of Cambridge Board of Zoning Appeals (the "**Board**"), to modify an existing wireless communications facility on the Property. The Property is located in the Business B ("**BB**") zoning district and the Harvard Square Overlay District zoning district (the "**HSOD**"). To the extent that the Board determines that the requirements of Article 4 Section 4.32G.1 of the City of Cambridge Zoning Ordinance (the "**Ordinance**") apply, the use of the Property for a wireless telecommunications facility is permitted by special permit from the Board<sup>1</sup>. The Applicant's proposal satisfies the requirements for the grant of a special permit pursuant to Section 10-43 of the Ordinance.

The Applicant's Proposed Facility (as defined herein) is subject to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, more commonly known as the "Spectrum Act" (47 U.S.C. § 1455). As such, we respectfully submit that in the event the Board determines that the application does not comply with the Spectrum Act, the Applicant hereby states that the special permit requirements set forth in the Ordinance are hereby met by the Applicant, and that relief must be granted to the Applicant. Compliance with the Spectrum Act is shown on the

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<sup>1</sup> Pursuant to Section 6409(a) of the Spectrum Act, state and local governments "may not deny and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

Eligible Facilities Request permit application form attached hereto and incorporated herein by reference (the “**EFR**”).

The Applicant seeks to modify its existing wireless communications facility by replacing the existing panel antennas, the Remote Radio Heads, (“**RRHs**”), and ancillary equipment located on the rooftop of the building (the “**Building**”) on the Property, collectively the “**Proposed Facility**”. The Applicant’s Proposed Facility is described in more detail below and is shown on the Plans attached hereto and incorporated herein by reference (the “**Plans**”).

## **I. Background**

The Applicant is licensed by the Federal Communications Commission (the “**FCC**”) to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and in particular in the City of Cambridge. A copy of the Applicant’s FCC license is attached hereto. The Applicant is in the process of designing and constructing a telecommunications system to serve all of the Commonwealth of Massachusetts. One of the key design objectives of its systems is to provide seamless 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 existing use of the network and the existing topography. 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. This dynamic requires the antennas to be located in a location where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

## **II. Project Description**

The Applicant’s existing Facility consists of five (5) panel antennas, a dish antenna, six (6) RRUs, and ancillary equipment attached to the existing penthouse on the rooftop of the Building. The Applicant proposes to modify its existing Facility as follows:

- Replace all six (6) existing panel antennas with eight (8) new like kind panel antennas;
  - Remove the existing dish antenna;
  - Replace the six (6) RRUs with six (6) new RRUs;
  - Replace the existing equipment and battery cabinets with new cabinets; and
  - Replace and update other ancillary equipment.
- All of the replaced antennas will be painted to match the color of the Building. Consequently, the visual change to the Applicant’s existing facility will be de minimus.

The Applicant’s proposal is consistent with the previous decisions of the Board for this

facility, the last of which is dated November 24<sup>th</sup>, 2014, (Case No.BZA-004908-2014) (the “**Decisions**”).

After installation, the Proposed Facility will be unmanned and will only require twice a month maintenance visits per carrier. The only utilities required to operate this Proposed Facility are standard 120-volt electrical power as well as telephone service. These are presently in place at the Property. The traffic generated by the Proposed Facility will be approximately two vehicle trips per month by maintenance personnel who will inspect the Proposed Facility to ensure it remains in good working order. The Proposed Facility will comply with all applicable local, state and federal safety codes.

### **III. Legal Arguments**

#### **A. The Applicant complies with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance**

Pursuant to Section 4.32(g) of the Ordinance, the Applicant’s proposed use for a wireless communications facility in the BB District is permitted by special permit. The Applicant’s Proposed Facility further complies with the provisions set forth in Section 4.32(g), footnote 49 of the Ordinance:

##### **1. The Board of Zoning Appeal shall consider the scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.**

Enclosed herewith is the Applicant’s FCC license. The Applicant meets all requirements imposed by governmental authorities having jurisdiction over the Proposed Facility, including by the FCC, to provide wireless communications in this market area.

The intent of the U.S. Congress, when it enacted the Telecommunications Act of 1996 (“**TCA**”) was to institute a framework to promote competition and innovation within the telecommunications industry. Under its license from the FCC, T-Mobile is obligated to provide a reliable “product” (i.e. wireless communications service) to the population of the City of Cambridge. Likewise, consumer expectations for increasingly robust and reliable service requires competing service providers (including T-Mobile) to identify and remedy existing gaps in reliable network coverage, or gaps that result from increasing subscriber voice and data traffic beyond the limits of existing network infrastructure. A carrier’s failure to remedy network gaps in a timely fashion can result in a significant loss of subscribers to competing telecommunications carriers. As demonstrated in the Affidavit of Radio Frequency Expert provided by the Applicant and attached hereto, the Proposed Facility and corresponding relief requested are necessary to remedy a gap in reliable service coverage within T-Mobile’s existing network infrastructure.

T-Mobile investigated alternative sites in and around the defined geographic area within which its engineers determined that a facility must be located to fill the gap in service coverage and to function effectively within its network of existing and planned facilities. This is an existing location that is being upgraded with new technology to provide the necessary coverage to the subject area of the City of Cambridge. Therefore, the Proposed Facility in the SD-10 District is necessary to close the coverage gap that is illustrated on the propagation maps submitted herewith. Consequently, T-Mobile is unable to close a gap in its wireless network without obtaining the requested relief under Section 6409 of the Spectrum act or a Special Permit to modify its existing wireless facility in the BB District.

Furthermore, Section 6409(a) of the Spectrum Act mandates that state and local governments “*may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.*” Under Section 6409(a)(2)(A)-(C) an Eligible Facilities Request is any request to modify a Tower or Base Station that involves “collocations of new Transmission Equipment,” “removal,” or “replacement” of Transmission Equipment.

Because federal law now preempts many of the permit application requirements that this jurisdiction would previously have required from an Applicant, we have provided, on the attached EFR, only the information that federal law allows this jurisdiction to consider when reviewing an EFR. As such, we submit that the Wireless Communications set forth in Section 4.32(g), footnote 49 of the Ordinance, provisions are not applicable to Proposed Facility and relief must be granted pursuant to Section 6409(a) of the Spectrum Act.

- 2. The Board of Zoning Appeal shall consider the 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.**

The Applicant’s Proposed Facility will have a minimal visual impact on the existing facility and Building. The Proposed Facility will be installed on the façade and of the penthouse of the Building, and within faux vent pipes, and in conformity with the Decisions.

As stated above, federal law now preempts many of the permit applications requirements that the Ordinance sets forth. To the extent that this Board determines that the Applicants’ proposed wireless facility must comply with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

3. **Where 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 a 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.**

This is not applicable to the Proposed Facility. The Applicant proposes to install its facility within the BB District.

**B. The Applicant complies with the Special Permit Criteria set forth in Section 10-43 of the Ordinance<sup>2</sup>:**

**1. The requirements of the Ordinance can be met:**

As provided above, the Applicant has met the requirements set forth in Section 4.32(g), footnote 49 of the Ordinance.

**2. 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 installation will not obstruct existing rights-of-way or pedestrian access and will not change the daily conditions of access, egress, traffic, congestion hazard, or character of the neighborhood. The installation will not require the addition of any new parking or loading spaces. The use is passive and will not change the current conditions or appearance surrounding the Building. The facility will not produce any odors, fumes, noise or waste. There will be no need for water, sewer, or other municipal services.

As mentioned above, once modified, the facility will be unmanned and will only require infrequent visits by a technician, typically two times per month for routine diagnostics and/or

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<sup>2</sup> Pursuant to Section 6409(a) of the Spectrum Act, state and local governments "may not deny and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

maintenance, except in cases of emergency. These infrequent visits will not result in any material increase in traffic or disruption to patterns of access or egress that will cause congestion hazards or cause a substantial change in the established neighborhood character. The Applicant's maintenance personnel will make use of the existing access roads and parking at the Building.

**3. 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 photograph simulations, the modification of the existing facility will produce a minimal change in the appearance of the Building. The modification of the existing facility will blend with the existing characteristics of the Building and the surrounding neighborhood. Moreover, the proposed installation will not generate any traffic, smoke, dust, heat, glare, discharge of noxious substances, nor will it pollute waterways or groundwater. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communication.

**4. 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:**

The operations of the proposed telecommunications facility will not adversely impact the health, safety, and the welfare of the residents of the City of Cambridge. On the contrary, the proposed use 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. Further, the site 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 Proposed Facility will comply with all federal, state and local safety requirements including the standards established by the FCC, Federal Aviation Administration (FAA), the American Standards Institute (ANSI), and the Massachusetts Department of Public Health (MDPH).

Accordingly, the Proposed Facility will not adversely impact the health, safety and/or welfare of the neighborhood or the residents of the City of Cambridge.

**5. For other reasons, the proposed installation will not impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this ordinance for the following reasons:**

The Proposed Facility is designed to blend with the existing characteristics of the



Property, reducing any visual impacts to the surrounding area. Accordingly, the Proposed Facility's design results in a minimal impact on the underlying and adjacent zoning district and is consistent with the Ordinance's intention to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space), including the BB District.

As mentioned above, the proposed modifications to the existing installation will not generate any traffic, smoke, dust, heat, glare, discharge or noxious substances, nor will it pollute waterways or groundwater.

**6. The new use of the building construction is consistent with the Urban Design Objective set for tin Section 19.30 of the Ordinance:**

Not Applicable. The Applicant is not proposing to construct a new building or structure.

**IV. Summary**

The Applicant hereby requests that the Board determine that the City of Cambridge has the right to authorize the construction of the Proposed Facility through the issuance of a Building Permit, pursuant to Section 6409(a) of the Spectrum Act. Or, in the alternative, its proposed modifications to the existing telecommunications facility will not have any adverse effect on the neighborhood within which the Property is located in particular, and the City of Cambridge as a whole. The findings are made in view of the particular characteristics of the Property and of the Applicant's proposed siting and equipment, as detailed above. This Property is the most appropriate location for the installation and operation of the wireless communications facility.

For the foregoing reasons the Applicant respectfully requests that the Board grant the foregoing relief pursuant to Section 6409(a) of the Spectrum Act or, in the alternative, zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the installation and operation of the Applicant's Proposed Facility.

Sincerely,

A handwritten signature in black ink, appearing to read "A. Braillard", with a horizontal line extending to the right.

Adam F. Braillard  
Direct: 617-456-8153  
Email: [abraillard@princelobel.com](mailto:abraillard@princelobel.com)

Tel. No. 617-456-8153  
 E-Mail Address: abraillard@princelobel.com

Date: August 15, 2023

**BZA Application Form**

**DIMENSIONAL INFORMATION**

**Applicant:** T-Mobile Northeast LLC for GH Holdings LP      **Present Use/Occupancy:** Telecommunications and Business  
**Location:** 1430 Massachusetts Ave., Cambridge, MA      **Zone:** Business B Zone  
**Phone:** 617-456-8153      **Requested Use/Occupancy:** Telecommunications

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

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

The Proposed installation involves a modification of an existing Wireless Telecommunications Facility.

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.

**APPROVED**

By Dan Currier at 9:46AM, June 1, 2023

**APPROVED**

By Kenneth Zink at 4:43 pm, Jun 01, 2023

**APPROVED**

By Bill Hastings at 4:53 pm, Jun 01, 2023

# Sprint



Now part of

# T Mobile™

# 4BSS031A SITE ID: 4BSS031A 1430 MASSACHUSETTS AVE CAMBRIDGE, MA

T-MOBILE A/L TEMPLATE (PROVIDED BY RFDS)

67D5998E\_1xAIR+1QP+1QP

T-MOBILE RAN TEMPLATE (PROVIDED BY RFDS)

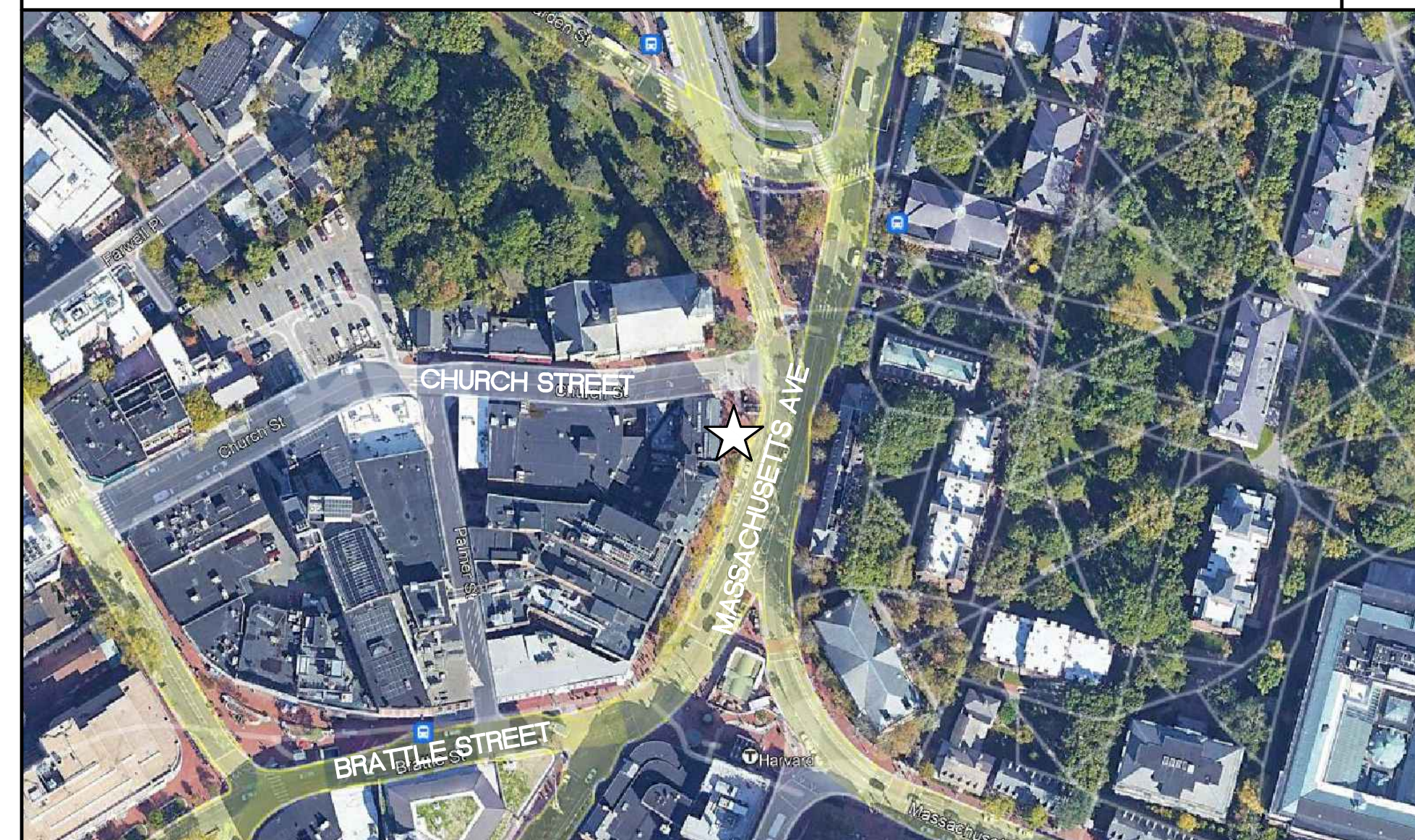
67D5D998E 6160

### GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9<sup>TH</sup> EDITION), INCLUDING THE TIA-222 REVISION "H" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES."
- SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE, WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
- ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS AND ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
- AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS, AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL, AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
- LOCATION OF EQUIPMENT AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS, SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CRTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED' ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE T-MOBILE CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
- COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUITS AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND CONFIRMED WITH THE PROJECT MANAGER AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT 'CALL BEFORE YOU DIG' AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
- CONTRACTOR SHALL COMPLY WITH THE OWNER'S ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.
- THE COUNTY/CITY/TOWN MAY MAKE PERIODIC FIELD INSPECTIONS TO ENSURE COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS.
- THE COUNTY/CITY/TOWN MUST BE NOTIFIED (2) WORKING DAYS PRIOR TO CONCEALMENT/BURIAL OF ANY SYSTEM OR MATERIAL THAT WILL PREVENT THE DIRECT INSPECTION OF MATERIALS. METHODS OR WORKMANSHIP. EXAMPLES OF THESE PROCESSES ARE BACKFILLING A GROUND RING OR TOWER FOUNDATION, POURING TOWER FOUNDATIONS, BURYING GROUND RODS, PLATES OR GRIDS, ETC. THE CONTRACTOR MAY PROCEED WITH THE SCHEDULED PROCESS (2) WORKING DAYS AFTER PROVIDING NOTICE UNLESS NOTIFIED OTHERWISE BY THE COUNTY/CITY/TOWN.
- PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER ON RECORD, PRIOR TO THE COMMENCEMENT OF ANY WORK.

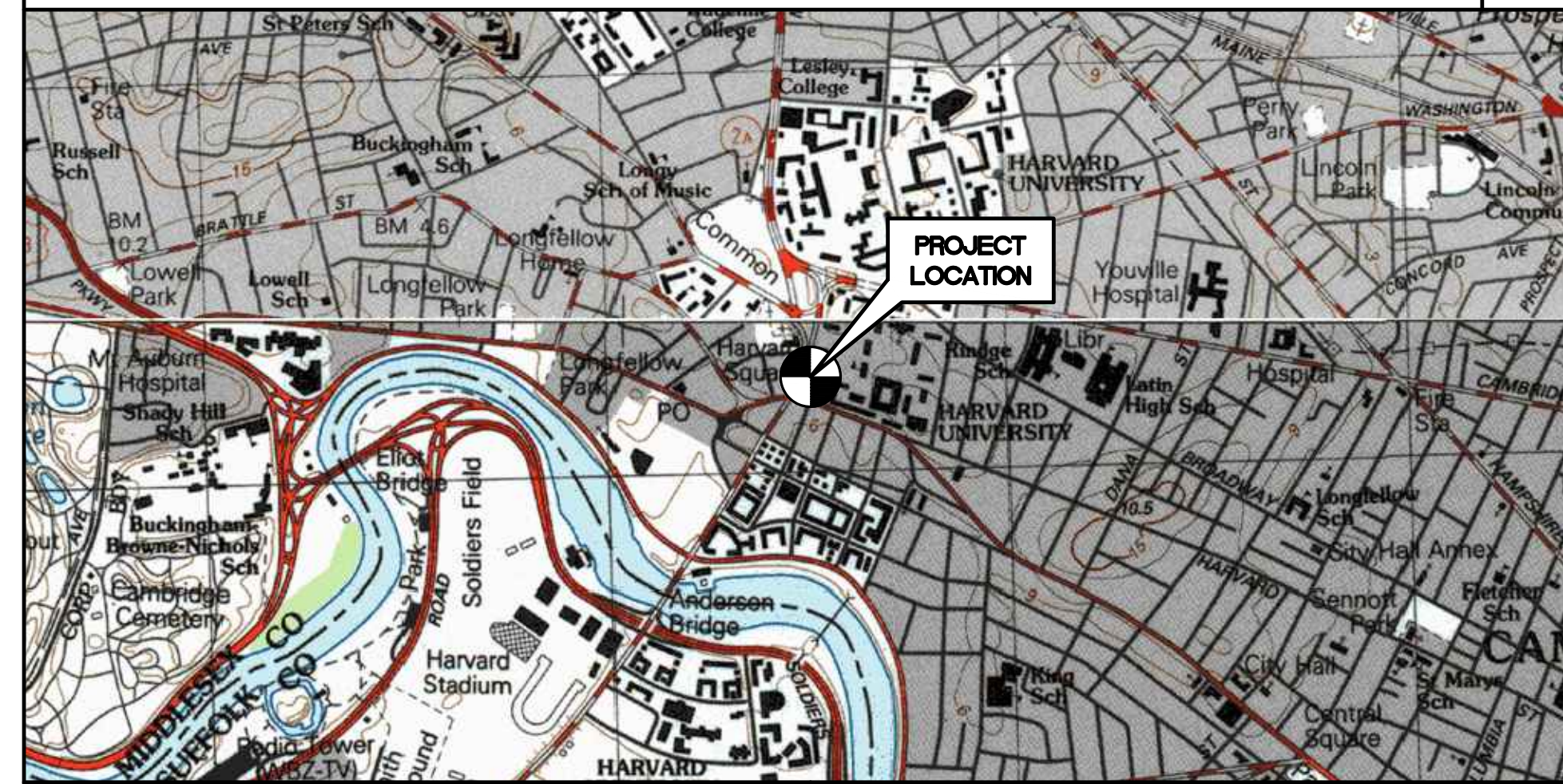
### SITE LOCATION MAP

N.T.S.



### VICINITY MAP

N.T.S.



COORDINATES AND GROUND ELEVATION ARE REFERENCED FROM GOOGLE EARTH.

SITE COORDINATES: LATITUDE: 42° 22' 26.91" N  
LONGITUDE: 71° 07' 09.10" W  
GROUND ELEVATION: ±24' AMSL



### DESIGN BASIS:

ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9<sup>TH</sup> EDITION), INCLUDING THE TIA-222 REVISION "H" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES."

#### 1. DESIGN CRITERIA:

- RISK CATEGORY: II (BASED ON TABLE 1604.5 OF THE 2015 IBC)
- ULTIMATE DESIGN SPEED (ULTIMATE): 128 MPH (V<sub>ULT</sub>) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2015 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9<sup>TH</sup> EDITION)
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

### PROJECT SUMMARY

THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:

- AT THE EXISTING PENTHOUSE MOUNTED ANTENNAS
  - REMOVE ALL (6) SPRINT PANEL ANTENNAS, (6) SPRINT RADIOS AND CABLES.
  - INSTALL (3) RFS - APXVAALL18-43-U-NA20 ANTENNAS.
  - INSTALL (3) ERICSSON - AIR6419 B41 ANTENNAS.
  - INSTALL (2) RFS - APXVLL19P-43-C-A20 ANTENNAS.
  - INSTALL (3) ERICSSON - 4449 B71+B85 RADIOS.
  - INSTALL (3) ERICSSON - 4460 B25+B66 RADIOS.
  - INSTALL (4) NEW ANTENNA MOUNTS AND STRUCTURAL REINFORCEMENTS AT PENTHOUSE. REFER TO SHEET S-1 FOR ADDITIONAL DETAILS.
  - INSTALL (1) DUAL SWIVEL RRU MOUNT BELOW POS.1 ANTENNA AT GAMMA SECTOR
  - INSTALL (3) HYBRID CABLES.
- AT THE EXISTING STEEL EQUIPMENT PLATFORM
  - REMOVE SPRINT BTS AND BATTERY CABINET.
  - REMOVE EXISTING FIBER DISTRIBUTION BOX.
  - FURNISH AND INSTALL SLACK BOX
  - INSTALL (1) 6160 CABINET.
  - INSTALL (1) B160 CABINET.
  - REPLACE GPS.
  - FURNISH AND INSTALL POWER RELAY.

### PROJECT SUMMARY (STRUCTURAL)

- FOR REQUIRED STRUCTURAL MODIFICATIONS, SEE SHEET(S) S-1 FOR ADDITIONAL DETAILS.
- INSTALL NEW ANTENNA MOUNTS AND STRUCTURAL REINFORCEMENTS TO PENTHOUSE.

### PROJECT INFORMATION

SITE NAME:	4BSS031A
SITE ID:	4BSS031A
SITE ADDRESS:	1430 MASSACHUSETTS AVE CAMBRIDGE, MA
APPLICANT:	T-MOBILE NORTHEAST, LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
CONTACT PERSON:	MARYELLEN PERROTTA (PROJECT MANAGER) SAI COMMUNICATIONS, LLC 12 INDUSTRIAL WAY SALEM, NH 03078 (603) 952-1964
ENGINEER OF RECORD:	CEN TEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405  CARLO F. CENTORE, PE (203) 488-0580 EXT. 122
PROJECT COORDINATES:	LATITUDE: 42°22'26.91" N LONGITUDE: 71°07'09.10" W GROUND ELEVATION: 24'± AMSL  SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

### SHEET INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	GENERAL NOTES AND SPECIFICATIONS	0
C-1	SITE LOCATION PLAN	0
C-2	ROOF PLAN, EQUIPMENT PLANS AND ELEVATION	0
C-3	ANTENNA PLANS AND ELEVATIONS	0
C-4	TYPICAL EQUIPMENT DETAILS	0
S-1	STRUCTURAL DETAILS AND MODIFICATIONS	0
E-1	ELECTRICAL RISER DIAGRAM AND CONDUIT ROUTING	0
E-2	TYPICAL GROUNDING DETAILS	0
E-3	TYPICAL EQUIPMENT GROUNDING SCHEMATICS	0

CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION  
CONSTRUCTION DRAWINGS - REVISED PER RECENT ISSUED RFDS  
CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL  
CARLO F. CENTORE, PE  
203-488-0580  
63-2 NORTH BRANFORD ROAD  
BRANFORD, CT 06405  
www.CentekEng.com

Sprint  
T-Mobile

CEN TEK engineering  
Centek on Solutions  
(203) 488-0580  
(203) 488-8587 Fax  
63-2 North Branford Road  
Branford, CT 06405  
www.CentekEng.com

T-MOBILE NORTHEAST LLC  
4BSS031A  
SITE ID: 4BSS031A  
1430 MASSACHUSETTS AVE  
CAMBRIDGE, MA

DATE: 08/26/22  
SCALE: AS NOTED  
JOB NO. 22001.12

TITLE SHEET

T-1

Sheet No. 1 of 10

**NOTES AND SPECIFICATIONS:**

**SITE NOTES**

1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. ACTIVE EXISTING UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY, PRIOR TO PROCEEDING, SHOULD ANY UNCOVERED EXISTING UTILITY PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
4. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
5. IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL PROCEED WITH AFFECTED WORK AFTER CONFLICT IS SATISFACTORILY RESOLVED.

**GENERAL NOTES**

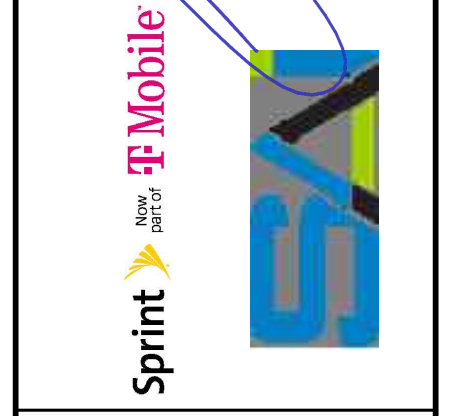
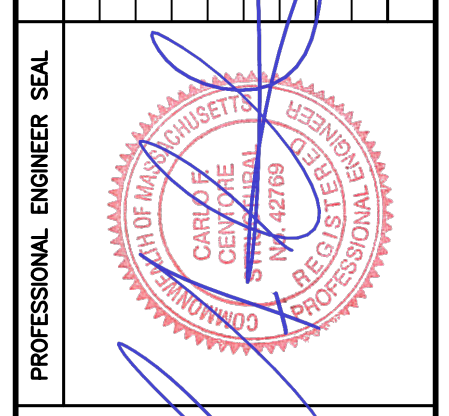
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9<sup>TH</sup> EDITION), INCLUDING THE TIA-222 REVISION "H" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES."
2. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE, WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
5. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS AND ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
6. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS, AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
7. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
8. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
9. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL, AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
10. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
11. LOCATION OF EQUIPMENT AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS, SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
12. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.
13. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.

14. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
15. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
16. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
17. ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED' ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE T-MOBILE CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
19. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
20. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
21. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUITS AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND CONFIRMED WITH THE PROJECT MANAGER AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK
22. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
23. THE CONTRACTOR SHALL CONTACT 'CALL BEFORE YOU DIG' AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
24. CONTRACTOR SHALL COMPLY WITH THE OWNER'S ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.
25. THE COUNTY/CITY/TOWN MAY MAKE PERIODIC FIELD INSPECTIONS TO ENSURE COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS.
26. THE COUNTY/CITY/TOWN MUST BE NOTIFIED (2) WORKING DAYS PRIOR TO CONCEALMENT/BURIAL OF ANY SYSTEM OR MATERIAL THAT WILL PREVENT THE DIRECT INSPECTION OF MATERIALS, METHODS OR WORKMANSHIP. EXAMPLES OF THESE PROCESSES ARE BACKFILLING A GROUND RING OR TOWER FOUNDATION, POURING TOWER FOUNDATIONS, BURYING GROUND RODS, PLATES OR GRIDS, ETC. THE CONTRACTOR MAY PROCEED WITH THE SCHEDULED PROCESS (2) WORKING DAYS AFTER PROVIDING NOTICE UNLESS NOTIFIED OTHERWISE BY THE COUNTY/CITY/TOWN.
27. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER ON RECORD, PRIOR TO THE COMMENCEMENT OF ANY WORK.

**STRUCTURAL STEEL**

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
  - A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
  - B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
  - C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
  - D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
  - E. PIPE---ASTM A53 (FY = 35 KSI)
  - F. CONNECTION BOLTS---ASTM A325-N
  - G. U-BOLTS---ASTM A36
  - H. ANCHOR RODS---ASTM F 1554
  - I. WELDING ELECTRODE---ASTM E 70XX
2. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
10. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

REV.	DATE	DESCRIPTION
0	05/25/23	TJR
A	05/16/23	ASC
B	05/16/23	ASC
A	09/26/22	ASC



**CENTEK engineering**  
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 Branford, CT 06405  
 www.CentekEng.com

**T-MOBILE NORTHEAST LLC**  
**4BSS031A**  
**SITE ID: 4BSS031A**  
**1430 MASSACHUSETTS AVE**  
**CAMBRIDGE, MA**

DATE: 08/26/22  
 SCALE: AS NOTED  
 JOB NO. 22001.12

GENERAL NOTES  
 AND  
 SPECIFICATIONS

**N-1**  
 Sheet No. 2 of 10

NOTE:  
ALL HCS LENGTHS TO BE MEASURED AND  
VERIFIED IN FIELD BEFORE ORDERING

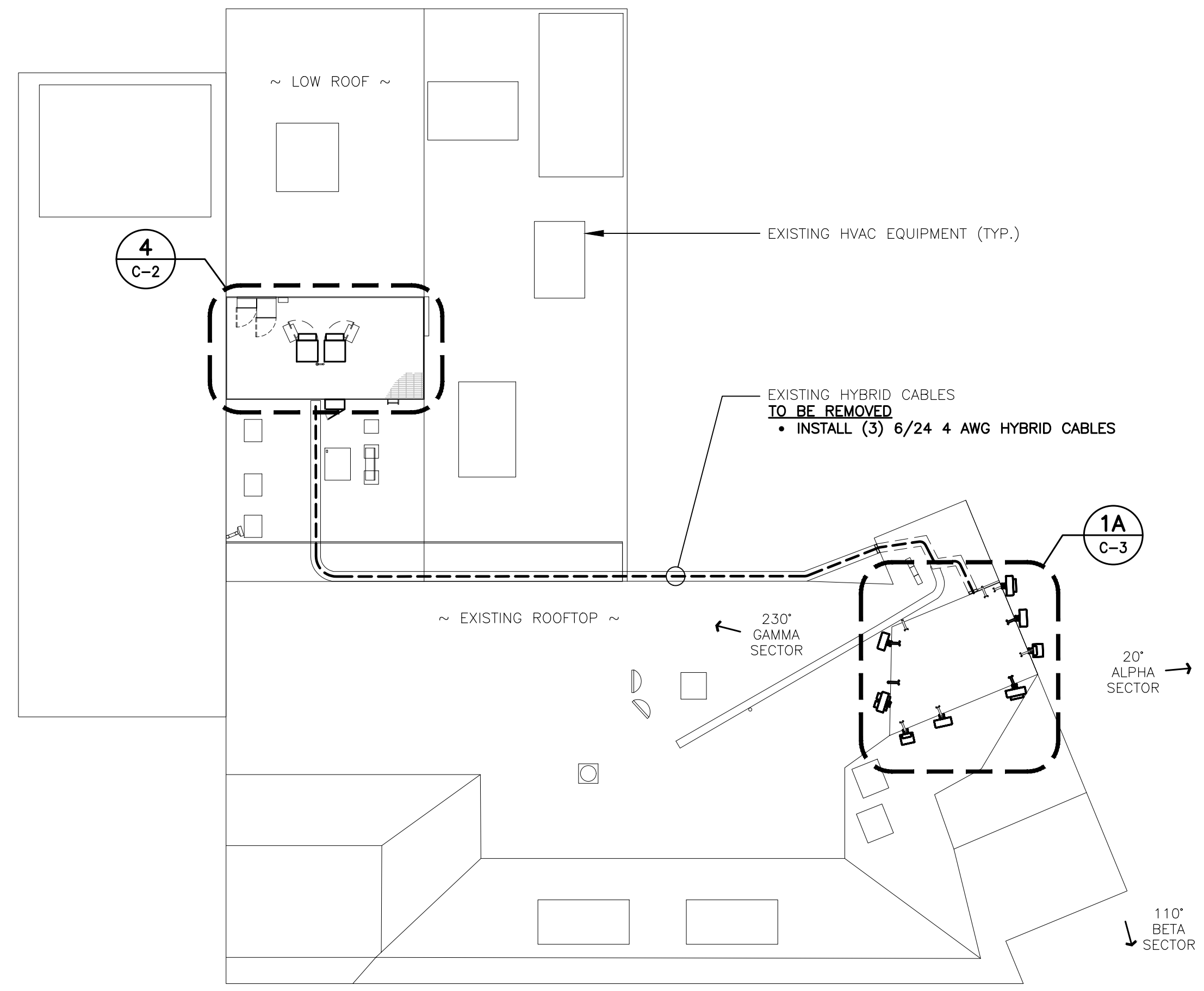
ANTENNA SCHEDULE								
SECTOR	EXISTING/PROPOSED	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA $\phi$ HEIGHT	AZIMUTH	(E/P) RRU (QTY)	(E/P) TMA (QTY)	(QTY) PROPOSED COAX (LENGTH)
A1	PROPOSED	RFS - APXVAALL18_43-U-NA20	72.0 x 24.0 x 8.5	78'	20°	(P) RADIO 4449 B71+B85 (1)		(1) ERICSSON HYBRID TRUNK 6/24 4AWG (60m)
A2	PROPOSED	ERICSSON - AIR6419 B41	33.0 x 24.0 x 9.0	78'	20°			
A3	PROPOSED	RFS - APXVLL19P_43-C-A20	33.1 x 20.6 x 8.6	78'	20°	(P) RADIO 4460 B25+B66 (1)		
B1	PROPOSED	RFS - APXVAALL18_43-U-NA20	72.0 x 24.0 x 8.5	78'	110°	(P) RADIO 4449 B71+B85 (1)		(1) ERICSSON HYBRID TRUNK 6/24 4AWG (60m)
B2	PROPOSED	ERICSSON - AIR6419 B41	33.0 x 24.0 x 9.0	78'	110°			
B3	PROPOSED	RFS - APXVLL19P_43-C-A20	33.1 x 20.6 x 8.6	78'	110°	(P) RADIO 4460 B25+B66 (1)		
C1	PROPOSED	RFS - APXVAALL18_43-U-NA20	72.0 x 24.0 x 8.5	78'	230°	(P) RADIO 4449 B71+B85 (1), (P) RADIO 4460 B25+B66 (1)		(1) ERICSSON HYBRID TRUNK 6/24 4AWG (60m)
C2	PROPOSED	ERICSSON - AIR6419 B41	33.0 x 24.0 x 9.0	78'	230°			



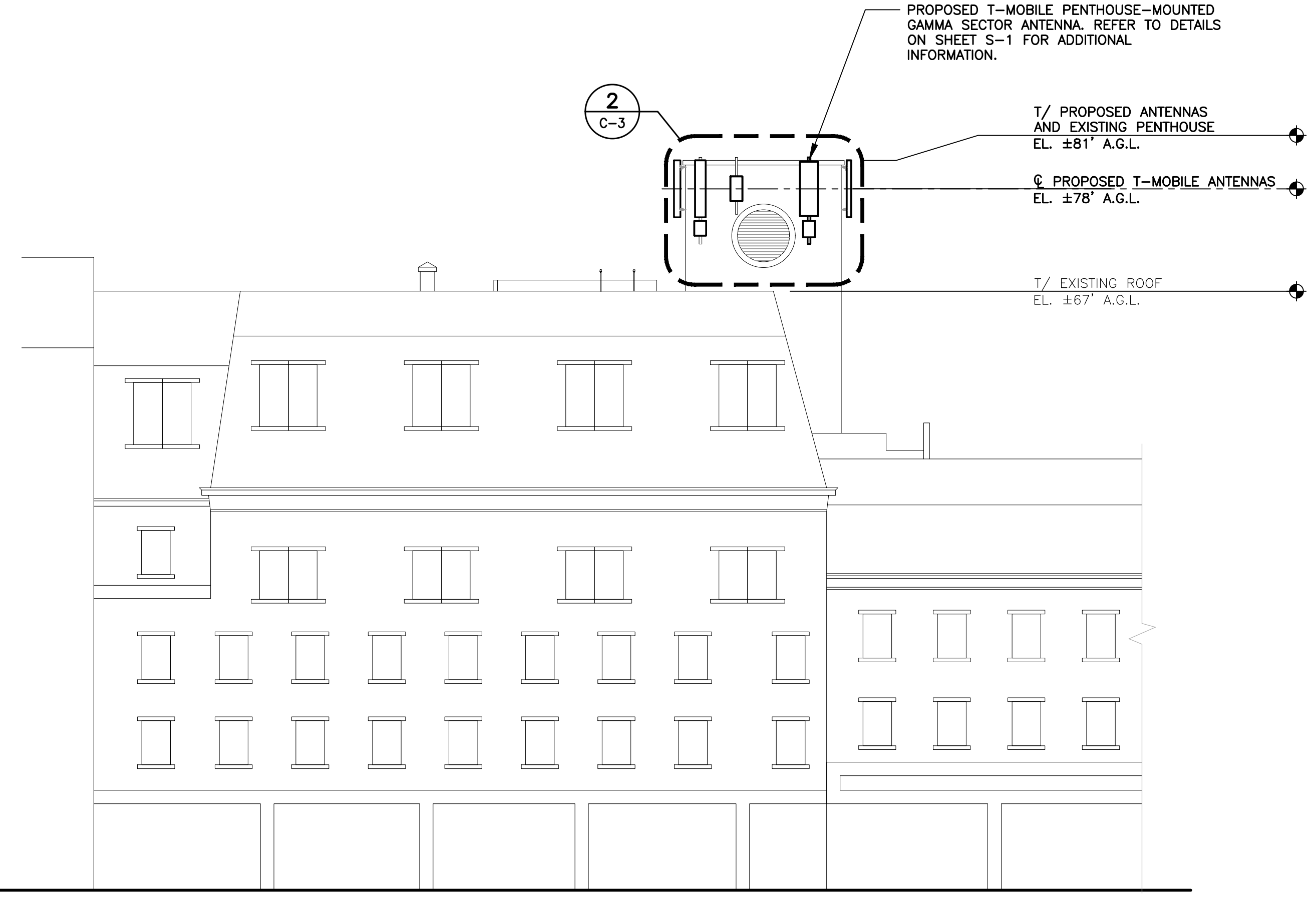
1 SITE LOCATION PLAN  
C-1 SCALE: NOT TO SCALE



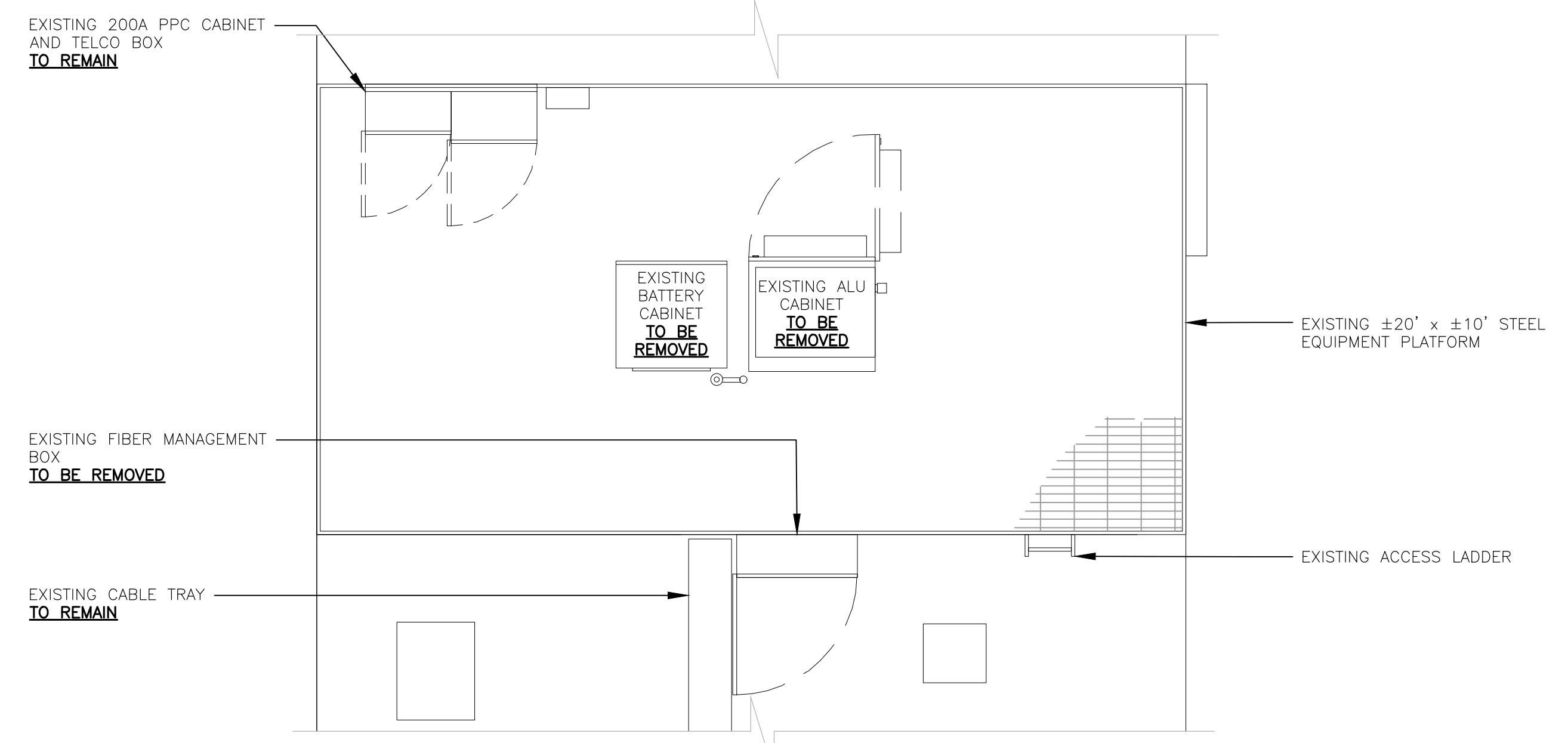
PROFESSIONAL ENGINEER SEAL	
  	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION CONSTRUCTION DRAWINGS - REVISED PER RECENTLY ISSUED RFDS CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW
 CENTEK engineering Centek on Solutions (203) 488-0380 (203) 488-8587 Fax 652 North Branford Road Branford, CT 06405 www.CentekEng.com	DATE: 08/26/22 SCALE: AS NOTED JOB NO. 22001.12
T-MOBILE NORTHEAST LLC 4BSS031A SITE ID: 4BSS031A 1430 MASSACHUSETTS AVE CAMBRIDGE, MA	DRAWN BY: CHK'D BY: DATE: DESCRIPTION
SHEET No. 3 of 10	



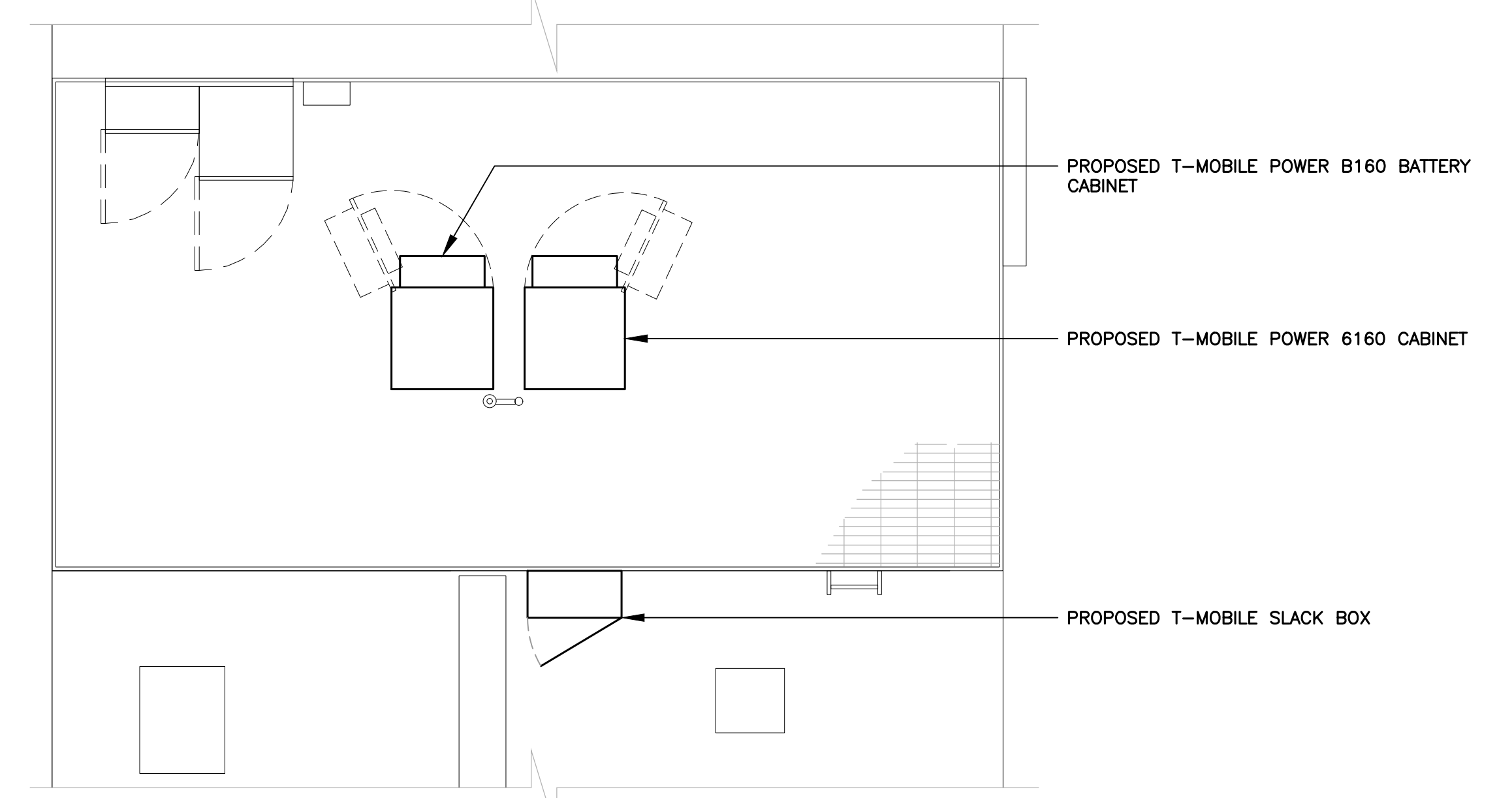
**1 ROOF PLAN - PROPOSED**  
C-2 SCALE: 3/32" = 1'  
TRUE NORTH



**2 PARTIAL EAST BUILDING ELEVATION - PROPOSED**  
C-2 SCALE: 3/32" = 1'



**3 EXISTING EQUIPMENT PLAN**  
C-2 SCALE: 3/8" = 1'-0"  
TRUE NORTH



**4 PROPOSED EQUIPMENT PLAN**  
C-2 SCALE: 3/8" = 1'-0"  
TRUE NORTH

**STRUCTURAL COMPLIANCE**

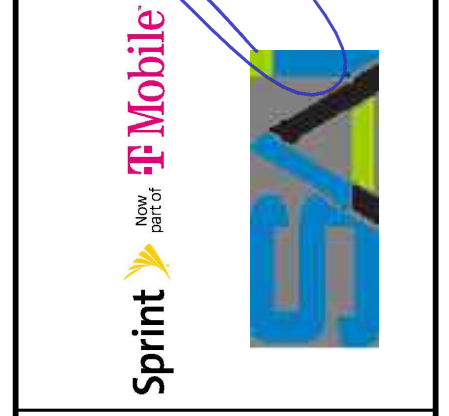
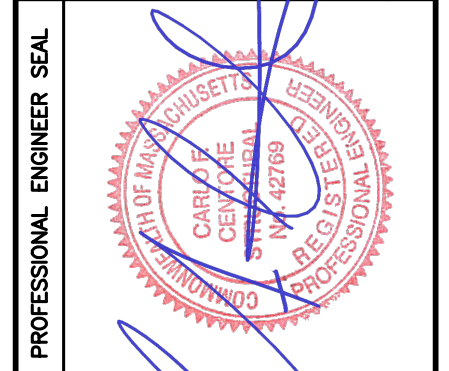
**ANTENNA MOUNTS & EQUIPMENT PLATFORM**

A STRUCTURAL ANALYSIS OF THE ANTENNA MOUNTS AND EQUIPMENT PLATFORM WAS PERFORMED FOR THE PROPOSED EQUIPMENT INSTALLATION AND THEY WERE FOUND TO BE STRUCTURALLY DEFICIENT AND WARRANTING MODIFICATION PRIOR TO INSTALLATION OF THE PROPOSED EQUIPMENT. FOR REQUIRED STRUCTURAL MODIFICATIONS, SEE SHEET(S) S-1 FOR DETAILS.

REFER TO THE STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING (PROJECT # 22001.12) DATED 05/19/23 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

**NOTE:** NO EQUIPMENT SHALL BE INSTALLED ON THE HOSTING STRUCTURE WITHOUT A PASSING STRUCTURAL ANALYSIS REPORT AND CONTRACTOR PRIOR CONFIRMATION THAT ANY AND ALL REQUISITE MODIFICATIONS HAVE BEEN COMPLETED.

REV.	DATE	DESCRPTION
0	05/25/23	ASC
B	05/16/23	ASC
A	09/26/22	ASC



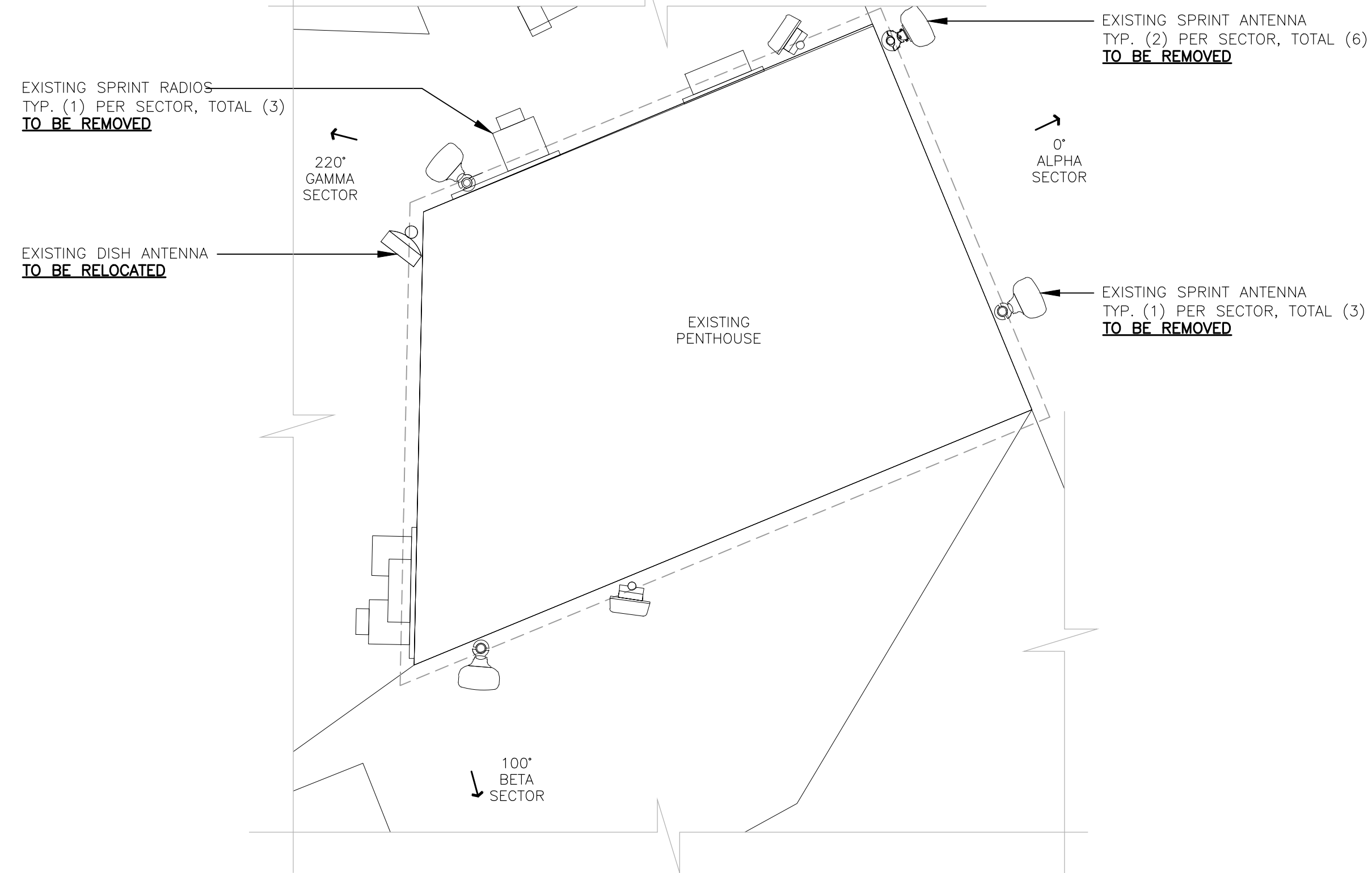
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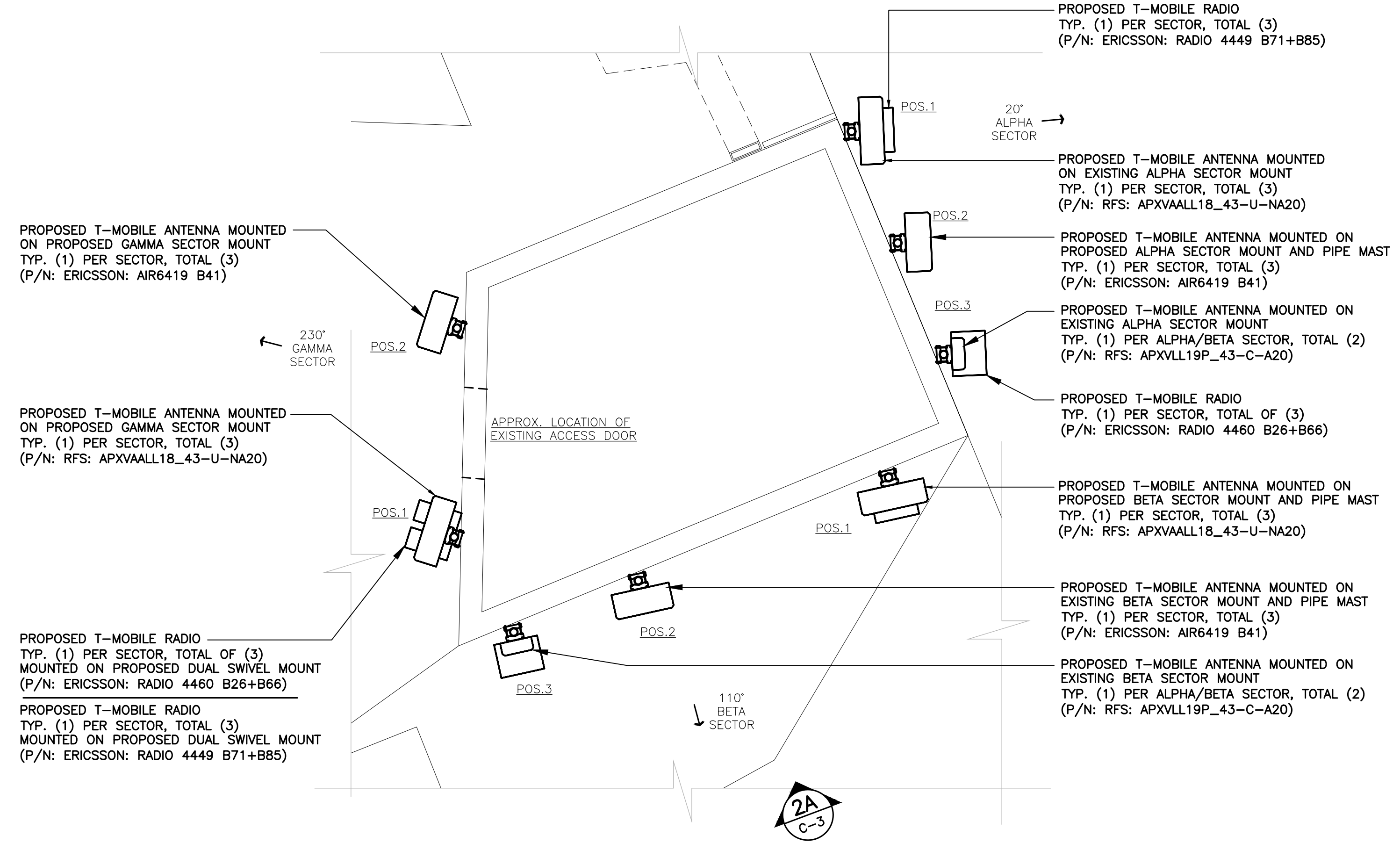
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SCALE: AS NOTED  
JOB NO. 22001.12

ROOF PLAN, EQUIPMENT PLAN, AND ELEVATION

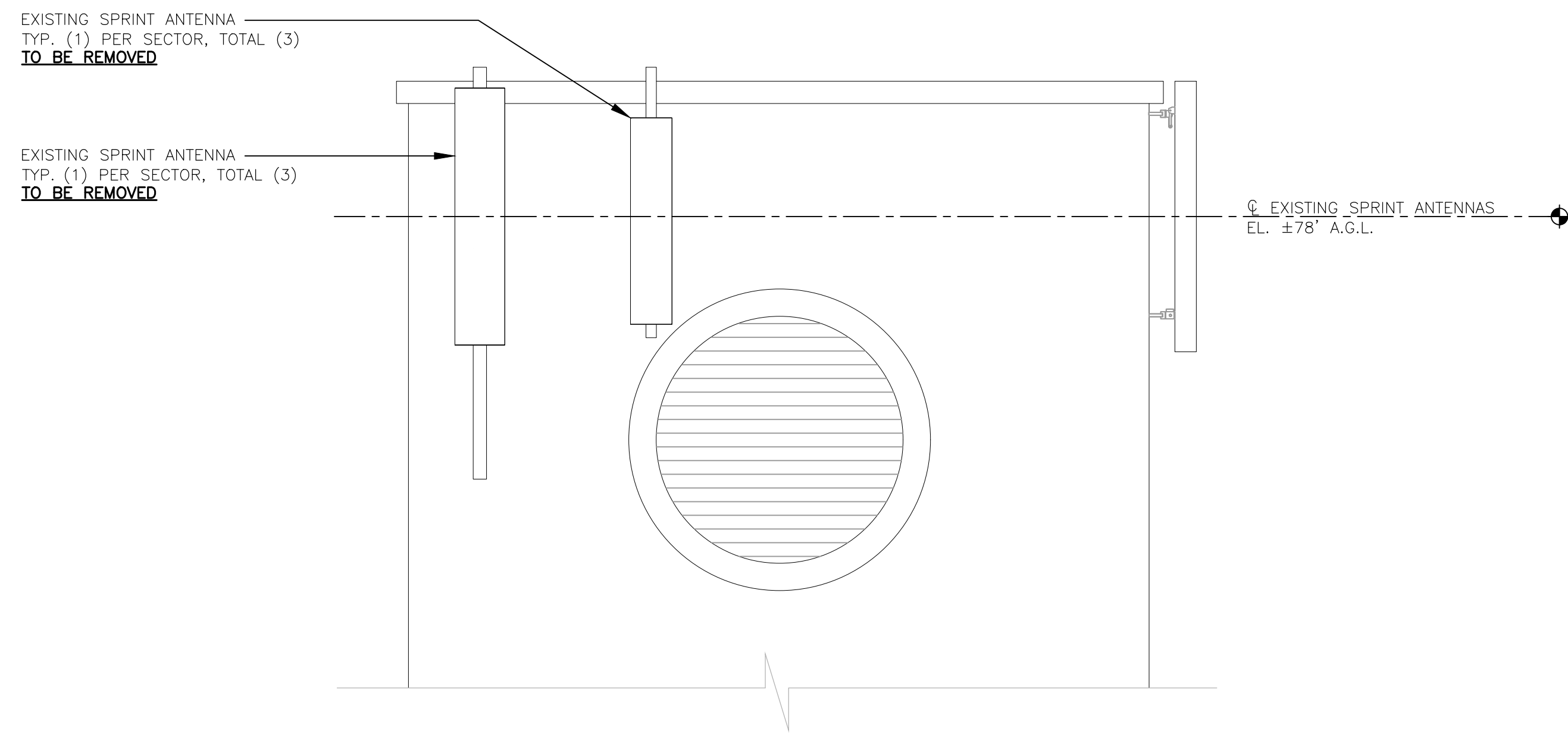
**C-2**  
Sheet No. 4 of 10



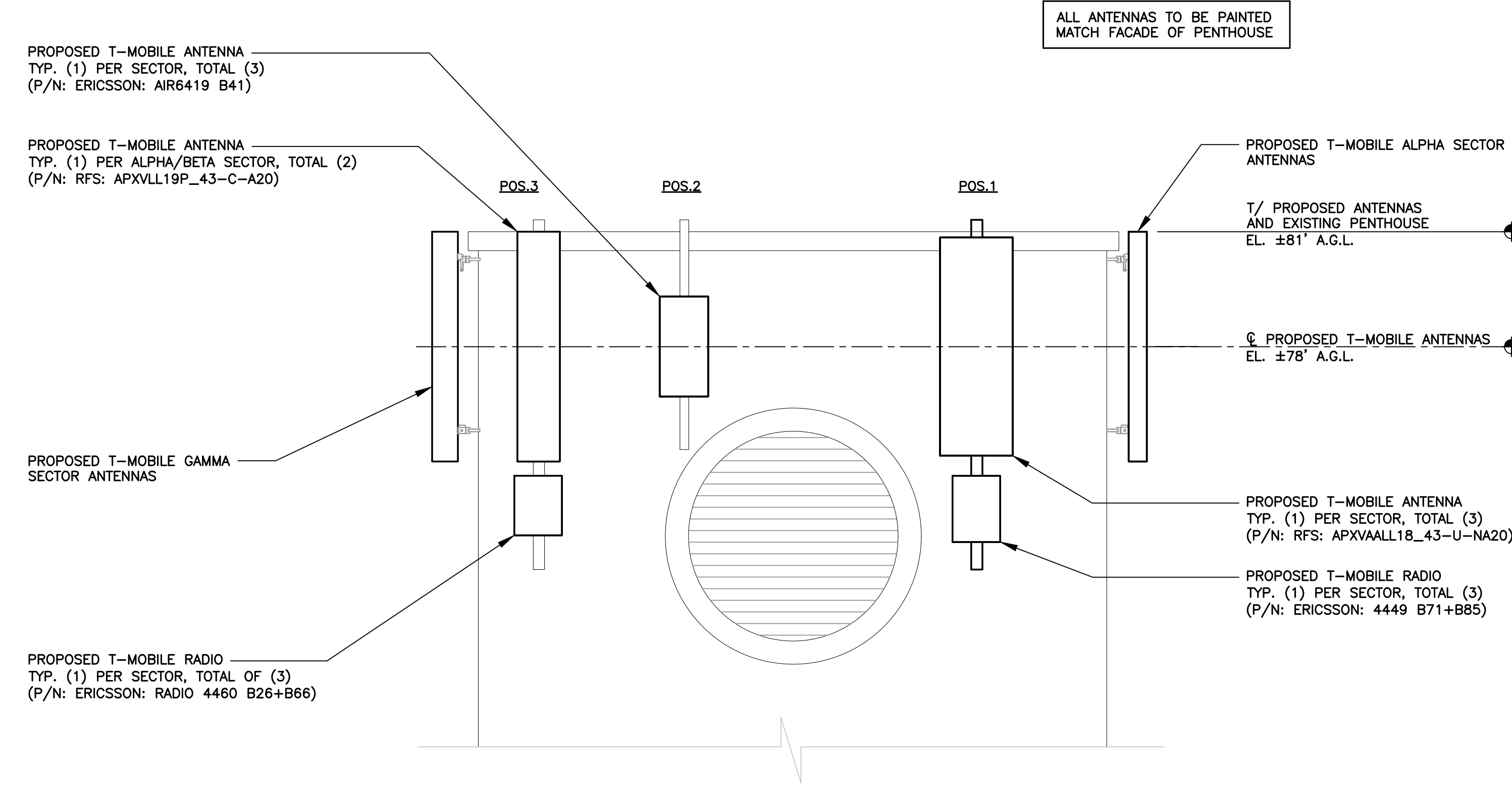
**1 ANTENNA PLAN - EXISTING**  
 C-3 SCALE: 3/8" = 1'-0" TRUE NORTH



**1A ANTENNA PLAN - PROPOSED**  
 C-3 SCALE: 3/8" = 1'-0" TRUE NORTH

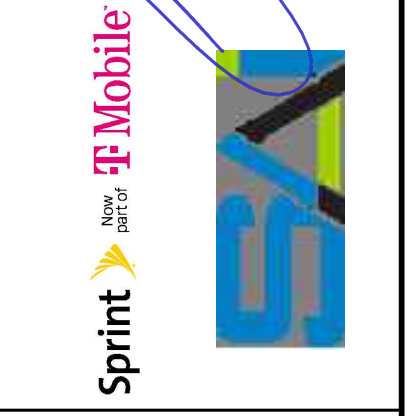
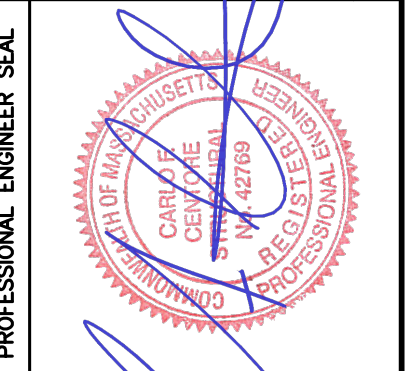


**2 ANTENNA ELEVATION - EXISTING**  
 C-3 SCALE: 3/8" = 1'-0"



**2A ANTENNA ELEVATION - PROPOSED**  
 C-3 SCALE: 3/8" = 1'-0"

REV.	DATE	DESCRPTION
0	05/25/23	ASC
B	05/16/23	ASC
A	09/26/22	ASC

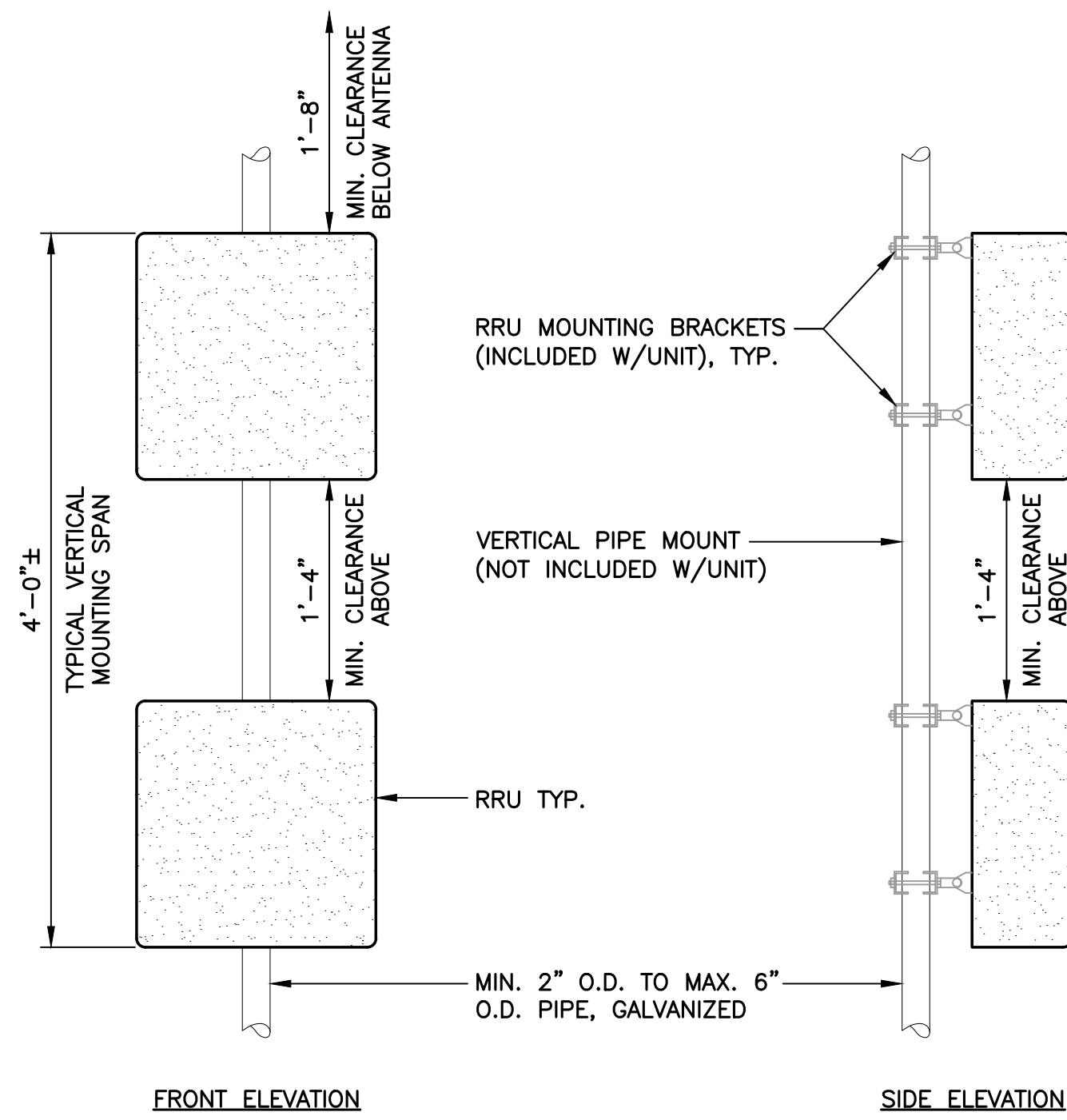


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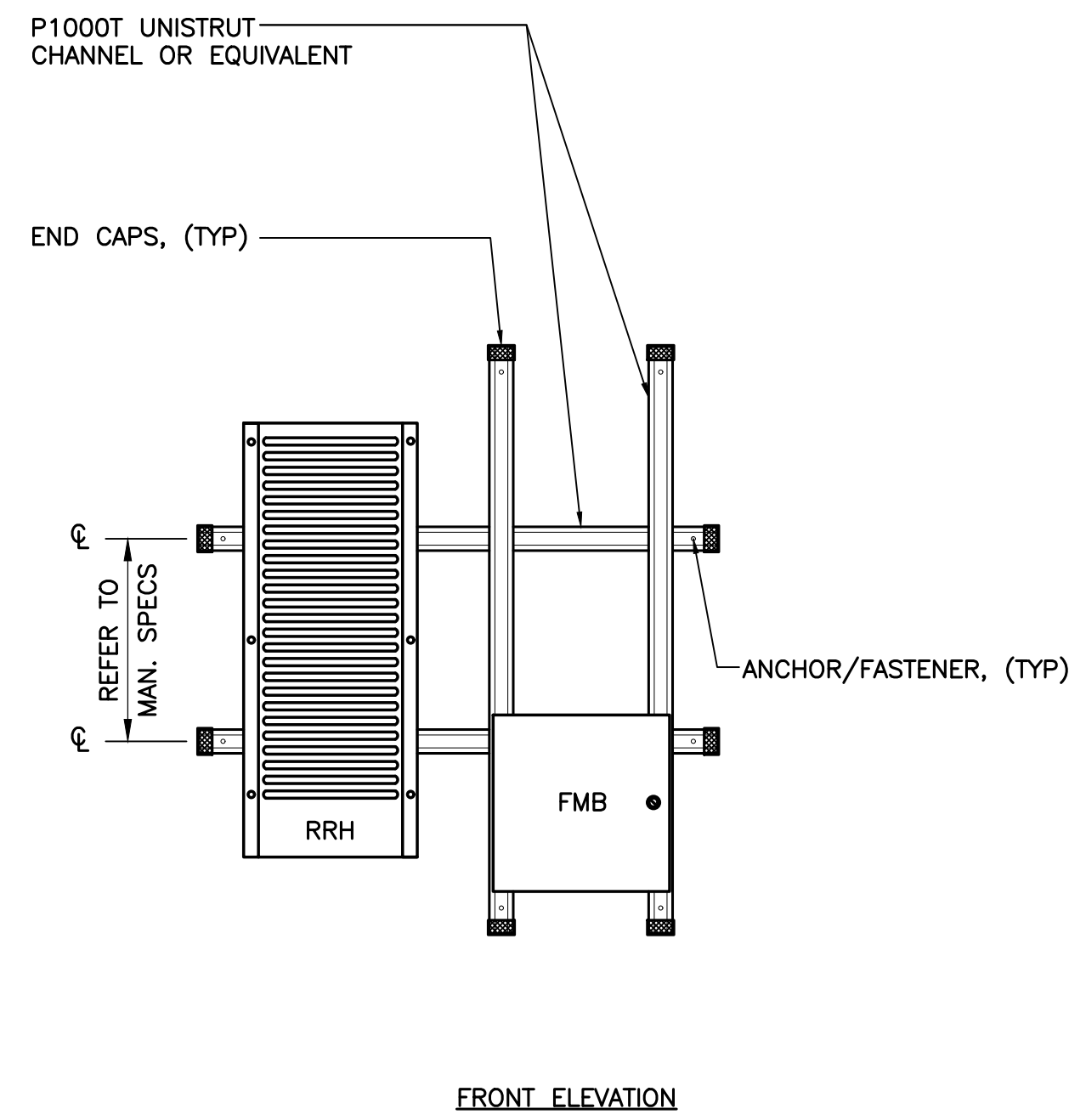
ANTENNA PLANS AND ELEVATIONS



**NOTES: (PIPE MOUNTING)**

- T-MOBILE SHALL SUPPLY RRU, AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET.
- NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

**1 TYPICAL RRU MOUNTING DETAILS**  
C-4 SCALE: NOT TO SCALE



**NOTES: (UNISTRUT MOUNTING)**

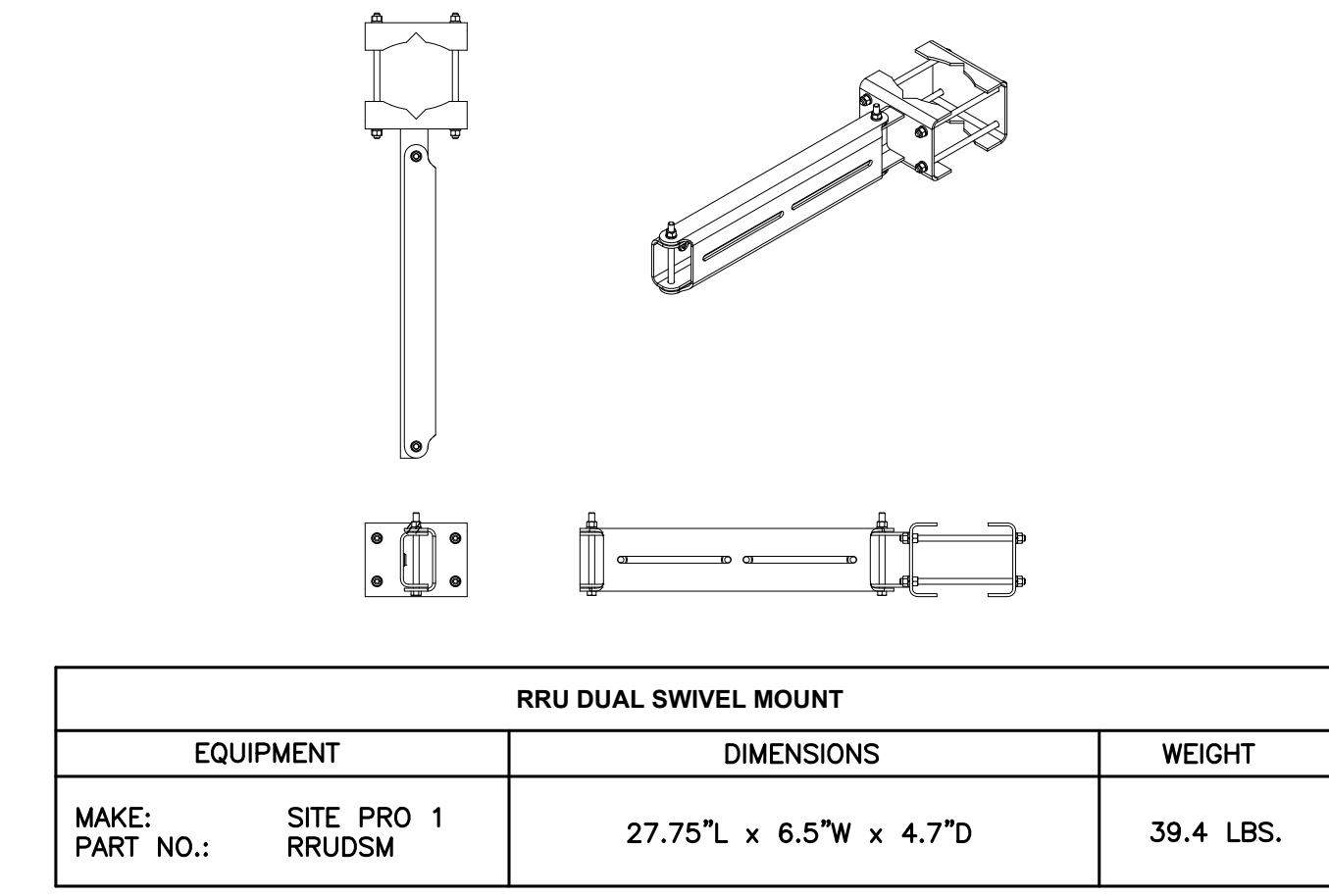
- INSTALL A MINIMUM OF (2) ANCHORS PER UNISTRUT ( $\pm 16^\circ/c$  MIN).
- MOUNT RRU TO UNISTRUT WITH  $3/8"$  UNISTRUT BOLTING HARDWARE AND SPRING NUTS. TYPICAL FOUR PER BRACKET.
- NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

**2 PROPOSED ANTENNA DETAIL**  
C-4 SCALE: NOT TO SCALE

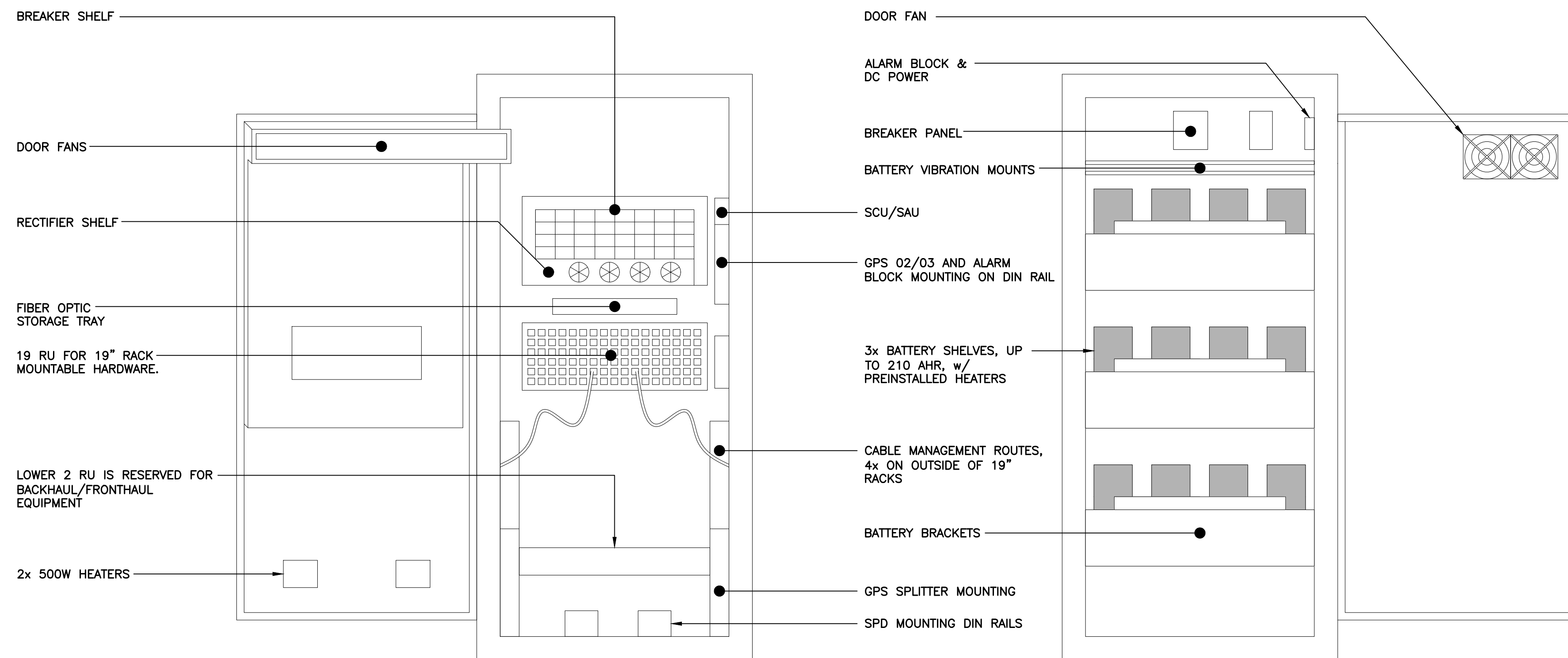


ALPHA/BETA/GAMMA ANTENNA			
EQUIPMENT	DIMENSIONS	WEIGHT	
MAKE: ERICSSON MODEL: AIR6419 B41	33.0"L x 16.0"W x 9.0"D	±41 LBS.	
MAKE: RFS MODEL: APXVAALL18_43-U-NA20	72"L x 24.0"W x 8.5"D	±139 LBS.	
MAKE: RFS MODEL: APXVLL19P_43-C-A20	75.8"L x 11.3"W x 4.6"D	±40 LBS.	

**NOTES:**  
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH T-MOBILE CONSTRUCTION MANAGER PRIOR TO ORDERING.



**3 RRU DUAL SWIVEL MOUNT DETAIL**  
C-4 SCALE: NOT TO SCALE



EQUIPMENT CABINET		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: ERICSSON MODEL: ENCLOSURE 6160 CABINET	62.0"H x 26.0"W x 26.0"D	±1200 LBS

**4 ENCLOSURE 6160 CABINET DETAIL**  
C-4 SCALE: NOT TO SCALE

EQUIPMENT CABINET		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: ERICSSON MODEL: BATTERY B160 CABINET	62.0"H x 26.0"W x 26.0"D	±1883 LBS

**5 BATTERY B160 CABINET DETAIL**  
C-4 SCALE: NOT TO SCALE

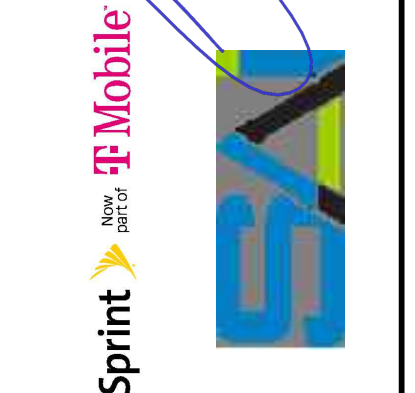
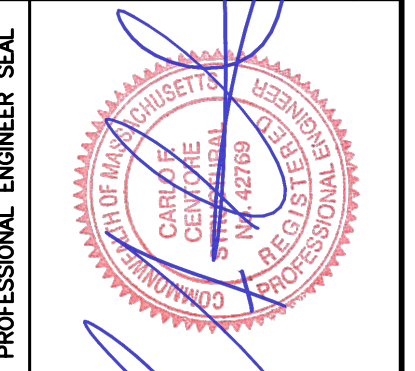


RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RADIO 4460 B25+B66	19.6"L x 15.7"W x 12.1"D	±109 LBS.	BEHIND ANT.: 8" MIN. BELOW ANT.: 20" MIN. BELOW RRU: 16" MIN.
MAKE: ERICSSON MODEL: RADIO 4449 B71+B85	14.9"L x 13.2"W x 5.4"D	±74 LBS.	BEHIND ANT.: 8" MIN. BELOW ANT.: 20" MIN. BELOW RRU: 16" MIN.

**NOTES:**  
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH T-MOBILE CONSTRUCTION MANAGER PRIOR TO ORDERING.

**6 PROPOSED RRU DETAIL**  
C-4 SCALE: NOT TO SCALE

REV.	DATE	BY	CHKD	DESCRIPTION
0	05/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
1	05/16/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER MEETINGS ISSUED RFD
2	09/26/22	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW



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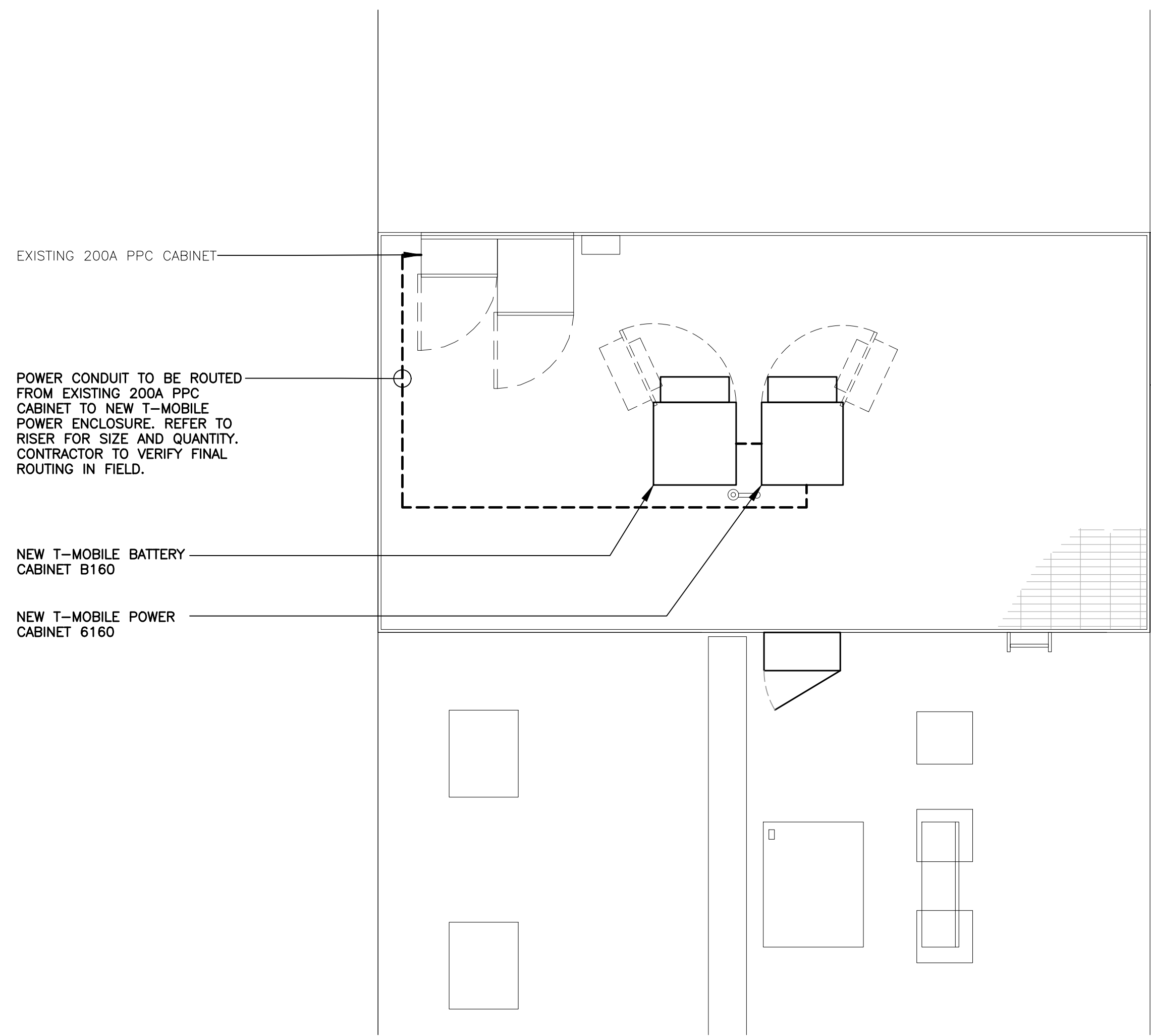
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SCALE: AS NOTED  
JOB NO. 22001.12

TYPICAL EQUIPMENT DETAILS

C-4  
Sheet No. 6 of 10







EXISTING 200A PPC CABINET

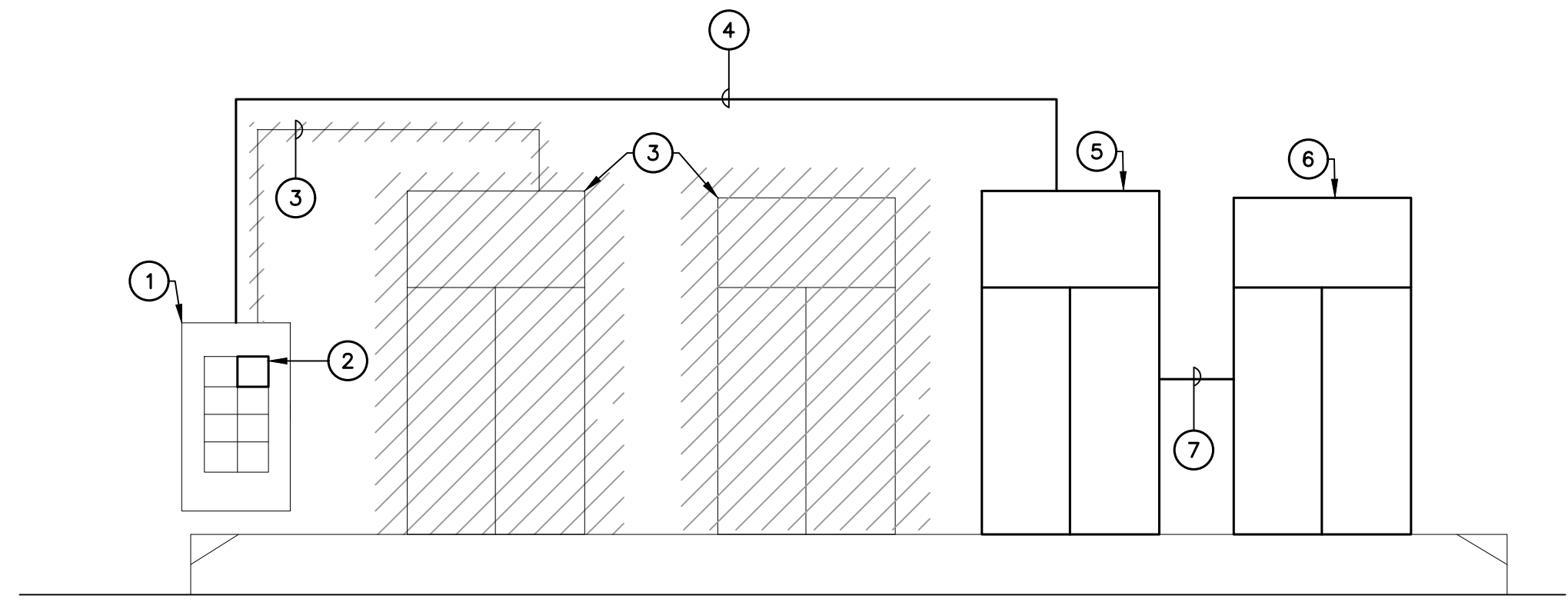
POWER CONDUIT TO BE ROUTED FROM EXISTING 200A PPC CABINET TO NEW T-MOBILE POWER ENCLOSURE. REFER TO RISER FOR SIZE AND QUANTITY. CONTRACTOR TO VERIFY FINAL ROUTING IN FIELD.

NEW T-MOBILE BATTERY CABINET B160

NEW T-MOBILE POWER CABINET 6160

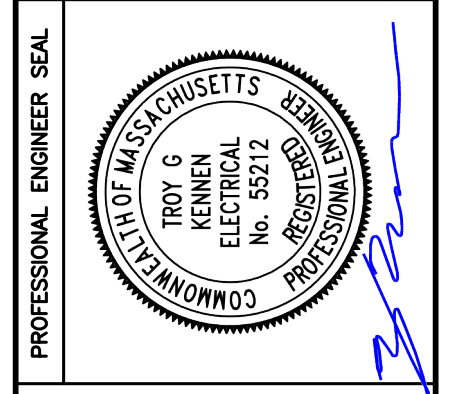
**1 ELECTRICAL CONDUIT ROUTING PLAN**  
E-1 SCALE: 1/4" = 1'

- RISER DIAGRAM NOTES**
- ① EXISTING 200A, PPC CABINET TO REMAIN.
  - ② NEW 125A/2P CIRCUIT BREAKER TO SERVE NEW EQUIPMENT CABINET.
  - ③ EXISTING CABINETS AND ASSOCIATED CONDUITS AND CONDUCTORS TO BE REMOVED.
  - ④ (3) #1 AWG, (1) #6 AWG GROUND, 1-1/2" CONDUIT.
  - ⑤ NEW T-MOBILE EQUIPMENT CABINET
  - ⑥ NEW T-MOBILE BATTERY CABINET
  - ⑦ DC CONDUIT AND CONDUCTORS FOR BATTERY CABINET CONNECTION PER MANUFACTURERS SPECIFICATIONS.



**2 ELECTRICAL POWER RISER DIAGRAM**  
E-1 SCALE: NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	05/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
B	05/16/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER MEET ISSUED RFDS
A	05/26/22	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW



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JOB NO. 22001.12

ELECTRICAL RISER  
DIAGRAM AND  
CABLE ROUTING



# ELECTRICAL SPECIFICATIONS

## SECTION 16010

### 1.02. GENERAL REQUIREMENTS

- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
- THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR THE SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.
- THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
- DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
- THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNER'S REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.
- ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.
- BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.
- PROVIDE TEMPORARY POWER AND LIGHTING IN WORK AREAS AS REQUIRED.
- SHOP DRAWINGS:
  - CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS PROPOSED FOR USE ON THIS PROJECT, GIVING ALL DETAILS, WHICH INCLUDE DIMENSIONS, CAPACITIES, ETC.
  - CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF ALL TEST REPORTS CALLED FOR IN THE SPECIFICATIONS AND DRAWINGS.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

## SECTION 16111

### 1.01. CONDUITS

- MINIMUM CONDUIT SIZE FOR BRANCH CIRCUITS, LOW VOLTAGE CONTROL AND ALARM CIRCUITS SHALL BE 3/4". CONDUITS SHALL BE PROPERLY FASTENED AS REQUIRED BY THE N.E.C.
- THE INTERIOR OF RACEWAYS/ENCLOSURES INSTALLED UNDERGROUND SHALL BE CONSIDERED TO BE WET LOCATION, INSULATED CONDUCTORS SHALL BE LISTED FOR USE IN WET LOCATIONS. PROVIDE WEATHERPROOF CONSTRUCTION IN WET LOCATIONS.
- CONDUIT INSTALLED UNDERGROUND SHALL BE INSTALLED TO MEET MINIMUM COVER REQUIREMENTS OF TABLE 300.5.
- PROVIDE RIGID GALVANIZED STEEL CONDUIT (RMC) FOR THE FIRST 10 FOOT SECTION WHEN LEAVING A BUILDING OR SECTIONS PASSING THROUGH FLOOR SLABS
- ONLY LISTED PVC CONDUIT AND FITTINGS ARE PERMITTED FOR THE INSTALLATION OF ELECTRICAL CONDUCTORS, SUITABLE FOR UNDERGROUND APPLICATIONS.

CONDUIT SCHEDULE SECTION 16111			
CONDUIT TYPE	NEC REFERENCE	APPLICATION	MIN. BURIAL DEPTH (PER NEC TABLE 300.5) <sup>2,3</sup>
EMT	ARTICLE 358	INTERIOR CIRCUITING, EQUIPMENT ROOMS, SHELTERS	N/A
RMC, RIGID GALV. STEEL	ARTICLE 344, 300.5, 300.50	ALL INTERIOR/ EXTERIOR CIRCUITING, ALL UNDERGROUND INSTALLATIONS.	6 INCHES
PVC, SCHEDULE 40	ARTICLE 352, 300.5, 300.50	INTERIOR/ EXTERIOR CIRCUITING AND GROUNDING SYSTEMS, UNDERGROUND INSTALLATIONS, WHERE NOT SUBJECT TO PHYSICAL DAMAGE. <sup>1</sup>	18 INCHES
PVC, SCHEDULE 80	ARTICLE 352, 300.5, 300.50	INTERIOR/ EXTERIOR CIRCUITING AND GROUNDING SYSTEMS, UNDERGROUND INSTALLATIONS, WHERE SUBJECT TO PHYSICAL DAMAGE. <sup>1</sup>	18 INCHES
LIQUID TIGHT FLEX. METAL	ARTICLE 350	SHORT LENGTHS (MAX. 3FT.) WIRING TO VIBRATING EQUIPMENT IN WET LOCATIONS.	N/A
FLEX. METAL	ARTICLE 348	SHORT LENGTHS (MAX. 3FT.) WIRING TO VIBRATING EQUIPMENT IN WET LOCATIONS.	N/A

<sup>1</sup> PHYSICAL DAMAGE IS SUBJECT TO THE AUTHORITY HAVING JURISDICTION.

<sup>2</sup> UNDERGROUND CONDUIT INSTALLED UNDER ROADS, HIGHWAYS, DRIVEWAYS, PARKING LOTS SHALL HAVE MINIMUM DEPTH OF 24".

<sup>3</sup> WHERE SOLID ROCK PREVENTS COMPLIANCE WITH MINIMUM COVER DEPTHS, WIRING SHALL BE INSTALLED IN PERMITTED RACEWAY FOR DIRECT BURIAL. THE RACEWAY SHALL BE COVERED BY A MINIMUM OF 2" OF CONCRETE EXTENDING DOWN TO ROCK.

## SECTION 16123

### 1.01. CONDUCTORS

- ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:
 

LINE	120/208/240V	277/480V
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	CONTINUOUS WHITE	GREY
G	CONTINUOUS GREEN	GREEN WITH YELLOW STRIPE
- MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.

## SECTION 16130

### 1.01. BOXES

- FURNISH AND INSTALL OUTLET BOXES FOR ALL DEVICES, SWITCHES, RECEPTACLES, ETC.. BOXES TO BE ZINC COATED STEEL.
- FURNISH AND INSTALL PULL BOXES IN MAIN FEEDERS RUNS WHERE REQUIRED. PULL BOXES SHALL BE GALVANIZED STEEL WITH SCREW REMOVABLE COVERS, SIZE AND QUANTITY AS REQUIRED. PROVIDE WEATHERPROOF CONSTRUCTION IN WET LOCATIONS.

## SECTION 16140

### 1.01. WIRING DEVICES

- THE FOLLOWING LIST IS PROVIDED TO CONVEY THE QUALITY AND RATING OF WIRING DEVICES WHICH ARE TO BE INSTALLED. A COMPLETE LIST OF ALL DEVICES MUST BE SUBMITTED BEFORE INSTALLATION FOR APPROVAL.
  - 15 MINUTE TIMER SWITCH - INTERMATIC #FF15M (INTERIOR LIGHTS)
  - DUPLEX RECEPTACLE - P&S #2095 (GFCI) SPECIFICATION GRADE
  - SINGLE POLE SWITCH - P&S #CSB20AC2 (20A-120V HARD USE) SPECIFICATION GRADE
  - DUPLEX RECEPTACLE - P&S #5362 (20A-120V HARD USE) SPECIFICATION GRADE
- PLATES - ALL PLATES USED SHALL BE CORROSION RESISTANT TYPE 304 STAINLESS STEEL. PLATES SHALL BE FROM SAME MANUFACTURER AS SWITCHES AND RECEPTACLES. PROVIDE WEATHERPROOF HOUSING FOR DEVICES LOCATED IN WET LOCATIONS.
- OTHER MANUFACTURERS OF THE SWITCHES, RECEPTACLES AND PLATES MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER.

## SECTION 16170

### 1.01. DISCONNECT SWITCHES

- FUSIBLE AND NON-FUSIBLE, 600V, HEAVY DUTY DISCONNECT SWITCHES SHALL BE AS MANUFACTURED BY SQUARE "D". PROVIDE FUSES AS CALLED FOR ON THE CONTRACT DRAWINGS. AMPERE RATING SHALL BE CONSISTENT WITH LOAD BEING SERVED. DISCONNECT SWITCH COVER SHALL BE MECHANICALLY INTERLOCKED TO PREVENT COVER FROM OPENING WHEN THE SWITCH IS IN THE "ON" POSITION. EXTERIOR APPLICATIONS SHALL BE NEMA 3R CONSTRUCTION WITH PADLOCK FEATURE.

## SECTION 16190

### 1.01. SEISMIC RESTRAINT

- ALL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH ZONE 2 SEISMIC REQUIREMENTS.

## SECTION 16195

### 1.01. LABELING AND IDENTIFICATION NOMENCLATURE FOR ELECTRICAL EQUIPMENT

- CONTRACTOR SHALL FURNISH AND INSTALL NON-METALLIC ENGRAVED BACK-LIT NAMEPLATES ON ALL PANELS AND MAJOR ITEMS OF ELECTRICAL EQUIPMENT.
- LETTERS TO BE WHITE ON BLACK BACKGROUND WITH LETTERS 1-1/2 INCH HIGH WITH 1/4 INCH MARGIN.
- IDENTIFICATION NOMENCLATURE SHALL BE IN ACCORDANCE WITH OWNER'S STANDARDS.

## SECTION 16450

### 1.01. GROUNDING

- ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
- GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
- GROUNDING OF PANELBOARDS:
  - PANELBOARD SHALL BE GROUNDED BY TERMINATING THE PANELBOARD FEEDER'S EQUIPMENT GROUND CONDUCTOR TO THE EQUIPMENT GROUND BAR KIT(S) LUGGED TO THE CABINET. ENSURE THAT THE SURFACE BETWEEN THE KIT AND CABINET ARE BARE METAL TO BARE METAL. PRIME AND PAINT OVER TO PREVENT CORROSION.
  - CONDUIT(S) TERMINATING INTO THE PANELBOARD SHALL HAVE GROUNDING TYPE BUSHINGS. THE BUSHINGS SHALL BE BONDED TOGETHER WITH BARE #10 AWG COPPER CONDUCTOR WHICH IN TURN IS TERMINATED INTO THE PANELBOARD'S EQUIPMENT GROUND BAR KIT(S).
- EQUIPMENT GROUNDING CONDUCTOR:
  - EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.
  - THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.
  - EACH FEEDER OR BRANCH CIRCUIT SHALL HAVE EQUIPMENT GROUND CONDUCTOR(S) INSTALLED IN THE SAME RACEWAY(S).
- CELLULAR GROUNDING SYSTEM:
 

CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 10 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:

  - GROUND BARS
  - EXTERIOR GROUNDING (WHERE REQUIRED DUE TO MEASURED AC RESISTANCE GREATER THAN SPECIFIED).
  - ANTENNA GROUND CONNECTIONS AND PLATES.
- CONTRACTOR, AFTER COMPLETION OF THE COMPLETE GROUNDING SYSTEM BUT PRIOR TO CONCEALMENT/BURIAL OF SAME, SHALL NOTIFY OWNER'S PROJECT ENGINEER WHO WILL HAVE A DESIGN ENGINEER VISIT SITE AND MAKE A VISUAL INSPECTION OF THE GROUNDING GRID AND CONNECTIONS OF THE SYSTEM.
- ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

## SECTION 16470

### 1.01. DISTRIBUTION EQUIPMENT

- REFER TO CONTRACT DRAWINGS FOR DETAILS AND SCHEDULES.

## SECTION 16477

### 1.01. FUSES

- FUSES SHALL BE NONRENEWABLE TYPE AS MANUFACTURED BY "BUSSMAN" OR APPROVED EQUAL FUSES RATED TO 1/10 AMPERE UP TO 600 AMPERES SHALL BE EQUIVALENT TO BUSSMAN TYPE LPN-RK (250V) UL CLASS RK1, LOW PEAK, DUAL ELEMENT, TIME-DELAY FUSES. FUSES SHALL HAVE SEPARATE SHORT CIRCUIT AND OVERLOAD ELEMENTS AND HAVE AN INTERRUPTING RATING OF 200 KAIC. UPON COMPLETION OF WORK, PROVIDE ONE SPARE SET OF FUSES FOR EACH TYPE INSTALLED.

## SECTION 16960

### 1.01. TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

- CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:
 

TEST 1: THERMAL OVERLOAD AND MAGNETIC TRIP TEST, AND CABLE INSULATION TEST FOR ALL CIRCUIT BREAKERS RATED 100 AMPS OR GREATER.

TEST 2: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.

THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:

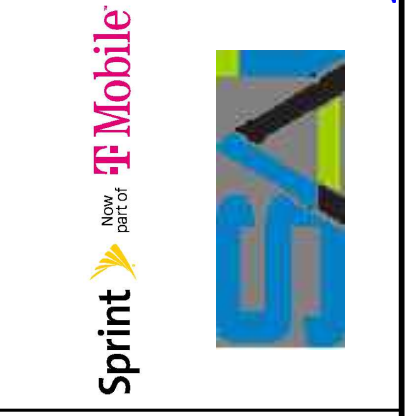
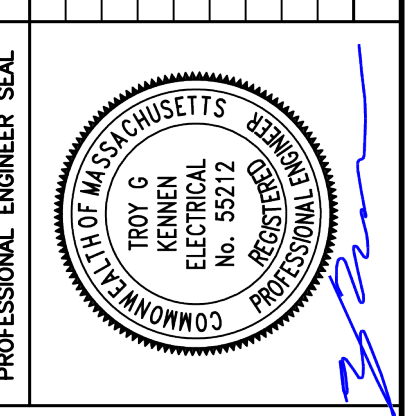
  - TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
  - CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
  - GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- THESE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNER'S CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION REPRESENTATIVE AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.
- THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM'S REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.
- CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

## SECTION 16961

### 1.01. TESTS BY CONTRACTOR

- ALL TESTS AS REQUIRED UPON COMPLETION OF WORK, SHALL BE MADE BY THIS CONTRACTOR. THESE SHALL BE CONTINUITY AND INSULATION TESTS; TEST TO DETERMINE THE QUALITY OF MATERIALS, ETC. AND SHALL BE MADE IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS. ALL FEEDERS AND BRANCH CIRCUIT WIRING (EXCEPT CLASS 2 SIGNAL CIRCUITS) MUST BE TESTED FREE FROM SHORT CIRCUIT AND GROUND FAULT CONDITIONS AT 500V IN A REASONABLY DRY AMBIENT OF APPROXIMATELY 70 DEGREES F.
- CONTRACTOR SHALL PERFORM LOAD PHASE BALANCING TESTS. CIRCUITS SHALL BE CONNECTED TO THE PANELBOARDS SO THAT THE NEW LOAD IS DISTRIBUTED AS EQUALLY AS POSSIBLE BETWEEN EACH LOAD AND NEUTRAL. 10% SHALL BE CONSIDERED AS A REASONABLE AND ACCEPTABLE ALLOWANCE. BRANCH CIRCUITS SHALL BE BALANCED ON THEIR OWN PANELBOARDS; FEEDER LOADS SHALL, IN TURN, BE BALANCED ON THE SERVICE EQUIPMENT. REASONABLE LOAD TEST SHALL BE ARRANGED TO VERIFY LOAD BALANCE IF REQUESTED BY THE ENGINEER.
- ALL TESTS, UPON REQUEST, SHALL BE REPEATED IN THE PRESENCE OF OWNER'S REPRESENTATIVE. ALL TESTS SHALL BE DOCUMENTED AND TURNED OVER TO OWNER. OWNER SHALL HAVE THE AUTHORITY TO STOP ANY OF THE WORK NOT BEING PROPERLY INSTALLED. ALL SUCH DETECTED WORK SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER AND THE TESTS SHALL BE REPEATED.

REV.	DATE	DESCRIPTION
0	05/25/23	ASC
B	05/16/23	ASC
A	09/26/22	ASC



T-MOBILE NORTHEAST LLC

4BSS031A

SITE ID: 4BSS031A

1430 MASSACHUSETTS AVE

CAMBRIDGE, MA

DATE:	08/26/22
SCALE:	AS NOTED
JOB NO.	22001.12

ELECTRICAL SPECIFICATIONS

E-3

**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.**

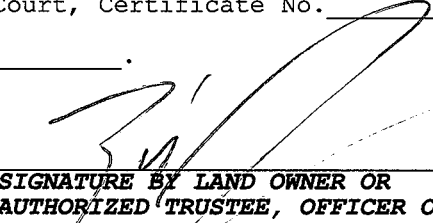
I/We GH Holdings (Mass Ave) LP  
(OWNER)

Address: c/o Gazit Horizons Inc. 1696 NE Miami Gardens Drive, North Miami Beach FL 33179

State that I/We own the property located at 1430 Massachusetts Ave,  
which is the subject of this zoning application.

The record title of this property is in the name of \_\_\_\_\_  
GH Holdings (Mass Ave) LP

\*Pursuant to a deed of duly recorded in the date 12/22/2020, Middlesex South  
County Registry of Deeds at Book 76506, Page 367; 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.*

State of New York  
~~Commonwealth of Massachusetts~~, County of New York

The above-name Zvi Gordon personally appeared before me,  
this 10<sup>th</sup> of August, 2023, and made oath that the above statement is true.

  
\_\_\_\_\_  
Notary

My commission expires 11/03/2023 (Notary Seal).

**Lisa Frisfield  
Notary Public, State of New York  
No. 02FR6101117  
Qualified in Nassau County  
Commission Expires 11/03/2023**

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



JL

**CITY OF CAMBRIDGE  
MASSACHUSETTS  
BOARD OF ZONING APPEAL  
831 MASSACHUSETTS AVENUE  
CAMBRIDGE, MA 02139  
617 349-6100**

2014 NOV 24 PM 3 28  
OFFICE OF THE CITY CLERK  
CAMBRIDGE, MASSACHUSETTS

Owner: *University Common Real Estate Co. LLP*

CASE NO: BZA-004908-2014 Business B Zone

LOCATION: 1430 Massachusetts Ave  
Cambridge, MA

PETITIONER: Sprint Spectrum, L.P. C/O Ricardo M. Sousa, Esq.

PETITION: Special Permit: To add three (3) new panel antennas to the Petitioner's previously approved telecommunications facility currently operating at the Property, to be facade mounted adjacent to the existing panel antennas. Additionally, the Petitioner proposes to add three (3) Remote Radio Head (RRH) Units to be facade mounted beneath the existing panel antennas, together with supporting equipment.

**VIOLATION :**

Article <u>4.000</u>	Section <u>4.32(G)(1) (Telecommunications Facility).</u>
Article <u>4.000</u>	Section <u>4.40 (Footnote 49) (Telecommunications Facility).</u>
Article <u>10.000</u>	Section <u>10.40 (Special Permit).</u>

DATE OF PUBLIC NOTICE: September 18, 2014 and September 25, 2014

DATE OF PUBLIC HEARING: October 2, 2014;

**MEMBERS OF THE BOARD:**

- CONSTANTINE ALEXANDER - CHAIR
- TIMOTHY HUGHES - VICE-CHAIR
- BRENDAN SULLIVAN
- THOMAS SCOTT
- JANET O. GREEN

**ASSOCIATE MEMBERS:**

- DOUGLAS MYERS
- SLATER W. ANDERSON
- LINDSEY T. THORNE-BINGHAM
- ANDREA A. HICKEY

MARGINAL REFERENCE REQUESTED  
BOOK 27358 PAGE 225



2015 00005618  
Bk: 64790 Pg: 26 Doc: DECIS  
Page: 1 of 4 01/13/2015 02:47 PM

Members of the Board of Zoning Appeal heard testimony and viewed materials submitted regarding the above request for relief from the requirements of the Cambridge Zoning Ordinance. The Board is familiar with the location of the petitioner's property, the layout and other characteristics as well as the surrounding district.

Case No. BZA-004908-2014  
Location: 1430 Massachusetts Avenue  
Petitioner: Sprint Spectrum, LP c/o Ricardo Sousa, Esq.

On October 2, 2014, Petitioner's attorney Ricardo Sousa appeared before the Board of Zoning Appeal requesting a special permit in order to add three new panel antennas to the Petitioner's previously approved telecommunications facility to be façade mounted adjacent to the existing panel antennas and to add three Remote Radio Head Units to be façade mounted beneath the existing panel antennas, together with supporting equipment. The Petitioner requested relief under Article 4, Section 4.32.G.1 of the Cambridge Zoning Ordinance ("Ordinance"). The Petitioner submitted application materials including information about the project, plans, and photographs.

Mr. Sousa stated that as part of a system wide upgrade, the petitioner wished to add equipment to an existing telecommunications facility. He stated that the Historical Commission and the Planning Board, through their staff, had various suggestions to reduce the visual impact of the facility including painting equipment to match, placing antenna below cornice lines, removing unused mounts, and tidying cabling.

The Chair asked if anyone wished to be heard on the matter, no one indicated such. The Chair read a letter from the Planning Board.

After discussion, the Chair moved that the Board grant the special permit for relief in order to add three new panel antennas to the Petitioner's previously approved telecommunications facility to be façade mounted adjacent to the existing panel antennas and to add three Remote Radio Head Units to be façade mounted beneath the existing panel antennas, together with supporting equipment based on the finding that the petitioner complied with the wireless communication provisions set forth in Article 4, Section 4.32.G.1 with footnote 49 of the Ordinance. The Chair moved that the Board find that the proposed use for a wireless communications facility in the Business B Zoning District was permitted by Special Permit. The Chair moved that the Board find that the proposed facility further complied with the licensing requirements of the Ordinance, as supported in the application. The Chair moved that the Board find that the petitioner was FCC licensed and met all requirements of the governmental authorities having jurisdiction over the proposed facility. The Chair moved that the Board find that visual impacts of the elements of the proposed facility were minimized by matching colors, organizing radio heads and cabling, creating symmetry, and installing the new equipment on the cupola of the roof. The Chair moved that the Board find that the site was not in a residential district. The Chair moved that the Board find that traffic generated or patterns of access or egress would not cause congestion, hazard, or substantial change in the established neighborhood character because the installation would not obstruct existing rights of way or pedestrian access. The Chair moved that the Board find that the installation would not change the conditions of access, egress, traffic,

congestion, hazard, or character of the neighborhood. The Chair moved that the Board find that the facility would be unmanned and would require only infrequent visits by a technician. The Chair moved that the Board find that continued operation and development of adjacent uses as permitted in the Ordinance would not be adversely affected by the nature of the proposed because, as shown in the attached photo simulations, the modification of the existing facility would produce a minimal change in the appearance of the building. The Chair moved that the Board find that telecommunication equipment existed at the site with no adverse effect on adjacent properties and that there was no reason to suspect that that would change. The Chair moved that the Board find that 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. The Chair moved that the Board find that the proposed installation would not impair the integrity of the district by simply upgrading the existing facility. The Chair moved that the Board grant the special permit on the following conditions:

1. that the work proceed in accordance with the plans marked John Lee Associates, LLC, Sprint Vision, pages T1, SP1, SP2, SP3, C1, Z1, Z2, with the notation on Z2 that the dead antenna would be removed, Z3 and Z4, with the first page initialed by the Chair and dated October 2, 2014,
2. that the antennas be set below the cornice line in such a way so that when visible from the street, they appear to not go above the cupola.
3. that the cables be modified so that excess curves are removed and the cables made more vertical.
4. that should the equipment not be used for a period of six months, it be removed and the facade be returned, as best as possible, to its original condition.

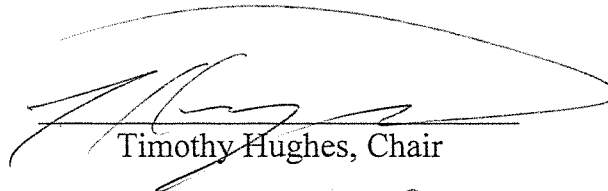
The five member Board voted unanimously in favor of granting the special permit (Hughes, Sullivan, Green, Myers, and Anderson) with the above conditions. Therefore, the special permit is granted.

The Board based its decision upon all the information presented, the above findings and upon the following:

- 1) The meeting of the requirements of the Ordinance;
- 2) Traffic generated or patterns of access or egress would not cause congestion, hazard, or substantial change in the established neighborhood character;
- 3) The continued operation of or the development of adjacent uses as permitted in the Ordinance would not be adversely affected by the nature of the proposed uses;
- 4) Nuisance or hazard would not be created to the detriment of the health, safety and /or welfare of the occupants of the proposed use;
- 5) The proposed use would not impair the integrity of the district or adjoining district or otherwise derogate from the Ordinance, and in fact would be a significant improvement to the structure and benefit the neighborhood, and;
- 6) The new use or building construction is not inconsistent with the Urban Design Objectives set forth in Section 19.30 of the Cambridge Zoning Ordinance.



The Board of Zoning Appeal is empowered to waive local zoning regulations only. This decision therefore does not relieve the petitioner in any way from the duty to comply with local ordinances and regulations of the other local agencies, including, but not limited to the Historical Commission, License Commission and/or compliance with requirements pursuant to the Building Code and other applicable codes.

  
Timothy Hughes, Chair

Attest: A true and correct copy of decision filed with the offices of the City Clerk and Planning Board on 11/24/14 by Maria Pacheco, Clerk.

Twenty days have elapsed since the filing of this decision.

No appeal has been filed ✓.

Appeal has been filed and dismissed or denied.

Date: December 18, 2014 Donna P. Lopez City Clerk.

**PRINCE LOBEL TYE LLP**  
 PARALEGAL FILING FEE ACCOUNT  
 100 CAMBRIDGE STREET SUITE 2200  
 BOSTON, MA 02114  
 (617) 456-8000

EXPLANATION	AMOUNT

51-7261-2211  
 9798

PAY Seventy-Five xx/100 DOLLARS

DATE 12/23/14 TO THE ORDER OF Middlesex South Registry of Deeds DESCRIPTION Recording Fee 100210.0004 CHECK NO. 9798

CHECK AMOUNT \$ 75.00

**citibank**  
 670 DEAN ST  
 BRIDGEWATER, CT

*[Signature]*  
 VOID AFTER 180 DAYS  
 NOT VALID OVER \$500.00

⑆009798⑆ ⑆221172510⑆ 1255451385⑆

1430 Mass Ave  
 BS03XC031  
 Recording Fee

\*-----\*  
Official Receipt for Recording in:

Middlesex South Registry of Deeds  
208 Cambridge St.

Cambridge, Massachusetts 02141

Issued To:  
PRINE LOBEL TYE LLP

Recording Fees

Document Description	Number	Book/Page	Recording Amount
DECIS	00005618	64790 26	\$75.00
			\$75.00

Collected Amounts

Payment Type	Amount
Check	\$75.00
\$75.00	

Total Received :	\$75.00
Less Total Recordings:	\$75.00
Change Due :	\$ .00

Thank You  
MARIA C. CURTATONE - Register of Deeds

By: Linda B

Receipt#    Date    Time  
1772615    01/13/2015    02:47p

August 14, 2023

Ranjit Singanayagam  
Commissioner of Inspectional Services/Building Commissioner  
City of Cambridge  
831 Massachusetts Avenue  
Cambridge, MA 02139

Re: Eligible Facilities Request to Modify Transmission Equipment at an Existing Base Station located at 1430 Massachusetts Avenue, Cambridge, MA

Dear Mr. Singanayagam:

A. T-Mobile is Filing an Eligible Facilities Request

Prince Lobel Tye LLP, on behalf of T-Mobile Northeast LLC is submitting the attached Eligible Facilities Request application to add, remove, modify, or replace Transmission Equipment at an Existing Base Station located at 1430 Massachusetts Avenue, Cambridge, MA

Because this jurisdiction has not yet developed an Eligible Facilities Request permit application form that complies with Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, commonly known as the “**Spectrum Act**” (Pub. Law No. 112-96, 126 Stat 156) (codified at 47 U.S.C. § 1455), this Eligible Facilities Request is attached to the Building Permit Application form which was customarily used by this jurisdiction when reviewing requests to collocate or modify wireless telecommunications facilities. Because federal law now preempts many of the permit application requirements that this jurisdiction would previously have required from an applicant, this Eligible Facilities Request application provides only the information that federal law allows this jurisdiction to consider when reviewing an Eligible Facilities Request.

Section 6409(a) of the Spectrum Act mandates that state and local governments “*may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.*” Under Section 6409(a)(2)(A)-(C) an Eligible Facilities Request is any request to modify a Tower or Base Station that involves “collocations of new Transmission Equipment,” “removal,” or “replacement” of Transmission Equipment.

Prince Lobel Tye LLP  
One International Place  
Suite 3700  
Boston, MA 02110  
TEL: 617 456 8000  
FAX: 617 456 8100

## B. Why this Eligible Facilities Request Must Be Granted

This Eligible Facilities Request involves an effort to collocate, remove, modify, or replace Transmission Equipment at an existing Base Station operated by a Federal Communications Commission (“FCC”) licensed wireless carrier. The FCC has defined Base Station as “the equipment and non-tower supporting structure at a fixed location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network . . . the term includes equipment associated with wireless communications service including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supply, and comparable equipment.” The term existing base station also includes a structure that currently houses or supports an antenna, transceiver or other associated equipment that constitutes part of a Base Station at the time the application is filed even if the structure was not built solely or primarily to provide such support. The existing Base Station in this application is approximately eighty-one feet (81’) high and presently contains wireless facilities thereon. The existing Base Station meets the FCC definition of a Base Station.

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

The FCC, in a Report and Order adopted on October 17, 2014, determined that any modification to an existing telecommunications Base Station that meets the following six criteria does not substantially change the physical dimensions of the existing Base Station and therefore is an Eligible Facilities Request which must be granted:

- 1. The modifications to the Transmission Equipment do not increase the height of the Base Station by more than 10 percent (10%) or ten (10) feet, whichever is greater.*

Prince Lobel Tye LLP  
One International Place  
Suite 3700  
Boston, MA 02110  
TEL: 617 456 8000  
FAX: 617 456 8100

- a. The height of the Base Station is approximately eighty-one (81') feet high. The proposed replacement and addition of the antennas will not affect the height of the Base Station, as the proposed modifications will take place at a height of eighty-one (81') feet.
2. *The modifications to the Transmission Equipment do not protrude from the edge of the support structure by more than six (6) feet.*
  - a. The proposed replacement antennas will not protrude from the edge of the building by more than six (6) feet, and therefore the facility will not exceed the six (6) foot limitation.
3. *The modifications to the Transmission Equipment do not involve the installation of more than the standard number of equipment cabinets for the technology involved, not to exceed four.*
  - a. The Applicant proposes to replace the existing equipment cabinet existing at the Base Station.
4. *The modifications to the Transmission Equipment do not entail any excavation or deployment outside of the Base Station site.*
  - a. There will be no excavation or deployment outside of the Base Station site.
5. *The modifications to the Transmission Equipment do not defeat any existing concealed or stealth-design.*
  - a. Pursuant to the previous decisions by the Board of Zoning Appeal for the City of Cambridge (the “**Board**”) for this site, the last of which is dated November 24<sup>th</sup>, 2014 Case No. BZA-004908-2014) ( the “**Decision**”), the existing panel antennas are located in the preferred location on the building. The replacement of the existing five (5) antennas with eight (8) new like kind antennas will not defeat the intent of the existing design, as the new antennas will be installed at the same locations as the existing antennas. Furthermore, all proposed antennas will be integrated into the building to the extent possible and painted to match the color of the penthouse of the Building. As such, modifications to the existing

Prince Lobel Tye LLP  
One International Place  
Suite 3700  
Boston, MA 02110  
TEL: 617 456 8000  
FAX: 617 456 8100

facility will be in conformity with the Decision and do not defeat the existing stealth design.

6. *The modifications to the Transmission Equipment comply with prior conditions of approval of the Base Station, unless the non-compliance is due to an increase in height, increase in width, addition of equipment cabinets, or new excavation that does not exceed the corresponding “substantial change” thresholds in numbers 1-4.*
  - a. Based on the foregoing, the proposed modifications to the Base Station fully conform to Section 6409(a) of the Spectrum Act and comply with the prior conditions of approval of the Base Station.

There is a certification attached to the accompanying Eligible Facilities Request that identifies how each of the six review criteria identified by the FCC is met. The modifications to the Transmission Equipment at the Base Station located at 1430 Massachusetts Avenue, Cambridge, MA 02139 contained in this Eligible Facilities Request fully conform to Section 6409(a) as enacted by Congress and as interpreted by the FCC. Accordingly, this Eligible Facilities Request must be approved within 60 days, as required by federal law and FCC implementing regulations.

#### C. Notice of Federal Law Expedited Permit Processing and Deemed Granted

Under federal law, an Eligible Facilities Request is deemed granted sixty (60) days after a complete application is filed with a local jurisdiction. If sixty days pass after the submission of T-Mobile’s accompanying Eligible Facilities Request and the City of Cambridge has not acted to grant or deny the request, it will be deemed granted. At that time, the applicant may advise the City of Cambridge that the application has been deemed granted. If the City of Cambridge wishes to contest whether the Eligible Facilities Request has been deemed granted, the burden is on the City of Cambridge to file a lawsuit in a court of competent jurisdiction within 30 days after receipt of a written communication notifying it that the Eligible Facilities Request has been deemed granted. Failure to file a lawsuit in a timely manner may forever bar this jurisdiction from contesting that this Eligible Facilities Request has been deemed granted.

Prince Lobel Tye LLP  
One International Place  
Suite 3700  
Boston, MA 02110  
TEL: 617 456 8000  
FAX: 617 456 8100

T-Mobile is committed to working cooperatively with you, and all jurisdictions around the country, to secure expeditious approval of requests to modify existing personal wireless service facilities. Please do not hesitate to contact me if you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Adam F. Braillard', with a stylized flourish at the end.

Adam F. Braillard

Direct: 617-456-8153

Email: [abraillard@princelobel.com](mailto:abraillard@princelobel.com)

Prince Lobel Tye LLP  
One International Place  
Suite 3700  
Boston, MA 02110  
TEL: 617 456 8000  
FAX: 617 456 8100



**ELIGIBLE FACILITIES REQUEST CERTIFICATION FOR NON-SUBSTANTIAL  
CHANGES  
TO AN EXISTING BASE STATION**

“Base Station” means the equipment and non-tower supporting structure at a fixed location that allow Commission-licensed or authorized wireless communications between user equipment and a communications network. The term base station includes any equipment associated with wireless communications services including but not limited to radio transceivers, antennas, coaxial or fiber-optic cables, regular or back up power supply, and comparable equipment. The term existing base station also includes a structure that currently houses or supports an antenna, transceiver or other associated equipment that constitutes part of a base station at the time the application is filed even if the structure was not built solely or primarily to provide such support. “Base Station” includes the relevant equipment in any technological configuration, including small cells and DAS. Remember “Base Station” has two separate meanings: (1) the supporting structure that houses FCC licensed or authorized wireless equipment and (2) the wireless equipment itself. Keep this distinction in mind when calculating a substantial change in physical dimensions.

“Transmission Equipment” means any equipment that facilitates transmission for any FCC licensed or authorized wireless communication service, including but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and back-up power supply. This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband.

“Collocation” means the addition, removal or replacement of Transmission Equipment to an existing tower or a base station. This means that the existing support structure, be it a tower or a building or some other structure, must presently support FCC licensed or authorized wireless facilities. The FCC further requires that the site (tower, building, or other structure) was previously approved by the appropriate agency of government to house wireless facilities. Illegal wireless installations cannot be the basis for an eligible facilities request. However, if a communications Tower was erected at a time when it was exempt from zoning, the Tower can be modified through the Eligible Facilities Request process even if the Tower is no longer exempt from zoning.

Site Address: 1430 Massachusetts Avenue, Cambridge, MA 02139

**Existing Facilities**

The Existing Facility is comprised of five (5) panel antennas mounted to the façade of the existing penthouse on the roof of the building, together with supporting equipment.

### Height of Base Station

Height above ground level of the tallest point on the existing base station: 81'.

Height above ground level of the tallest point of the existing base station after the installation of the *proposed* equipment: 81'

- 1) Does the height above ground level of the proposed equipment exceed the height of the tallest point on the existing base station by more than 10 percent (10%) or ten (10) feet, whichever is greater?

Yes  No

### Width of Base Station

- 2) Will any of the proposed equipment protrude from the edge of the support structure by more than six (6) feet?

Yes  No

### Excavation or Equipment Placement

- 3) Will the proposed changes in Transmission Equipment involve excavation or placement of new equipment outside the existing Base Station site or outside any access or utility easements currently related to the site?

Yes  No

### Equipment Cabinets

- 4) Will the proposed modification in Transmission Equipment involve installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four?

Yes  No

### Concealed or Stealth-Designed Wireless Facilities

5)

- a) Is the existing wireless facility concealed or stealth- designed?

Yes  No

- b) If the answer to 5a) is "Yes," will the proposed modification in Transmission Equipment defeat the existing concealed or stealth-design? **NA**

Yes  No

**Compliance with Preexisting Conditions of Approval for the Base Station**

6)

a) Were there any conditions of approval stated in the original government approval of the Base Station?

Yes  No

b) Will the proposed modification in Transmission Equipment comply with conditions of approval imposed on the Base Station prior to February 22, 2012?

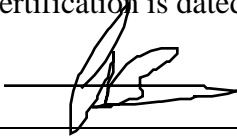
Yes  No

c) If the answer to 6b) is “No,” is the non-compliance due solely to any of the conditions addressed in Questions 1-5 above? **NA**

Yes  No

**If the answers to questions 1-4 are “No,” the answer to either 5a) or b) is “No,” and the answers to 6a) is “No” or the answers to either 6b) or 6c) are “Yes,” then the proposed modifications do not substantially change the physical dimensions of the existing Base Station.**

This certification is dated this 14<sup>th</sup> day of August 2023.



\_\_\_\_\_  
Signature

Adam F. Braillard, Esq., Attorney for Applicant  
Name & Title

**Eligible Facilities Request (EFR) Application Form**

Date of Submittal: \_\_\_\_\_

Submitted by:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Contact information: \_\_\_\_\_

Name of Jurisdiction: \_\_\_\_\_

Address of Jurisdiction: \_\_\_\_\_

Contact Name for Jurisdiction: \_\_\_\_\_

Name of Local Government Permit Application: \_\_\_\_\_

Local Government File #: \_\_\_\_\_

Street Address of Site: \_\_\_\_\_

Tax Parcel # of Site: \_\_\_\_\_

Latitude/Longitude of Site: \_\_\_\_\_

List Each Piece of Transmission Equipment that will be Collocated or Added:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

List Each Piece of Transmission Equipment that will be Removed:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

List Cabinets that will be Collocated or Added at the Site:

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---

---

List Cabinets that will be Removed at the Site:

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REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission  
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

T-MOBILE LICENSE LLC  
12920 SE 38TH STREET  
BELLEVUE, WA 98006

<b>Call Sign</b> WQZL853	<b>File Number</b>
<b>Radio Service</b> WT - 600 MHz Band	

FCC Registration Number (FRN): 0001565449

<b>Grant Date</b> 06-14-2017	<b>Effective Date</b> 06-15-2017	<b>Expiration Date</b> 06-14-2029	<b>Print Date</b>
<b>Market Number</b> PEA007	<b>Channel Block</b> C	<b>Sub-Market Designator</b> 0	
<b>Market Name</b> Boston, MA			
<b>1st Build-out Date</b> 06-14-2023	<b>2nd Build-out Date</b> 06-14-2029	<b>3rd Build-out Date</b>	<b>4th Build-out Date</b>

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:** T-MOBILE LICENSE LLC

**Call Sign:** WQZL853

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Reference Copy

REFERENCE COPY

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE
T-MOBILE LICENSE LLC
12920 SE 38TH ST.
BELLEVUE, WA 98006

Table with Call Sign (WRAM889), File Number (0008585885), and Radio Service (CW - PCS Broadband).

FCC Registration Number (FRN): 0001565449

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 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.

License renewal 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).

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.

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).



**Licensee Name:** T-MOBILE LICENSE LLC

**Call Sign:** WRAM889

**File Number:** 0008585885

**Print Date:** 05-31-2019

Spectrum Lease associated with this license. See Spectrum Leasing Arrangement Letter dated 07/27/2004 and File No. 0001765259.

Reference Copy

**Licensee Name:** T-MOBILE LICENSE LLC

**Call Sign:** WRAM889

**File Number:** 0008585885

**Print Date:** 05-31-2019

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission  
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE  
T-MOBILE LICENSE LLC  
12920 S.E. 38TH STREET  
BELLEVUE, WA 98006

<b>Call Sign</b> KNLH311	<b>File Number</b> 0007725350
<b>Radio Service</b> CW - PCS Broadband	

FCC Registration Number (FRN): 0001565449

<b>Grant Date</b> 06-08-2017	<b>Effective Date</b> 06-08-2017	<b>Expiration Date</b> 06-27-2027	<b>Print Date</b> 06-09-2017
<b>Market Number</b> BTA201	<b>Channel Block</b> D	<b>Sub-Market Designator</b> 0	
<b>Market Name</b> Hyannis, MA			
<b>1st Build-out Date</b> 06-27-2002	<b>2nd Build-out Date</b>	<b>3rd Build-out Date</b>	<b>4th Build-out Date</b>

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.

License renewal 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).

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:** T-MOBILE LICENSE LLC

**Call Sign:** KNLH311

**File Number:** 0007725350

**Print Date:** 06-09-2017

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.

Preferred  
Reference  
Copy

**Licensee Name:** T-MOBILE LICENSE LLC

**Call Sign:** KNLH311

**File Number:** 0007725350

**Print Date:** 06-09-2017

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Reference Copy

REFERENCE COPY

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE
T-MOBILE LICENSE LLC
12920 SE 38TH ST.
BELLEVUE, WA 98006

Table with Call Sign (WPOJ753), File Number (0008585870), and Radio Service (CW - PCS Broadband).

FCC Registration Number (FRN): 0001565449

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 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.

License renewal 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).

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.

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).

**Licensee Name:** T-MOBILE LICENSE LLC

**Call Sign:** WPOJ753

**File Number:** 0008585870

**Print Date:** 05-31-2019

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Reference Copy

August 14, 2023

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

Re: Eligible Facilities Request pursuant to Section 6409 of the Spectrum Act and an Application for Special Permit, in the Alternative

Property Address: 1430 Massachusetts Avenue, Cambridge, MA Assessor's Map 169, Lot 99 (the "**Property**")

Applicant: T-Mobile Northeast, LLC ("**Applicant**")

Dear Honorable Members of the Board of Zoning Appeals:

This firm represents T-Mobile Northeast LLC in connection with an application for a special permit from the City of Cambridge Board of Zoning Appeals (the "**Board**"), to modify an existing wireless communications facility on the Property. The Property is located in the Business B ("**BB**") zoning district and the Harvard Square Overlay District zoning district (the "**HSOD**"). To the extent that the Board determines that the requirements of Article 4 Section 4.32G.1 of the City of Cambridge Zoning Ordinance (the "**Ordinance**") apply, the use of the Property for a wireless telecommunications facility is permitted by special permit from the Board<sup>1</sup>. The Applicant's proposal satisfies the requirements for the grant of a special permit pursuant to Section 10-43 of the Ordinance.

The Applicant's Proposed Facility (as defined herein) is subject to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, more commonly known as the "Spectrum Act" (47 U.S.C. § 1455). As such, we respectfully submit that in the event the Board determines that the application does not comply with the Spectrum Act, the Applicant hereby states that the special permit requirements set forth in the Ordinance are hereby met by the Applicant, and that relief must be granted to the Applicant. Compliance with the Spectrum Act is shown on the

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<sup>1</sup> Pursuant to Section 6409(a) of the Spectrum Act, state and local governments "may not deny and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.



Eligible Facilities Request permit application form attached hereto and incorporated herein by reference (the “**EFR**”).

The Applicant seeks to modify its existing wireless communications facility by replacing the existing panel antennas, the Remote Radio Heads, (“**RRHs**”), and ancillary equipment located on the rooftop of the building (the “**Building**”) on the Property, collectively the “**Proposed Facility**”. The Applicant’s Proposed Facility is described in more detail below and is shown on the Plans attached hereto and incorporated herein by reference (the “**Plans**”).

## **I. Background**

The Applicant is licensed by the Federal Communications Commission (the “**FCC**”) to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and in particular in the City of Cambridge. A copy of the Applicant’s FCC license is attached hereto. The Applicant is in the process of designing and constructing a telecommunications system to serve all of the Commonwealth of Massachusetts. One of the key design objectives of its systems is to provide seamless 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 existing use of the network and the existing topography. 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. This dynamic requires the antennas to be located in a location where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

## **II. Project Description**

The Applicant’s existing Facility consists of five (5) panel antennas, a dish antenna, six (6) RRUs, and ancillary equipment attached to the existing penthouse on the rooftop of the Building. The Applicant proposes to modify its existing Facility as follows:

- Replace all six (6) existing panel antennas with eight (8) new like kind panel antennas;
  - Remove the existing dish antenna;
  - Replace the six (6) RRUs with six (6) new RRUs;
  - Replace the existing equipment and battery cabinets with new cabinets; and
  - Replace and update other ancillary equipment.
- All of the replaced antennas will be painted to match the color of the Building. Consequently, the visual change to the Applicant’s existing facility will be de minimus.

The Applicant’s proposal is consistent with the previous decisions of the Board for this

facility, the last of which is dated November 24<sup>th</sup>, 2014, (Case No.BZA-004908-2014) (the “**Decisions**”).

After installation, the Proposed Facility will be unmanned and will only require twice a month maintenance visits per carrier. The only utilities required to operate this Proposed Facility are standard 120-volt electrical power as well as telephone service. These are presently in place at the Property. The traffic generated by the Proposed Facility will be approximately two vehicle trips per month by maintenance personnel who will inspect the Proposed Facility to ensure it remains in good working order. The Proposed Facility will comply with all applicable local, state and federal safety codes.

### **III. Legal Arguments**

#### **A. The Applicant complies with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance**

Pursuant to Section 4.32(g) of the Ordinance, the Applicant’s proposed use for a wireless communications facility in the BB District is permitted by special permit. The Applicant’s Proposed Facility further complies with the provisions set forth in Section 4.32(g), footnote 49 of the Ordinance:

##### **1. The Board of Zoning Appeal shall consider the scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.**

Enclosed herewith is the Applicant’s FCC license. The Applicant meets all requirements imposed by governmental authorities having jurisdiction over the Proposed Facility, including by the FCC, to provide wireless communications in this market area.

The intent of the U.S. Congress, when it enacted the Telecommunications Act of 1996 (“**TCA**”) was to institute a framework to promote competition and innovation within the telecommunications industry. Under its license from the FCC, T-Mobile is obligated to provide a reliable “product” (i.e. wireless communications service) to the population of the City of Cambridge. Likewise, consumer expectations for increasingly robust and reliable service requires competing service providers (including T-Mobile) to identify and remedy existing gaps in reliable network coverage, or gaps that result from increasing subscriber voice and data traffic beyond the limits of existing network infrastructure. A carrier’s failure to remedy network gaps in a timely fashion can result in a significant loss of subscribers to competing telecommunications carriers. As demonstrated in the Affidavit of Radio Frequency Expert provided by the Applicant and attached hereto, the Proposed Facility and corresponding relief requested are necessary to remedy a gap in reliable service coverage within T-Mobile’s existing network infrastructure.

T-Mobile investigated alternative sites in and around the defined geographic area within which its engineers determined that a facility must be located to fill the gap in service coverage and to function effectively within its network of existing and planned facilities. This is an existing location that is being upgraded with new technology to provide the necessary coverage to the subject area of the City of Cambridge. Therefore, the Proposed Facility in the SD-10 District is necessary to close the coverage gap that is illustrated on the propagation maps submitted herewith. Consequently, T-Mobile is unable to close a gap in its wireless network without obtaining the requested relief under Section 6409 of the Spectrum act or a Special Permit to modify its existing wireless facility in the BB District.

Furthermore, Section 6409(a) of the Spectrum Act mandates that state and local governments “*may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.*” Under Section 6409(a)(2)(A)-(C) an Eligible Facilities Request is any request to modify a Tower or Base Station that involves “collocations of new Transmission Equipment,” “removal,” or “replacement” of Transmission Equipment.

Because federal law now preempts many of the permit application requirements that this jurisdiction would previously have required from an Applicant, we have provided, on the attached EFR, only the information that federal law allows this jurisdiction to consider when reviewing an EFR. As such, we submit that the Wireless Communications set forth in Section 4.32(g), footnote 49 of the Ordinance, provisions are not applicable to Proposed Facility and relief must be granted pursuant to Section 6409(a) of the Spectrum Act.

- 2. The Board of Zoning Appeal shall consider the 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.**

The Applicant’s Proposed Facility will have a minimal visual impact on the existing facility and Building. The Proposed Facility will be installed on the façade and of the penthouse of the Building, and within faux vent pipes, and in conformity with the Decisions.

As stated above, federal law now preempts many of the permit applications requirements that the Ordinance sets forth. To the extent that this Board determines that the Applicants’ proposed wireless facility must comply with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

- 3. Where 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 a 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.**

This is not applicable to the Proposed Facility. The Applicant proposes to install its facility within the BB District.

**B. The Applicant complies with the Special Permit Criteria set forth in Section 10-43 of the Ordinance<sup>2</sup>:**

**1. The requirements of the Ordinance can be met:**

As provided above, the Applicant has met the requirements set forth in Section 4.32(g), footnote 49 of the Ordinance.

**2. 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 installation will not obstruct existing rights-of-way or pedestrian access and will not change the daily conditions of access, egress, traffic, congestion hazard, or character of the neighborhood. The installation will not require the addition of any new parking or loading spaces. The use is passive and will not change the current conditions or appearance surrounding the Building. The facility will not produce any odors, fumes, noise or waste. There will be no need for water, sewer, or other municipal services.

As mentioned above, once modified, the facility will be unmanned and will only require infrequent visits by a technician, typically two times per month for routine diagnostics and/or

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<sup>2</sup> Pursuant to Section 6409(a) of the Spectrum Act, state and local governments "may not deny and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

maintenance, except in cases of emergency. These infrequent visits will not result in any material increase in traffic or disruption to patterns of access or egress that will cause congestion hazards or cause a substantial change in the established neighborhood character. The Applicant's maintenance personnel will make use of the existing access roads and parking at the Building.

**3. 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 photograph simulations, the modification of the existing facility will produce a minimal change in the appearance of the Building. The modification of the existing facility will blend with the existing characteristics of the Building and the surrounding neighborhood. Moreover, the proposed installation will not generate any traffic, smoke, dust, heat, glare, discharge of noxious substances, nor will it pollute waterways or groundwater. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communication.

**4. 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:**

The operations of the proposed telecommunications facility will not adversely impact the health, safety, and the welfare of the residents of the City of Cambridge. On the contrary, the proposed use 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. Further, the site 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 Proposed Facility will comply with all federal, state and local safety requirements including the standards established by the FCC, Federal Aviation Administration (FAA), the American Standards Institute (ANSI), and the Massachusetts Department of Public Health (MDPH).

Accordingly, the Proposed Facility will not adversely impact the health, safety and/or welfare of the neighborhood or the residents of the City of Cambridge.

**5. For other reasons, the proposed installation will not impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this ordinance for the following reasons:**

The Proposed Facility is designed to blend with the existing characteristics of the

Property, reducing any visual impacts to the surrounding area. Accordingly, the Proposed Facility's design results in a minimal impact on the underlying and adjacent zoning district and is consistent with the Ordinance's intention to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space), including the BB District.

As mentioned above, the proposed modifications to the existing installation will not generate any traffic, smoke, dust, heat, glare, discharge or noxious substances, nor will it pollute waterways or groundwater.

**6. The new use of the building construction is consistent with the Urban Design Objective set for tin Section 19.30 of the Ordinance:**

Not Applicable. The Applicant is not proposing to construct a new building or structure.

**IV. Summary**

The Applicant hereby requests that the Board determine that the City of Cambridge has the right to authorize the construction of the Proposed Facility through the issuance of a Building Permit, pursuant to Section 6409(a) of the Spectrum Act. Or, in the alternative, its proposed modifications to the existing telecommunications facility will not have any adverse effect on the neighborhood within which the Property is located in particular, and the City of Cambridge as a whole. The findings are made in view of the particular characteristics of the Property and of the Applicant's proposed siting and equipment, as detailed above. This Property is the most appropriate location for the installation and operation of the wireless communications facility.

For the foregoing reasons the Applicant respectfully requests that the Board grant the foregoing relief pursuant to Section 6409(a) of the Spectrum Act or, in the alternative, zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the installation and operation of the Applicant's Proposed Facility.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. Braillard', positioned above a horizontal line.

Adam F. Braillard

Direct: 617-456-8153

Email: [abraillard@princelobel.com](mailto:abraillard@princelobel.com)



Prepared For:  
SAI/T-MOBILE

Site Number:

4BSS031A

Site Name:

4BSS031A

1430 MASSACHUSETTS AVE  
CAMBRIDGE, MA

**SITE NO:** 4BSS031A

**SITE NAME:** 4BSS031A

**ADDRESS:** 1430 MASSACHUSETTS AVE  
CAMBRIDGE, MA

**T-MOBILE NORTHEAST LLC**

15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
OFFICE: (508) 286-2700  
FAX: (508) 286-2893



TEP OP/CO, LLC.  
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845  
TEL: (978) 557-5553



12 INDUSTRIAL WAY  
SALEM, NH 03079

**SITE TYPE:** ROOFTOP

**DATE:** 08/23/2023

**REV:** 0

**DRAWN BY:** AM

**SCALE:** N.T.S.

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.

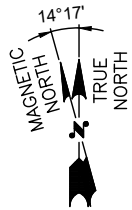
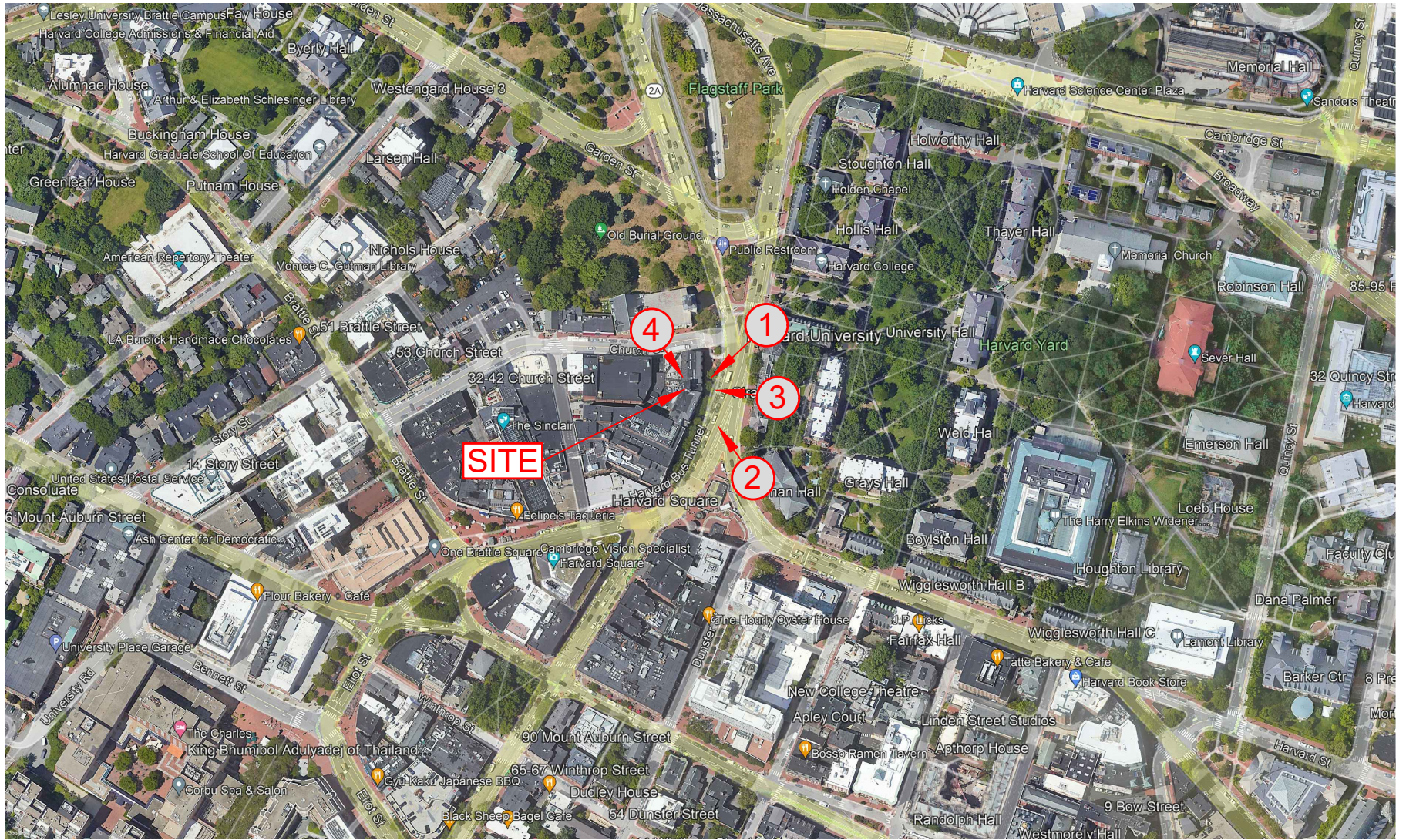


 PHOTO LOCATION

**SITE NO:** 4BSS031A  
**SITE NAME:** 4BSS031A

**ADDRESS:** 1430 MASSACHUSETTS AVE  
 CAMBRIDGE, MA

**T-MOBILE NORTHEAST LLC**

15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 OFFICE: (508) 286-2700  
 FAX: (508) 286-2893



**SITE TYPE:** ROOFTOP

**DATE:** 08/23/2023 **REV:** 0

**DRAWN BY:** AM

**SCALE:** N.T.S.

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.





**VIEW SOUTHWEST FROM MASSACHUSETTS AVE**

**SITE NO:** 4BSS031A  
**SITE NAME:** 4BSS031A  
**ADDRESS:** 1430 MASSACHUSETTS AVE  
 CAMBRIDGE, MA

**T-MOBILE NORTHEAST LLC**  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 OFFICE: (508) 286-2700  
 FAX: (508) 286-2893

**TEP**  
**NORTHEAST**  
TEP OP&O, L.L.C.  
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845  
 TEL: (978) 557-5553

**SAI**  
 12 INDUSTRIAL WAY  
 SALEM, NH 03079

**SITE TYPE:** ROOFTOP  
**DATE:** 08/23/2023 **REV:** 0  
**DRAWN BY:** AM  
**SCALE:** N.T.S.

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.

# PROPOSED CONDITIONS

# LOCATION # 1

DATE OF PHOTO: 08/18/2023



PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED SECTOR MOUNT AND MAST (3) (P/N: APXVAALL18\_43-U-NA20)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4460 B26+B66)

PROPOSED T-MOBILE ANTENNA MOUNTED ON EXISTING SECTOR MOUNT TYP. (1) PER ALPHA/BETA SECTOR, TOTAL OF (2) (P/N: RFS: APXVLL19P\_43-C-A20)

PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED ALPHA SECTOR MOUNT AND PIPE MAST TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: AIR 6419 B41)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4449 B71+B85)

NOTE:  
ALL ANTENNAS TO BE PAINTED TO MATCH THE FACADE OF THE EXISTING PENTHOUSE

VIEW SOUTHWEST FROM MASSACHUSETTS AVE

**SITE NO:** 4BSS031A  
**SITE NAME:** 4BSS031A  
**ADDRESS:** 1430 MASSACHUSETTS AVE  
 CAMBRIDGE, MA

**T-MOBILE NORTHEAST LLC**  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 OFFICE: (508) 286-2700  
 FAX: (508) 286-2893

**TEP**  
**NORTHEAST**  
 TEP OP/CO, LLC.  
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845  
 TEL: (978) 557-5553

**SAI**  
 12 INDUSTRIAL WAY  
 SALEM, NH 03079

**SITE TYPE:** ROOFTOP  
**DATE:** 08/23/2023 **REV:** 0  
**DRAWN BY:** AM  
**SCALE:** N.T.S.

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**VIEW NORTHWEST FROM MASSACHUSETTS AVE**

**SITE NO:** 4BSS031A  
**SITE NAME:** 4BSS031A  
**ADDRESS:** 1430 MASSACHUSETTS AVE  
 CAMBRIDGE, MA

**T-MOBILE NORTHEAST LLC**  
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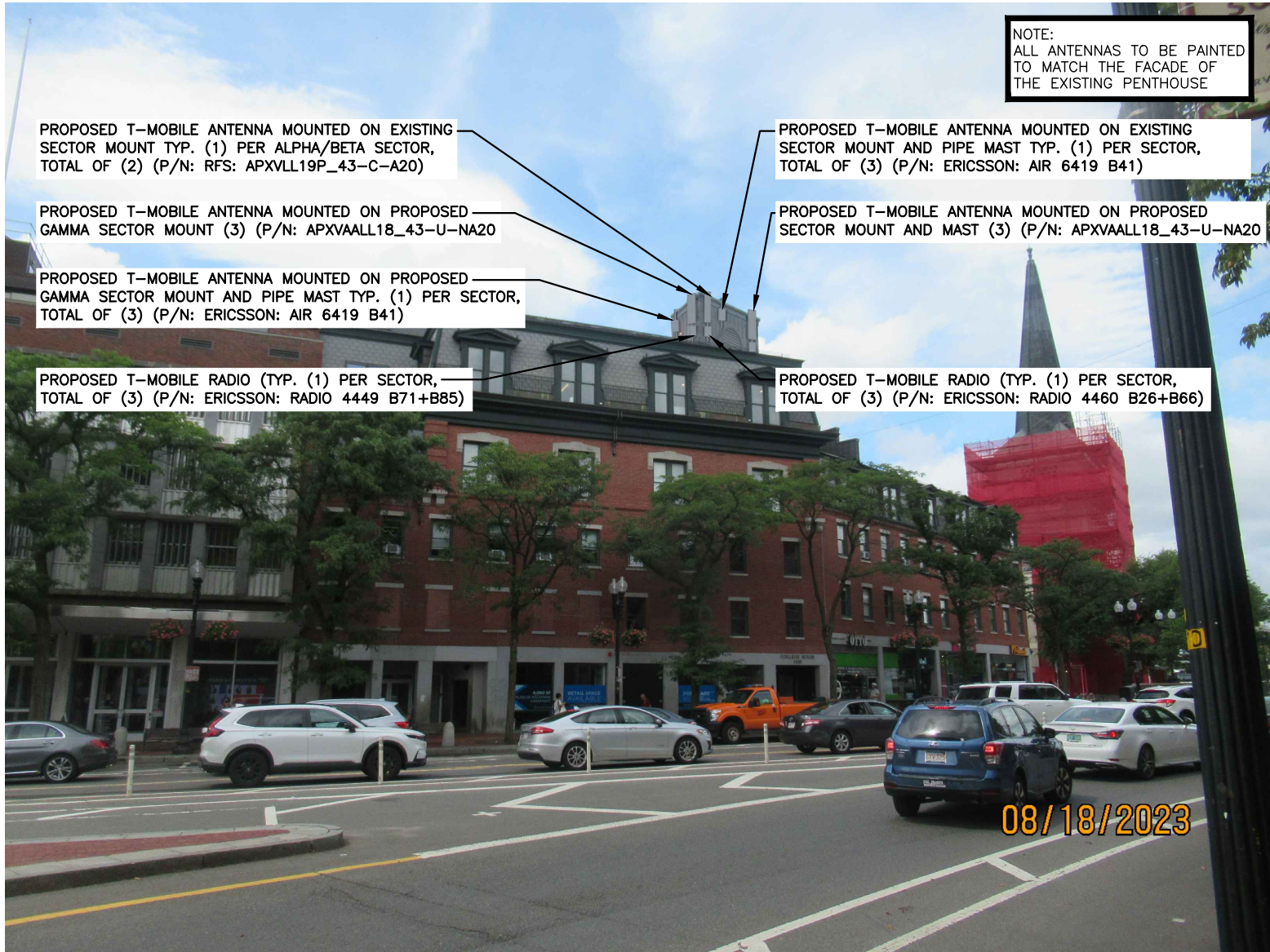
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**PROPOSED CONDITIONS**

**LOCATION # 2**

**DATE OF PHOTO: 08/18/2023**



**NOTE:**  
 ALL ANTENNAS TO BE PAINTED  
 TO MATCH THE FACADE OF  
 THE EXISTING PENTHOUSE

PROPOSED T-MOBILE ANTENNA MOUNTED ON EXISTING SECTOR MOUNT TYP. (1) PER ALPHA/BETA SECTOR, TOTAL OF (2) (P/N: RFS: APXVLL19P\_43-C-A20)

PROPOSED T-MOBILE ANTENNA MOUNTED ON EXISTING SECTOR MOUNT AND PIPE MAST TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: AIR 6419 B41)

PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED GAMMA SECTOR MOUNT (3) (P/N: APXVAALL18\_43-U-NA20)

PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED SECTOR MOUNT AND MAST (3) (P/N: APXVAALL18\_43-U-NA20)

PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED GAMMA SECTOR MOUNT AND PIPE MAST TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: AIR 6419 B41)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4449 B71+B85)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4460 B26+B66)

**08/18/2023**

**VIEW NORTHWEST FROM MASSACHUSETTS AVE**

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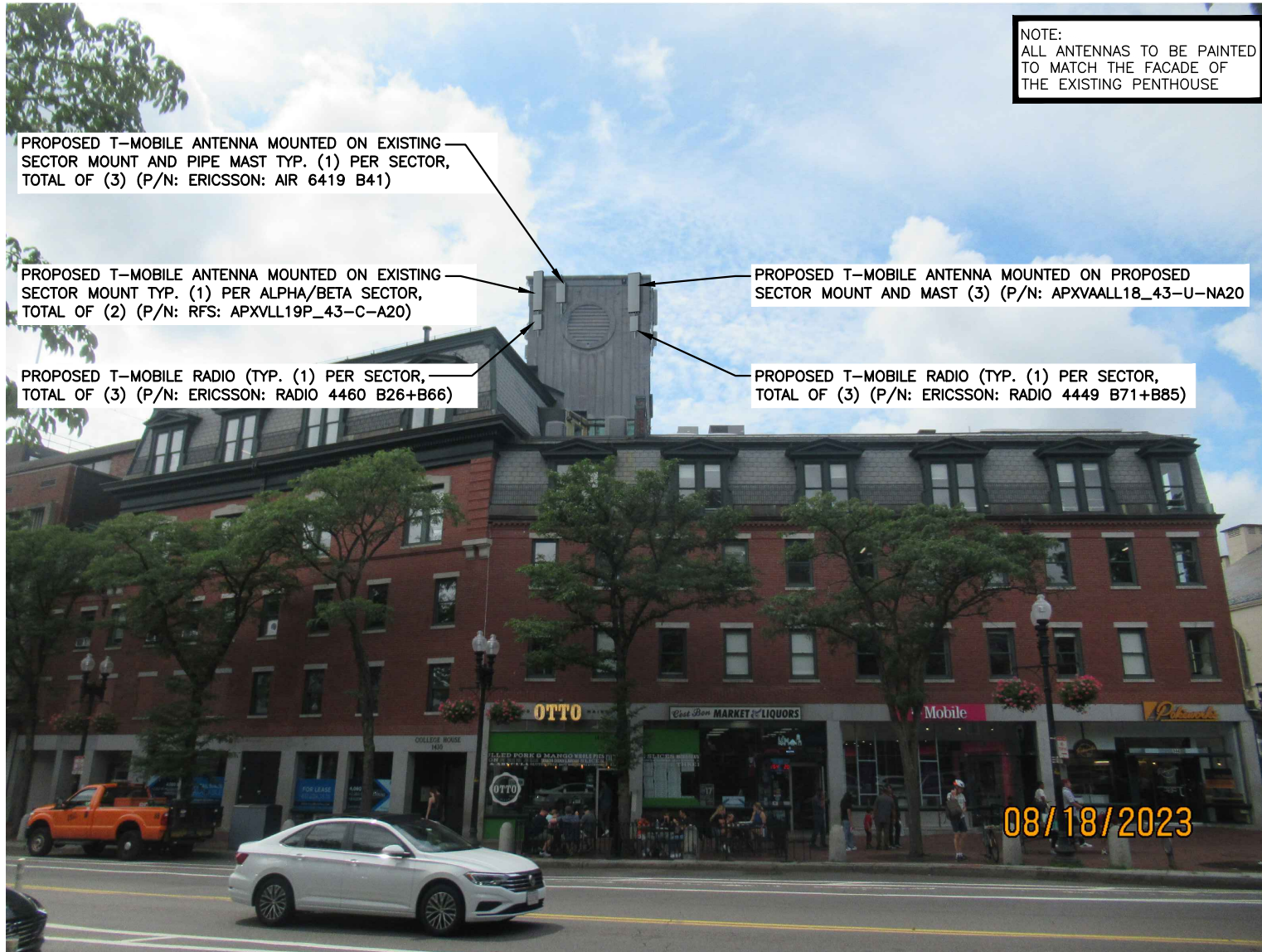
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VIEW SOUTHEAST FROM CHURCH ST

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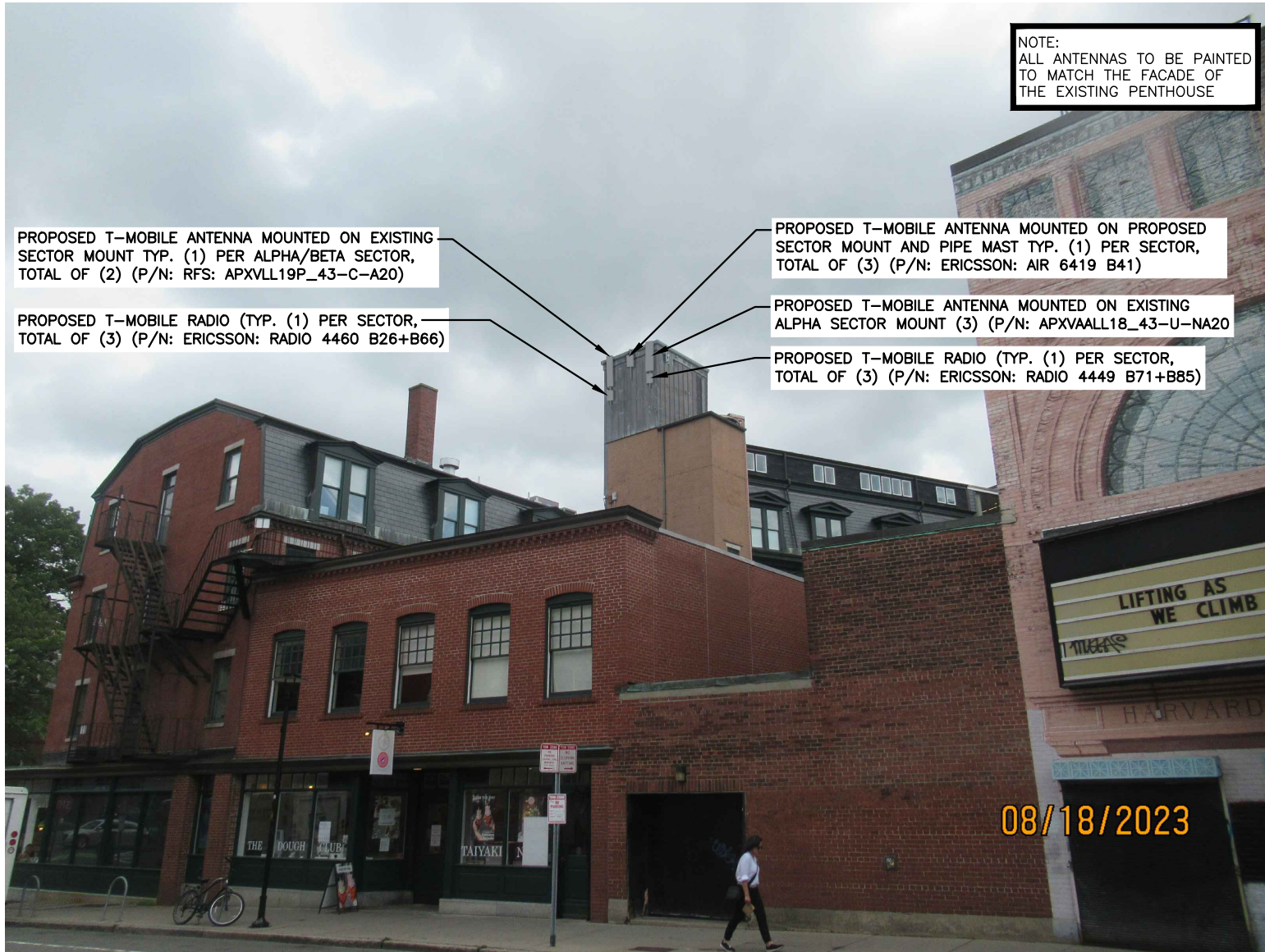
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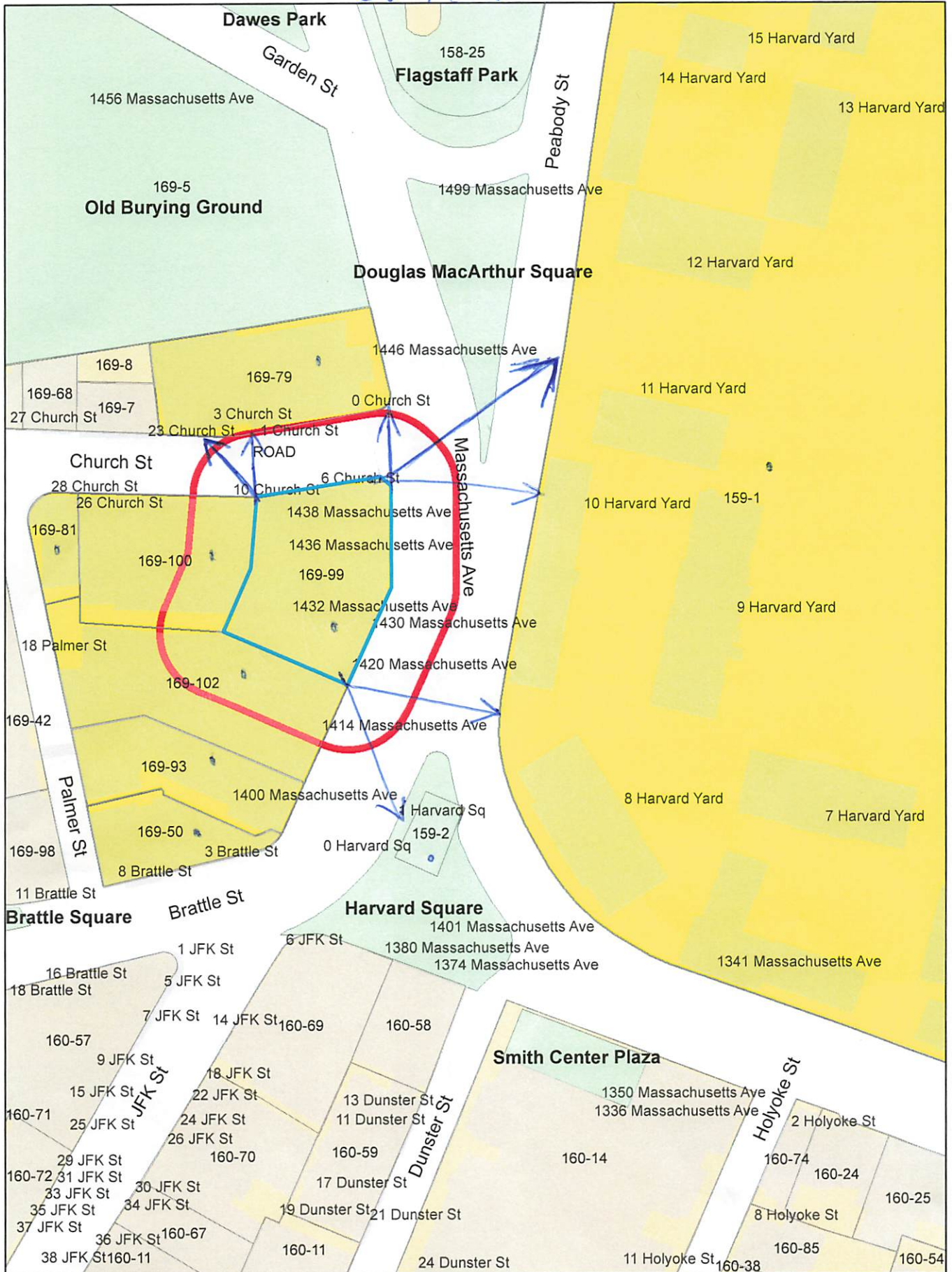
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1430 Mass Ave



1430 Mass Ave

Petitioner

159-1  
PRESIDENT & FELLOWS OF HARVARD COLLEGE C/O  
HARVARD REAL ESTATE, INC.  
HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-3895

169-50  
AP BRATTLE SQUARE, LP  
C/O ASANA PARTNERS, LP  
1616 CAMDEN ROAD. SUITE # 210  
CHARLOTTE, NC 28203

PRINCE LOBEL TYE LLP  
C/O ADAM F. BRAILLARD, ESQ.  
ONE INTERNATIONAL PLACE, SUITE 3700  
BOSTON, MA 02110

169-93  
HARVARD COOPERATIVE SOCIETY  
C/O THOMAS A. WAGNER, JR. CFO  
1400 MASSACHUSETTS AVE  
CAMBRIDGE, MA 02138-9103

169-100  
KIRCHE, LLC C/O PRAGUE & COMPANY  
15 WALNUT ST., SUITE 150  
WELLESLEY, MA 02481

169-81  
PRESIDENT AND FELLOWS OF HARVARD  
COLLEGE - HOLYOKE CENTER, ROOM 1000  
1350 MASSACHUSETTS AVENUE  
CAMBRIDGE, MA 02138

169-79  
FIRST PARISH UNITARIAN CHURCH  
WILLIAM MORSE COLE  
3 CHURCH STREET  
CAMBRIDGE, MA 02138

169-99  
GH HOLDINGS LP  
1696 NE MIAMI GARDENS DR  
NORTH MIAMI BEACH, FL 33179

169-102  
1414 MASSACHUSETTS AVENUE LLC  
101 CALIFORNIA ST -STE 950  
SAN FRANCISCO, CA 94111

159-2  
CITY OF CAMBRIDGE  
C/O YI-AN HUANG  
CITY MANAGER

159-2  
CITY OF CAMBRIDGE  
C/O MEGAN BAYER  
CITY SOLICITOR



# City of Cambridge

MASSACHUSETTS

BOARD OF ZONING APPEAL

831 Mass Avenue, Cambridge, MA.  
(617) 349-6100

*2 BZA*

BZA

## POSTING NOTICE – PICK UP SHEET

The undersigned picked up the notice board for the Board of Zoning Appeals Hearing.

Name: Patricia Hayes (SAI) Date: 9/8/23  
(Print)

Address: 1430 Mass Ave

Case No. BZA-237886

Hearing Date: 9/28/23

Thank you,  
Bza Members

Prepared For:  
SAI/T-MOBILE

Site Number:

4BSS031A

Site Name:

4BSS031A

1430 MASSACHUSETTS AVE  
CAMBRIDGE, MA



**SITE NO:** 4BSS031A

**SITE NAME:** 4BSS031A

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15 COMMERCE WAY, SUITE B  
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OFFICE: (508) 286-2700  
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**SITE TYPE:** ROOFTOP

**DATE:** 08/29/2023

**REV:** 1

**DRAWN BY:** AM

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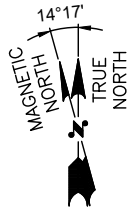


PHOTO LOCATION

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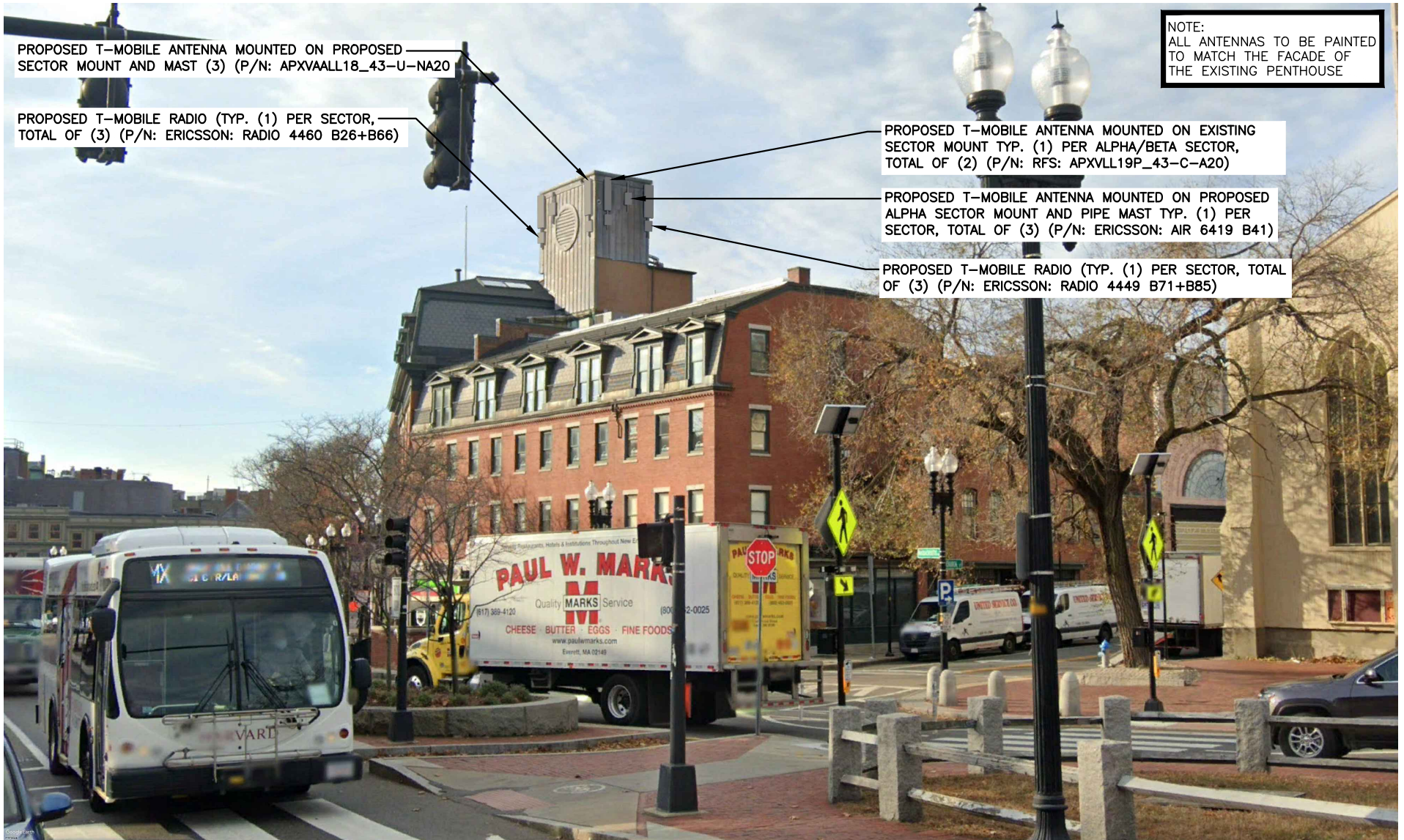
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**PROPOSED CONDITIONS**

**LOCATION # 1**

**DATE OF PHOTO: 08/18/2023**



PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED SECTOR MOUNT AND MAST (3) (P/N: APXVAALL18\_43-U-NA20)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4460 B26+B66)

PROPOSED T-MOBILE ANTENNA MOUNTED ON EXISTING SECTOR MOUNT TYP. (1) PER ALPHA/BETA SECTOR, TOTAL OF (2) (P/N: RFS: APXVLL19P\_43-C-A20)

PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED ALPHA SECTOR MOUNT AND PIPE MAST TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: AIR 6419 B41)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4449 B71+B85)

NOTE:  
ALL ANTENNAS TO BE PAINTED TO MATCH THE FACADE OF THE EXISTING PENTHOUSE

**VIEW SOUTHWEST FROM MASSACHUSETTS AVE**

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**VIEW NORTHWEST FROM MASSACHUSETTS AVE**

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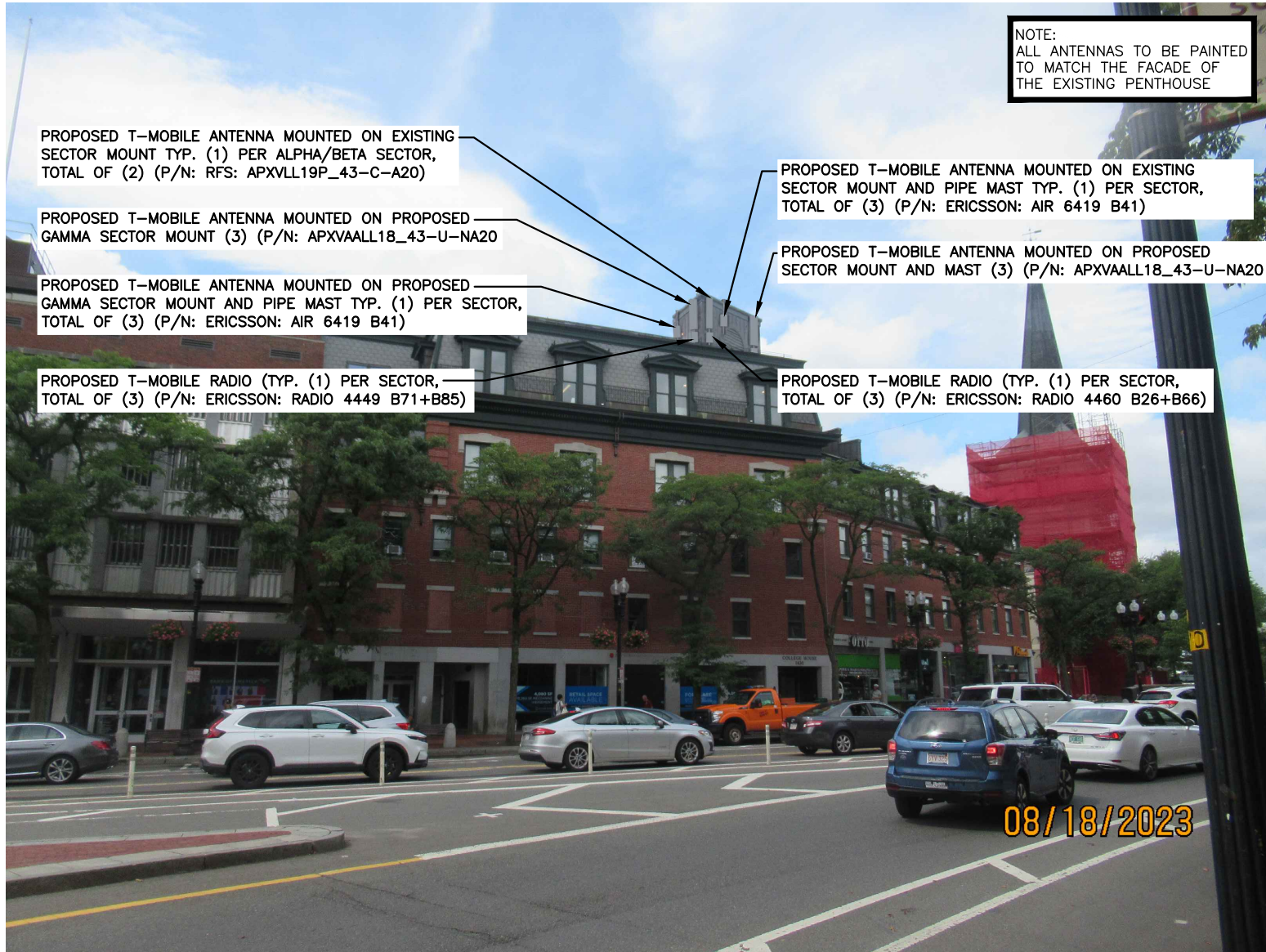
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PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED GAMMA SECTOR MOUNT (3) (P/N: APXVAALL18\_43-U-NA20)

PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED GAMMA SECTOR MOUNT AND PIPE MAST TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: AIR 6419 B41)

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PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4460 B26+B66)

08/18/2023

VIEW NORTHWEST FROM MASSACHUSETTS AVE

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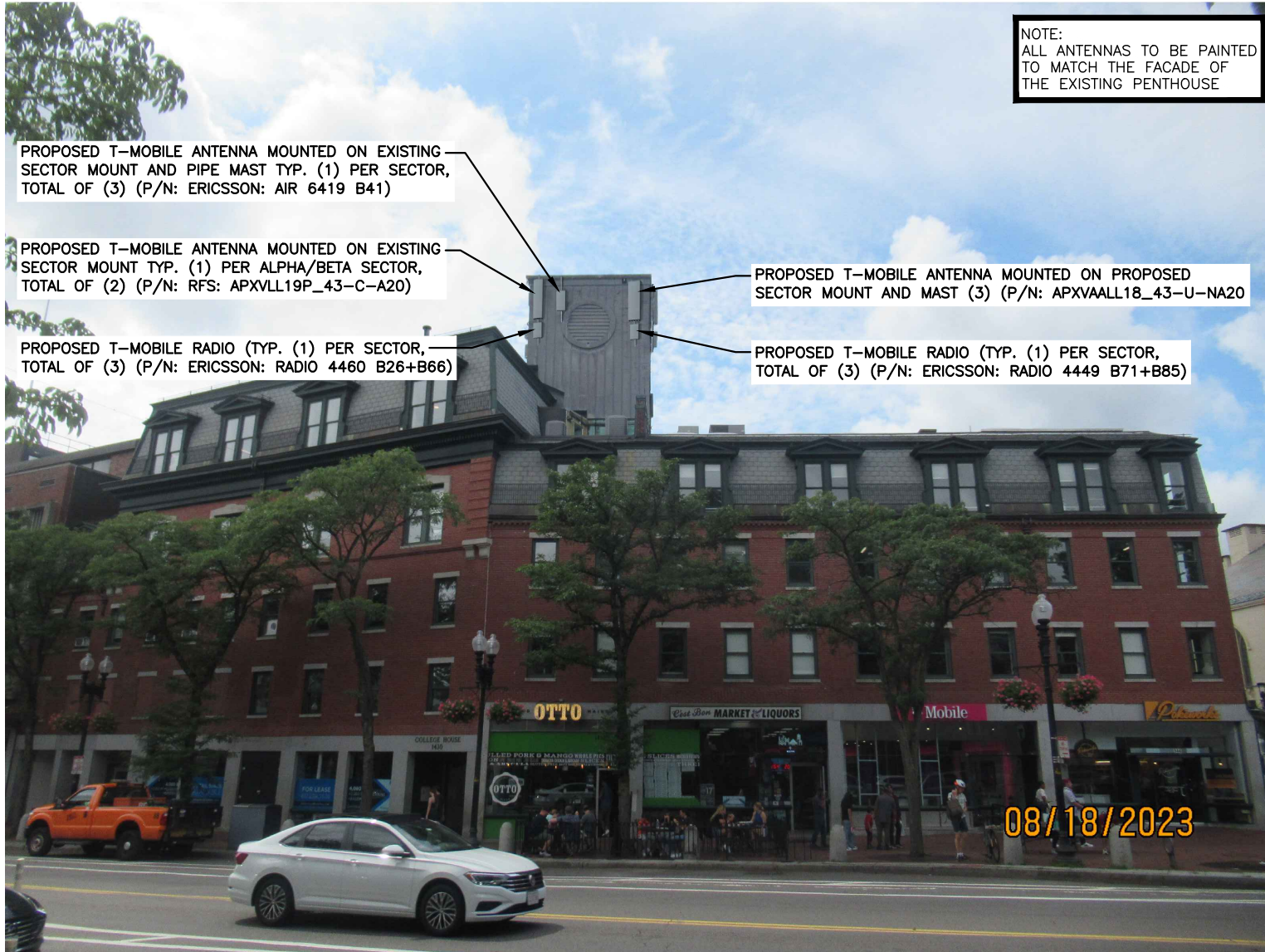
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**PROPOSED CONDITIONS**

**LOCATION # 3**

**DATE OF PHOTO: 08/18/2023**



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PAGE 8 OF 10



**VIEW SOUTHEAST FROM CHURCH ST**

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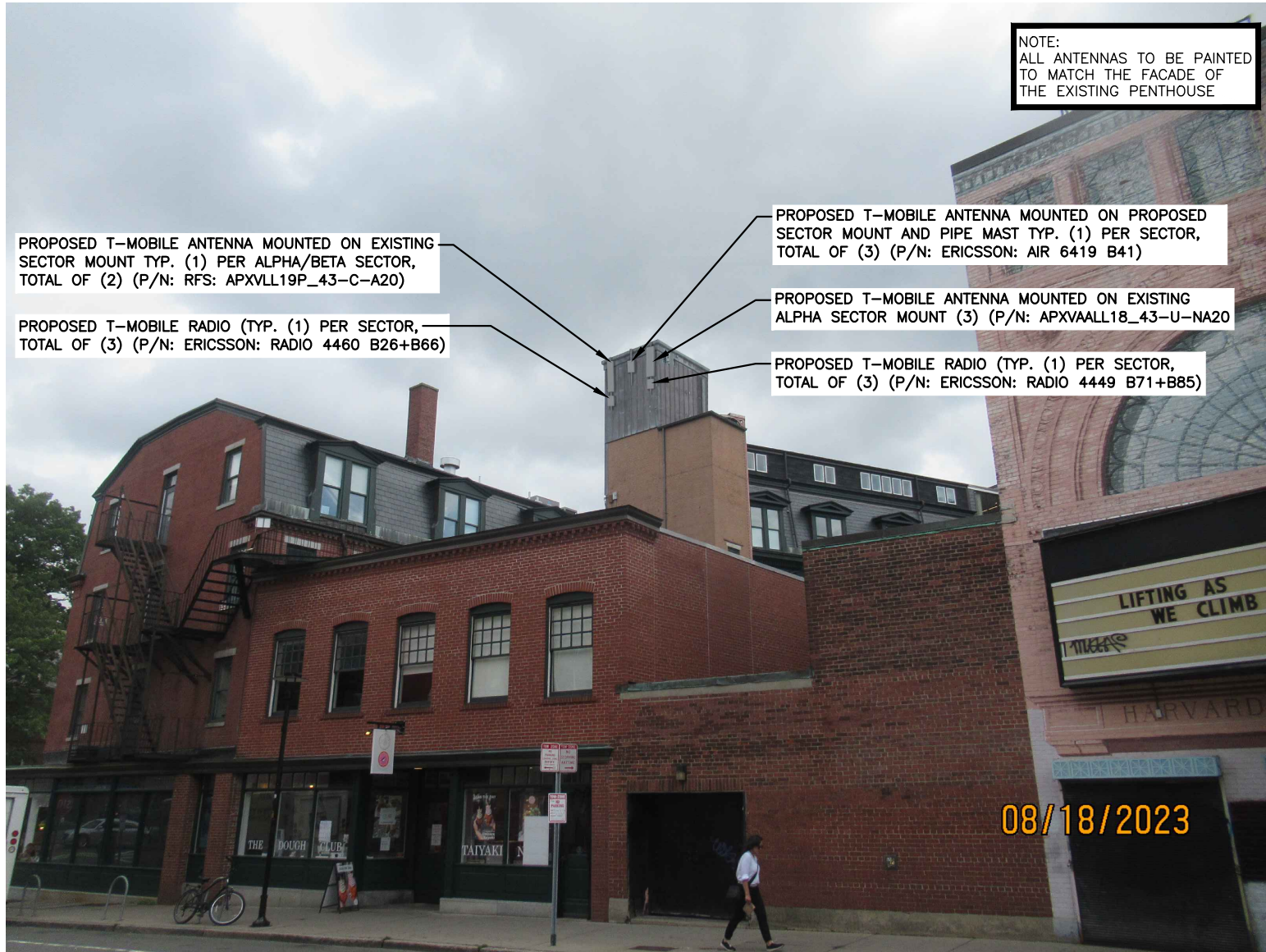
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TO MATCH THE FACADE OF  
THE EXISTING PENTHOUSE

PROPOSED T-MOBILE ANTENNA MOUNTED ON EXISTING SECTOR MOUNT TYP. (1) PER ALPHA/BETA SECTOR, TOTAL OF (2) (P/N: RFS: APXVLL19P\_43-C-A20)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4460 B26+B66)

PROPOSED T-MOBILE ANTENNA MOUNTED ON PROPOSED SECTOR MOUNT AND PIPE MAST TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: AIR 6419 B41)

PROPOSED T-MOBILE ANTENNA MOUNTED ON EXISTING ALPHA SECTOR MOUNT (3) (P/N: APXVAALL18\_43-U-NA20)

PROPOSED T-MOBILE RADIO (TYP. (1) PER SECTOR, TOTAL OF (3) (P/N: ERICSSON: RADIO 4449 B71+B85)

08/18/2023

VIEW SOUTHEAST FROM CHURCH ST

**SITE NO:** 4BSS031A  
**SITE NAME:** 4BSS031A  
**ADDRESS:** 1430 MASSACHUSETTS AVE  
 CAMBRIDGE, MA

**T-MOBILE NORTHEAST LLC**  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 OFFICE: (508) 286-2700  
 FAX: (508) 286-2893

**TEP**  
**NORTHEAST**  
TEP OP.CO, LLC.  
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845  
 TEL: (978) 557-5553

**SAI**  
 12 INDUSTRIAL WAY  
 SALEM, NH 03079

**SITE TYPE:** ROOFTOP  
**DATE:** 08/29/2023 **REV:** 1  
**DRAWN BY:** AM  
**SCALE:** N.T.S.

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.



# 4BSS031A

## SITE ID: 4BSS031A

### 1430 MASSACHUSETTS AVE CAMBRIDGE, MA

T-MOBILE A/L TEMPLATE (PROVIDED BY RFDS)

67D5998E\_1xAIR+1OP+1QP

T-MOBILE RAN TEMPLATE (PROVIDED BY RFDS)

67D5D998E 6160

#### GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9<sup>TH</sup> EDITION), INCLUDING THE TIA-222 REVISION "H" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES."
- SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE, WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
- ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS AND ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
- AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS, AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
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- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
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- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.
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- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
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- COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUITS AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND CONFIRMED WITH THE PROJECT MANAGER AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
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- THE COUNTY/CITY/TOWN MAY MAKE PERIODIC FIELD INSPECTIONS TO ENSURE COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS.
- THE COUNTY/CITY/TOWN MUST BE NOTIFIED (2) WORKING DAYS PRIOR TO CONCEALMENT/BURIAL OF ANY SYSTEM OR MATERIAL THAT WILL PREVENT THE DIRECT INSPECTION OF MATERIALS. METHODS OR WORKMANSHIP. EXAMPLES OF THESE PROCESSES ARE BACKFILLING A GROUND RING OR TOWER FOUNDATION, POURING TOWER FOUNDATIONS, BURYING GROUND RODS, PLATES OR GRIDS, ETC. THE CONTRACTOR MAY PROCEED WITH THE SCHEDULED PROCESS (2) WORKING DAYS AFTER PROVIDING NOTICE UNLESS NOTIFIED OTHERWISE BY THE COUNTY/CITY/TOWN.
- PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER ON RECORD, PRIOR TO THE COMMENCEMENT OF ANY WORK.

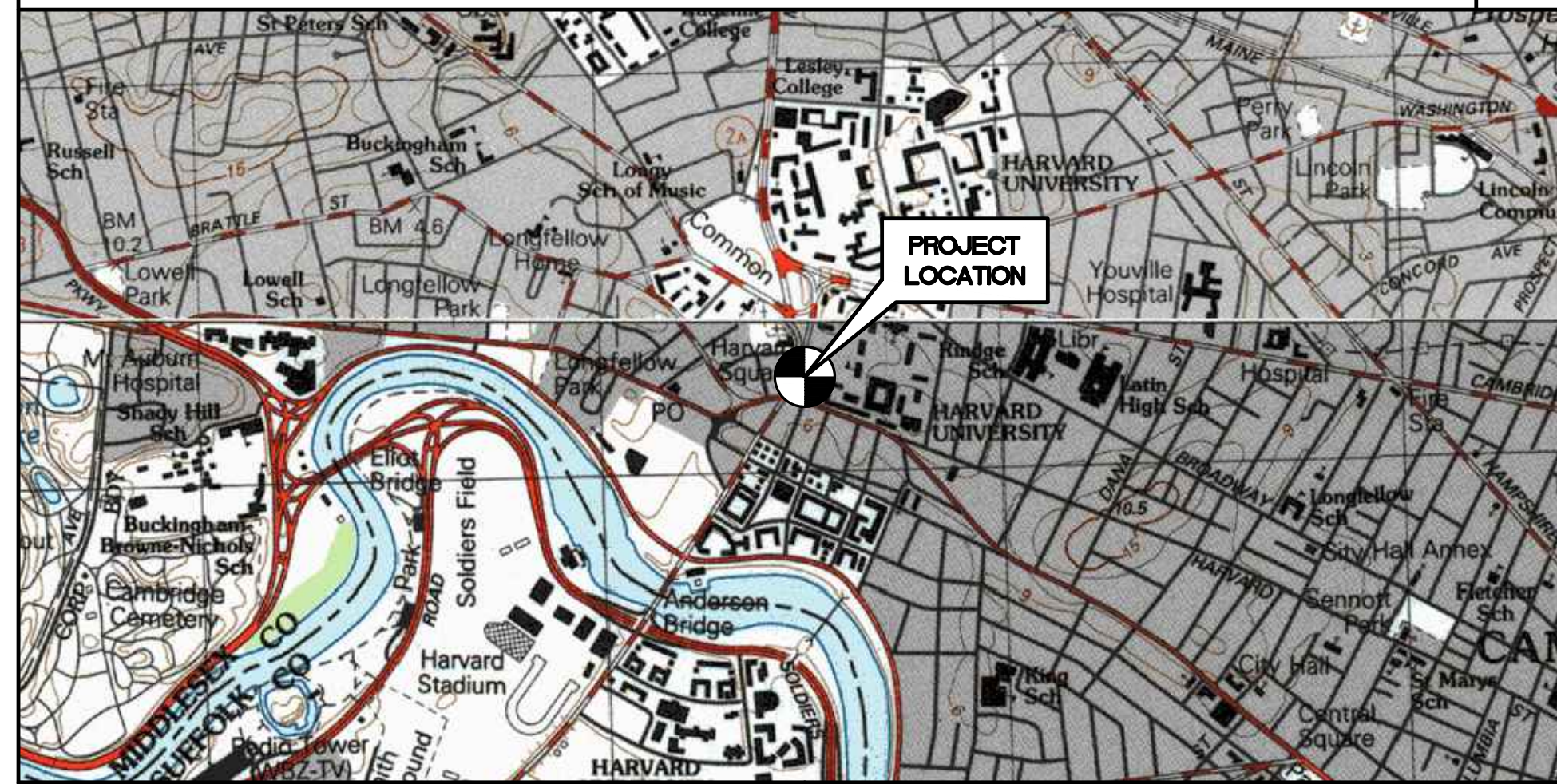
#### SITE LOCATION MAP

N.T.S.



#### VICINITY MAP

N.T.S.



COORDINATES AND GROUND ELEVATION ARE REFERENCED FROM GOOGLE EARTH. SITE COORDINATES: LATITUDE: 42° 22' 26.91" N LONGITUDE: 71° 07' 09.10" W GROUND ELEVATION: ±24' AMSL

#### DESIGN BASIS:

ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9<sup>TH</sup> EDITION), INCLUDING THE TIA-222 REVISION "H" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES."

#### 1. DESIGN CRITERIA:

- RISK CATEGORY: II (BASED ON TABLE 1604.5 OF THE 2015 IBC)
- ULTIMATE DESIGN SPEED (ULTIMATE): 128 MPH (V<sub>ULT</sub>) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2015 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE MASSACHUSETTS STATE BUILDING CODE (780 CMR 9<sup>TH</sup> EDITION)
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

#### PROJECT SUMMARY

THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:

- AT THE EXISTING PENTHOUSE MOUNTED ANTENNAS
  - REMOVE ALL (6) SPRINT PANEL ANTENNAS & MOUNTS, (6) SPRINT RADIOS AND CABLES.
  - INSTALL (3) RFS - APXVALL18-43-U-NA20 ANTENNAS.
  - INSTALL (3) ERICSSON - AIR6419 B41 ANTENNAS.
  - INSTALL (2) RFS - APXVLL19P-43-C-A20 ANTENNAS.
  - INSTALL (3) ERICSSON - 4449 B71+B85 RADIOS.
  - INSTALL (3) ERICSSON - 4460 B25+B66 RADIOS.
  - INSTALL NEW ANTENNA MOUNTS, PIPE MASTS AND STRUCTURAL REINFORCEMENTS AT PENTHOUSE. REFER TO SHEET S-1 FOR ADDITIONAL DETAILS.
  - INSTALL (1) DUAL SWIVEL RRU MOUNT BELOW POS.1 ANTENNA AT GAMMA SECTOR
  - INSTALL (3) HYBRID CABLES.
- AT THE EXISTING STEEL EQUIPMENT PLATFORM
  - REMOVE SPRINT BTS AND BATTERY CABINET AND EXISTING FIBER DISTRIBUTION BOX
  - FURNISH AND INSTALL SLACK BOX
  - INSTALL (1) 6160 CABINET AND (1) B160 CABINET
  - REPLACE GPS
  - FURNISH AND INSTALL POWER RELAY

#### STRUCTURAL + SPECIAL INSPECTIONS

FOR REQUIRED STRUCTURAL MODIFICATIONS, SEE SHEET(S) S-1 FOR ADDITIONAL DETAILS. FOR REQUIRED SPECIAL INSPECTIONS, NOTES, AND REQUIREMENTS, SEE SHEET(S) N-2 FOR ADDITIONAL DETAILS.

- INSTALL NEW ANTENNA MOUNTS AND STRUCTURAL REINFORCEMENTS TO PENTHOUSE.

#### PROJECT INFORMATION

SITE NAME: 4BSS031A  
 SITE ID: 4BSS031A  
 SITE ADDRESS: 1430 MASSACHUSETTS AVE  
 CAMBRIDGE, MA  
 APPLICANT: T-MOBILE NORTHEAST, LLC  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02786  
 CONTACT PERSON: ADAM ALEXANDER (PROJECT MANAGER)  
 SAI COMMUNICATIONS, LLC  
 12 INDUSTRIAL WAY  
 SALEM, NH 03079  
 (508) 566-9167  
 ENGINEER OF RECORD: CENTEK ENGINEERING, INC.  
 63-2 NORTH BRANFORD RD.  
 BRANFORD, CT 06405  
 CARLO F. CENTORE, PE  
 (203) 488-0580 EXT. 122  
 PROJECT COORDINATES: LATITUDE: 42°22'26.91" N  
 LONGITUDE: 71°07'09.10" W  
 GROUND ELEVATION: 24'± AMSL  
 SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

#### SHEET INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	3
N-1	GENERAL NOTES AND SPECIFICATIONS	3
N-2	SPECIAL INSPECTIONS AND SPECIFICATIONS	3
C-1	SITE LOCATION PLAN	3
C-2	ROOF PLAN, EQUIPMENT PLANS AND ELEVATION	3
C-3	ANTENNA PLANS AND ELEVATIONS	3
C-4	ANTENNA PLANS AND ELEVATIONS	3
C-5	TYPICAL EQUIPMENT DETAILS	3
S-1	STRUCTURAL DETAILS AND MODIFICATIONS	3
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T-MOBILE NORTHEAST LLC  
4BSS031A  
SITE ID: 4BSS031A  
1430 MASSACHUSETTS AVE  
CAMBRIDGE, MA

DATE: 08/26/22  
SCALE: AS NOTED  
JOB NO. 22001.12

TITLE SHEET

T-1

Sheet No. 1 of 12

**NOTES AND SPECIFICATIONS:**

**SITE NOTES**

1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. ACTIVE EXISTING UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY, PRIOR TO PROCEEDING, SHOULD ANY UNCOVERED EXISTING UTILITY PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
4. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
5. IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL PROCEED WITH AFFECTED WORK AFTER CONFLICT IS SATISFACTORILY RESOLVED.

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**STRUCTURAL STEEL**

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
  - A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
  - B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
  - C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
  - D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
  - E. PIPE---ASTM A53 (FY = 35 KSI)
  - F. CONNECTION BOLTS---ASTM A325-N
  - G. U-BOLTS---ASTM A36
  - H. ANCHOR RODS---ASTM F 1554
  - I. WELDING ELECTRODE---ASTM E 70XX
2. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
10. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS	TJR	DATE	DESCRIPTION
CONSTRUCTION DRAWINGS - REVISED RAD CENTER	TJR		
CONSTRUCTION DRAWINGS - REVISED TO ADD INSPECTION REQUIREMENTS	TJR		
CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION	TJR		
CONSTRUCTION DRAWINGS - REVISED PER MEET. ISSUED RFDS	TJR		
CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW	TJR		
REV.	A	09/26/22	ASC
	B	09/25/23	ASC
	D	09/06/23	ASC
	2	09/11/23	DRA
	3	09/25/23	DRA

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**4BSS031A**  
**SITE ID: 4BSS031A**  
**1430 MASSACHUSETTS AVE**  
**CAMBRIDGE, MA**

DATE: 08/26/22  
 SCALE: AS NOTED  
 JOB NO. 22001.12

**GENERAL NOTES AND SPECIFICATIONS**

**N-1**

Sheet No. 2 of 12

MODIFICATION INSPECTION REPORT REQUIREMENTS					
PRE-CONSTRUCTION		DURING CONSTRUCTION		POST-CONSTRUCTION	
SCHEDULED ITEM	REPORT ITEM	SCHEDULED ITEM	REPORT ITEM	SCHEDULED ITEM	REPORT ITEM
-	EOR MODIFICATION INSPECTION DRAWING	-	FOUNDATIONS	-	MODIFICATION INSPECTOR RECORD REDLINE DRAWING
X	EOR APPROVED STEEL SHOP DRAWINGS	-	EARTHWORK BACKFILL MATERIAL AND COMPACTION	-	POST-INSTALLED ANCHOR ROD PULL-OUT TEST
-	EOR APPROVED POST-INSTALLED ANCHOR MP/II	-	REBAR AND FORMWORK GEOMETRY VERIFICATION	X	PHOTOGRAPHS
-	FABRICATION INSPECTION	-	CONCRETE TESTING	X	STEEL INSPECTION
-	FABRICATOR CERTIFIED WELDER INSPECTION	X	STEEL INSPECTION		
-	MATERIAL CERTIFICATIONS	-	POST INSTALLED ANCHOR ROD VERIFICATION		
		-	BASE PLATE GROUT VERIFICATION		
		-	CONTRACTOR'S CERTIFIED WELD INSPECTION		
		-	ON-SITE COLD GALVANIZED VERIFICATION		
		-	CONTRACTOR AS-BUILT REDLINE DRAWINGS		
		-	HOST BUILDING (BEARING WALL/PARAPET ETC.) INTEGRITY VERIFICATION PRIOR TO ANY INSTALLATIONS		
		X	HOST BUILDING (ROOF OPENING) FRAMING VERIFICATION PRIOR TO ANY INSTALLATIONS		

NOTES	1. REFER TO MODIFICATION INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS
	2. (X) DENOTES DOCUMENT REQUIRED FOR INCLUSION IN MODIFICATION INSPECTION FINAL REPORT
	3. (-) DENOTES DOCUMENT NOT REQUIRED FOR INCLUSION IN MODIFICATION INSPECTION FINAL REPORT
	4. EOR - ENGINEER OF RECORD
	5. MP/II - MANUFACTURER'S PRINTED INSTALLATION GUIDELINES

**MODIFICATION INSPECTION NOTES:**

**GENERAL**

1. THE MODIFICATION INSPECTION IS A VISUAL INSPECTION OF STRUCTURAL MODIFICATIONS, TO INCLUDE A REVIEW AND COMPILATION OF SPECIFIED SUBMITTALS AND CONSTRUCTION INSPECTIONS, AS AN ASSURANCE OF COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS PREPARED UNDER THE DIRECTION OF THE ENGINEER OF RECORD (EOR).
2. THE MODIFICATION INSPECTION IS TO CONFIRM INSTALLATION CONFIGURATION AND GENERAL WORKMANSHIP AND IS NOT A REVIEW OF THE MODIFICATION DESIGN. OWNERSHIP OF THE MODIFICATION DESIGN EFFECTIVENESS AND INTENT RESIDES WITH THE ENGINEER OF RECORD.
3. TO ENSURE COMPLIANCE WITH THE MODIFICATION INSPECTION REQUIREMENTS THE GENERAL CONTRACTOR (GC) AND THE MODIFICATION INSPECTOR (MI) COMMENCE COMMUNICATION UPON AUTHORIZATION TO PROCEED BY THE CLIENT. EACH PARTY SHALL BE PROACTIVE IN CONTACTING THE OTHER. THE EOR SHALL BE CONTACTED IF SPECIFIC GC/MI CONTACT INFORMATION IS NOT MADE AVAILABLE.
4. THE GC SHALL PROVIDE THE MI WITH A MINIMUM OF 5 BUSINESS DAYS NOTICE OF IMPENDING INSPECTIONS.
5. WHEN POSSIBLE, THE GC AND MI SHALL BE ON SITE DURING THE MODIFICATION INSPECTION TO HAVE ANY NOTED DEFICIENCIES ADDRESSED DURING THE INITIAL MODIFICATION INSPECTION.

**MODIFICATION INSPECTOR (MI)**

1. THE MI SHALL CONTACT THE GC UPON AUTHORIZATION BY THE CLIENT TO:
  - REVIEW THE MODIFICATION INSPECTION REPORT REQUIREMENTS.
  - WORK WITH THE GC IN DEVELOPMENT OF A SCHEDULE FOR ON-SITE INSPECTIONS.
  - DISCUSS CRITICAL INSPECTIONS AND PROJECT CONCERNS.
2. THE MI IS RESPONSIBLE FOR COLLECTION OF ALL INSPECTION AND TEST REPORTS, REVIEWING REPORTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING ON-SITE INSPECTIONS AND COMPILATION & SUBMISSION OF THE MODIFICATION INSPECTION REPORT TO THE CLIENT AND THE EOR.

**GENERAL CONTRACTOR (GC)**

1. THE GC IS REQUIRED TO CONTACT THE MI UPON AUTHORIZATION TO PROCEED WITH CONSTRUCTION BY THE CLIENT TO:
  - REVIEW THE MODIFICATION INSPECTION REPORT REQUIREMENTS.
  - WORK WITH THE MI IN DEVELOPMENT OF A SCHEDULE FOR ON-SITE INSPECTIONS.
  - DISCUSS CRITICAL INSPECTIONS AND PROJECT CONCERNS.
2. THE GC IS RESPONSIBLE FOR COORDINATING AND SCHEDULING IN ADVANCE ALL REQUIRED INSPECTIONS AND TESTS WITH THE MI.

**CORRECTION OF FAILING MODIFICATION INSPECTION**

1. SHOULD THE STRUCTURAL MODIFICATION NOT COMPLY WITH THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, THE GC SHALL WORK WITH THE MODIFICATION INSPECTOR IN A VIABLE REMEDIATION PLAN AS FOLLOWS:
  - CORRECT ALL DEFICIENCIES TO COMPLY WITH THE CONTRACT DOCUMENTS AND COORDINATE WITH THE MI FOR A FOLLOW UP INSPECTION.
  - WITH CLIENT AUTHORIZATION, THE GC MAY WORK WITH THE EOR TO REANALYZE THE MODIFICATION USING THE AS-BUILT CONDITION.

**REQUIRED PHOTOGRAPHS**

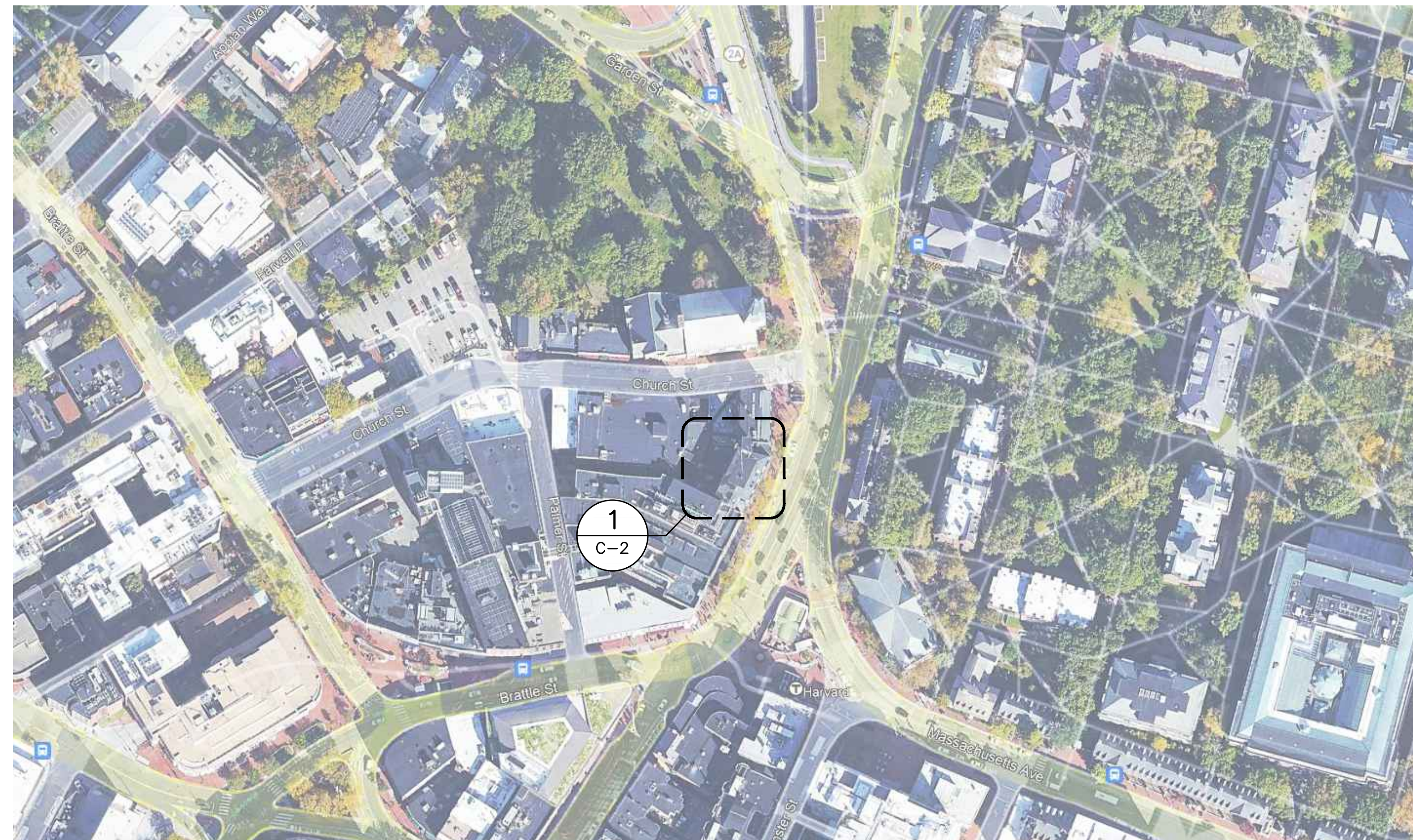
1. THE GC AND MI SHALL AT MINIMUM PHOTO DOCUMENT THE FOLLOWING FOR INCLUSION IN THE MODIFICATION INSPECTION REPORT:
  - PRE-CONSTRUCTION: GENERAL CONDITION OF THE SITE.
  - DURING CONSTRUCTION: RAW MATERIALS, CRITICAL DETAILS, WELD PREPARATION, BOLT INSTALLATION & TORQUE, FINAL INSTALLED CONDITION & SURFACE COATING REPAIRS.
  - POST-CONSTRUCTION: FINAL CONDITION OF THE SITE.

PROFESSIONAL ENGINEER SEAL	09/25/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
	09/11/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
	09/06/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED TO ADD INSPECTION REQUIREMENTS
	09/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
REV.	B	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER MEET ISSUED RFDS
	A	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW
DATE		DRAWN BY/CHK'D BY		
(203) 488-0880 (203) 488-8887 Fax 652 North Branford Road Branford, CT 06405 www.CentekEng.com				
<b>T-MOBILE NORTHEAST LLC</b> <b>4BSS031A</b> <b>SITE ID: 4BSS031A</b> <b>1430 MASSACHUSETTS AVE</b> <b>CAMBRIDGE, MA</b>				
DATE:		08/26/22		
SCALE:		AS NOTED		
JOB NO.		22001.12		
SPECIAL INSPECTIONS & SPECIFICATIONS				
<b>N-2</b>				
Sheet No. 3 of 12				



NOTE:  
ALL HCS LENGTHS TO BE MEASURED AND  
VERIFIED IN FIELD BEFORE ORDERING

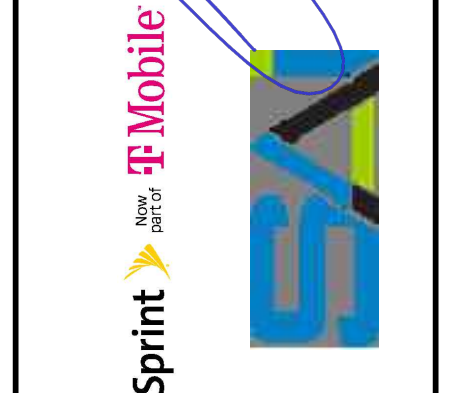
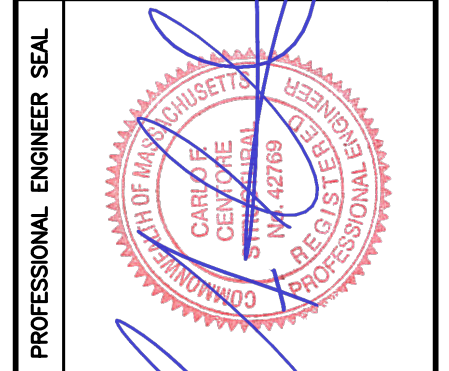
ANTENNA SCHEDULE								
SECTOR	EXISTING/PROPOSED	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA $\phi$ HEIGHT	AZIMUTH	(E/P) RRU (QTY)	(E/P) TMA (QTY)	(QTY) PROPOSED COAX (LENGTH)
A1	PROPOSED	RFS - APXVAALL18_43-U-NA20	72.0 x 24.0 x 8.5	77'	20°	(P) RADIO 4449 B71+B85 (1)		(1) ERICSSON HYBRID TRUNK 6/24 4AWG (60m)
A2	PROPOSED	ERICSSON - AIR6419 B41	33.0 x 24.0 x 9.0	77'	20°			
A3	PROPOSED	RFS - APXVLL19P_43-C-A20	75.8 x 11.3 x 4.6	77'	20°	(P) RADIO 4460 B25+B66 (1)		
B1	PROPOSED	RFS - APXVAALL18_43-U-NA20	72.0 x 24.0 x 8.5	77'	110°	(P) RADIO 4449 B71+B85 (1)		(1) ERICSSON HYBRID TRUNK 6/24 4AWG (60m)
B2	PROPOSED	ERICSSON - AIR6419 B41	33.0 x 24.0 x 9.0	77'	110°			
B3	PROPOSED	RFS - APXVLL19P_43-C-A20	75.8 x 11.3 x 4.6	77'	110°	(P) RADIO 4460 B25+B66 (1)		
C1	PROPOSED	RFS - APXVAALL18_43-U-NA20	72.0 x 24.0 x 8.5	77'	230°	(P) RADIO 4449 B71+B85 (1), (P) RADIO 4460 B25+B66 (1)		(1) ERICSSON HYBRID TRUNK 6/24 4AWG (60m)
C2	PROPOSED	ERICSSON - AIR6419 B41	33.0 x 24.0 x 9.0	77'	230°			



1 SITE LOCATION PLAN  
C-1 SCALE: NOT TO SCALE



REV.	DATE	DESCRIPTION
3	09/25/23	DRA
2	09/11/23	DRA
1	09/06/23	ASC
0	09/25/23	ASC
B	09/16/23	ASC
A	09/26/22	ASC



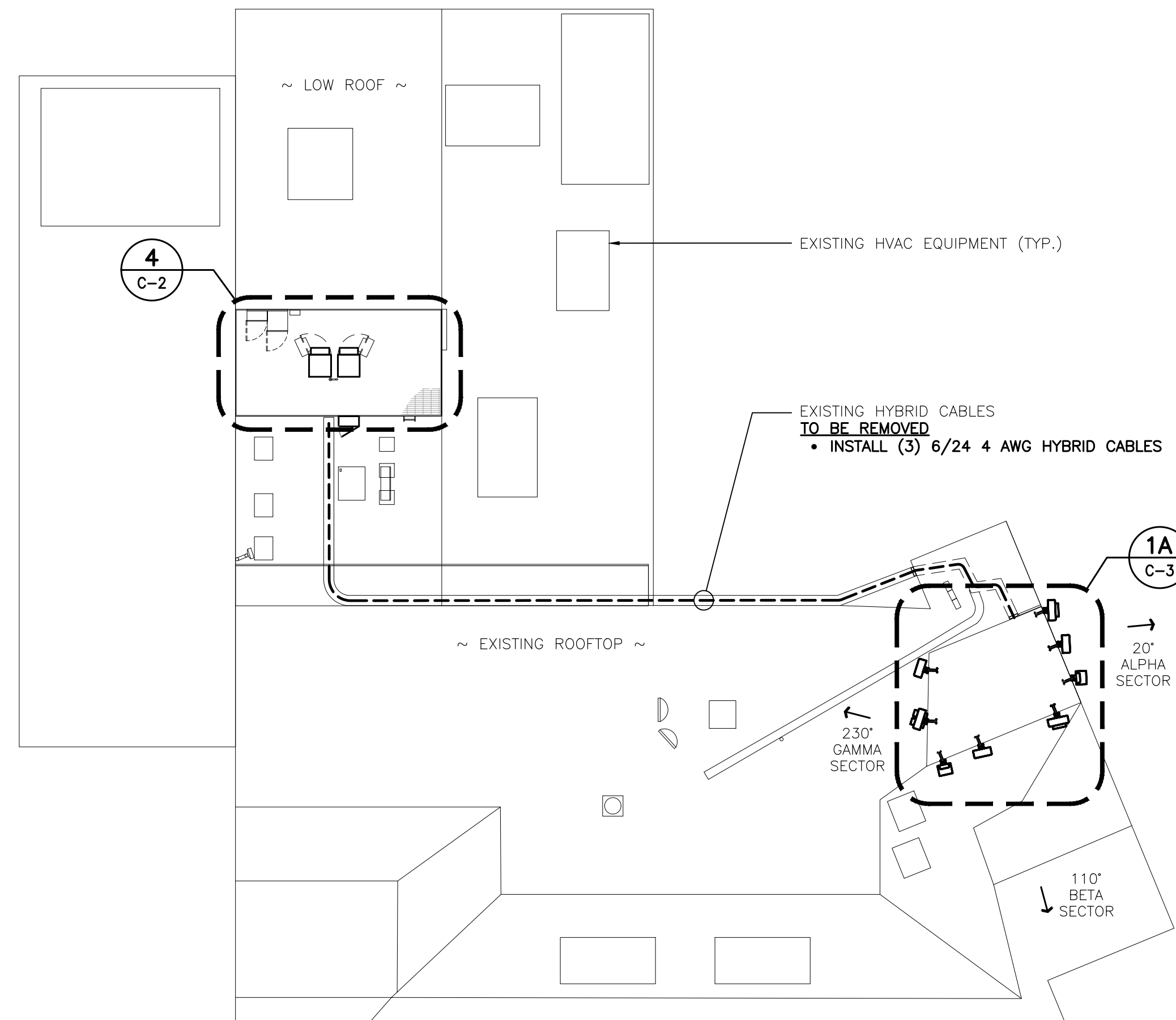
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**4BSS031A**  
**SITE ID: 4BSS031A**  
**1430 MASSACHUSETTS AVE**  
**CAMBRIDGE, MA**

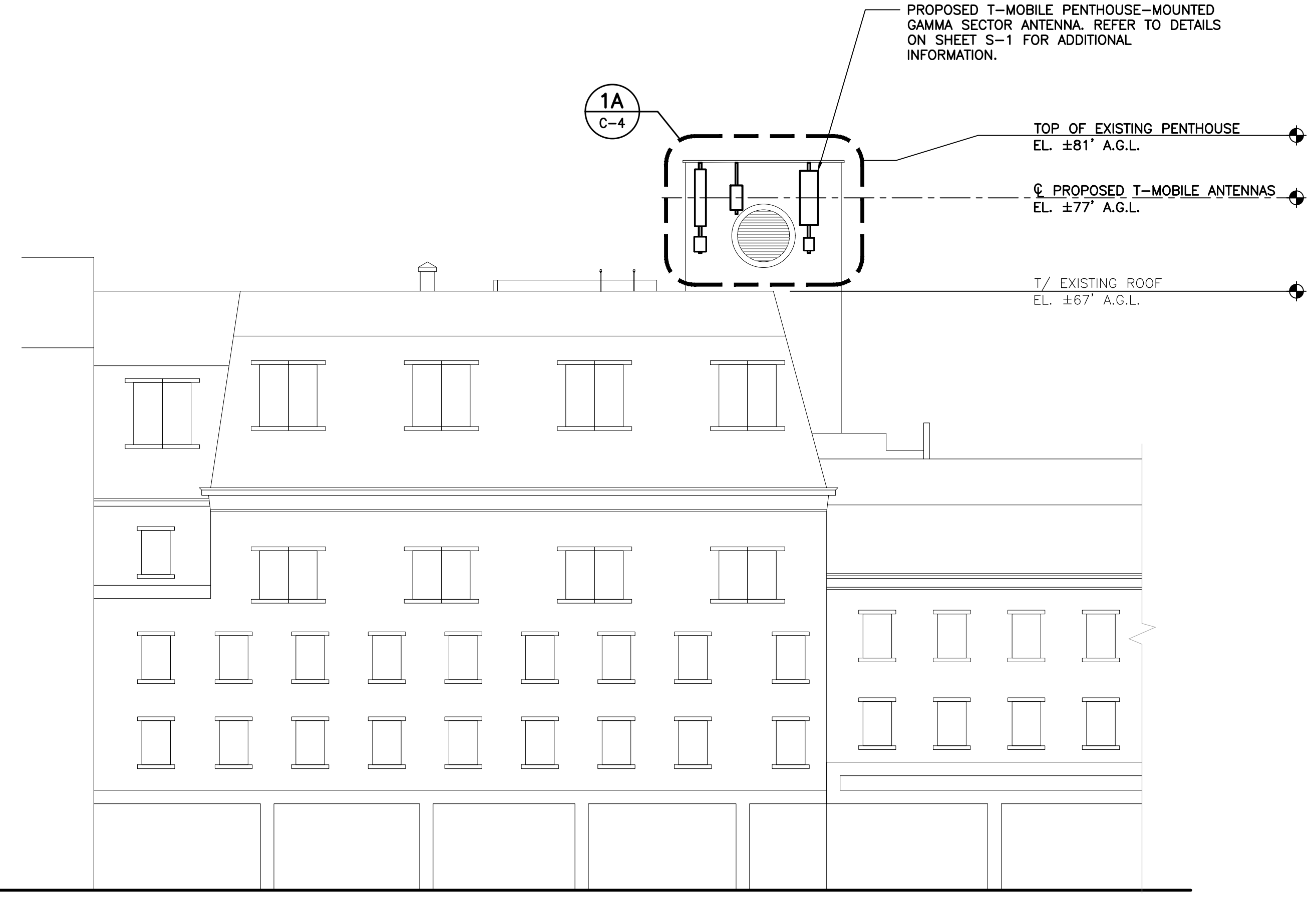
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 JOB NO. 22001.12

SITE LOCATION PLAN

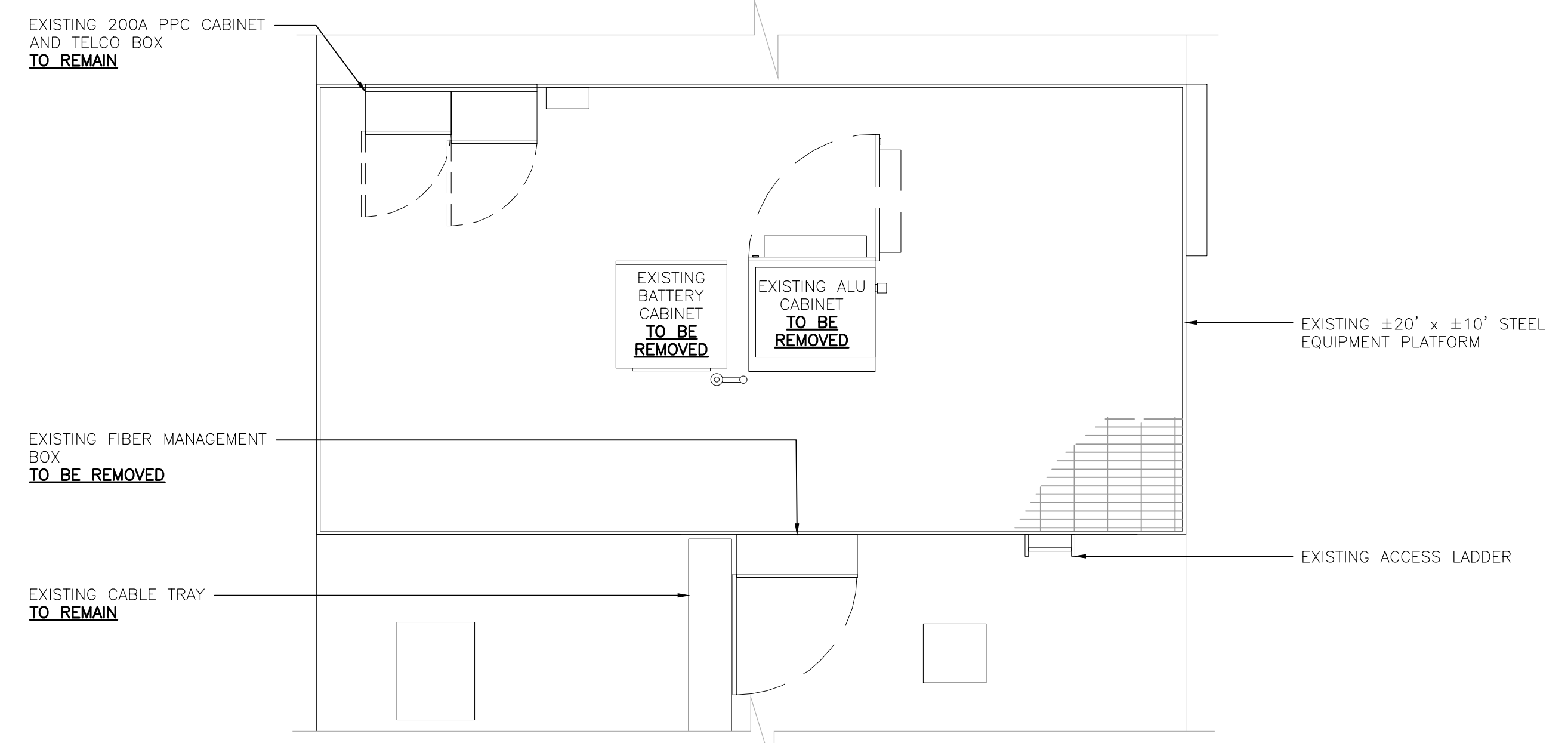
C-1



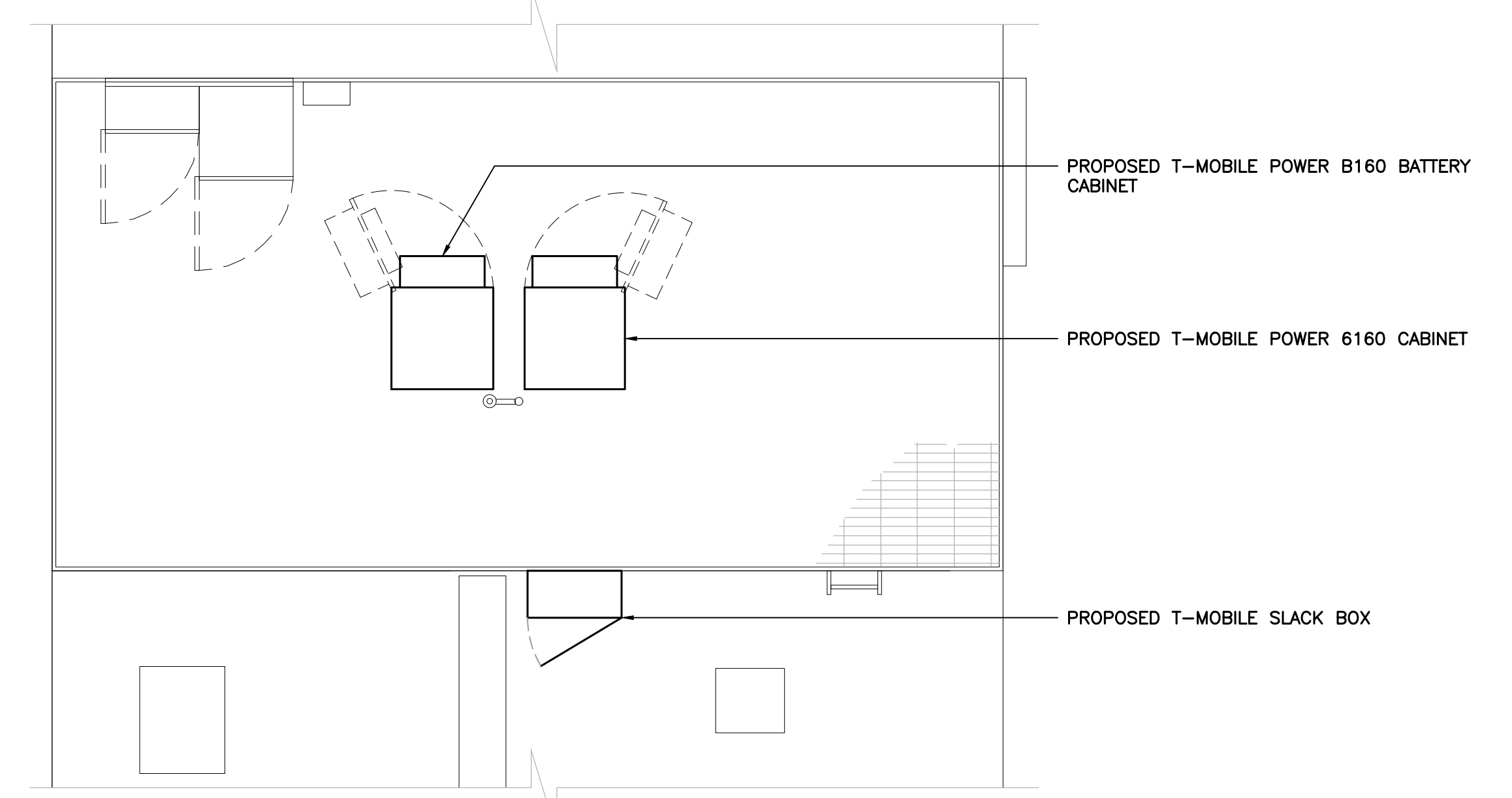
**1**  
C-2  
**ROOF PLAN - PROPOSED**  
SCALE: 3/32" = 1'  
TRUE NORTH



**2**  
C-2  
**PARTIAL EAST BUILDING ELEVATION - PROPOSED**  
SCALE: 3/32" = 1'



**3**  
C-2  
**EXISTING EQUIPMENT PLAN**  
SCALE: 3/8" = 1'-0"  
TRUE NORTH



**4**  
C-2  
**PROPOSED EQUIPMENT PLAN**  
SCALE: 3/8" = 1'-0"  
TRUE NORTH

**STRUCTURAL COMPLIANCE**

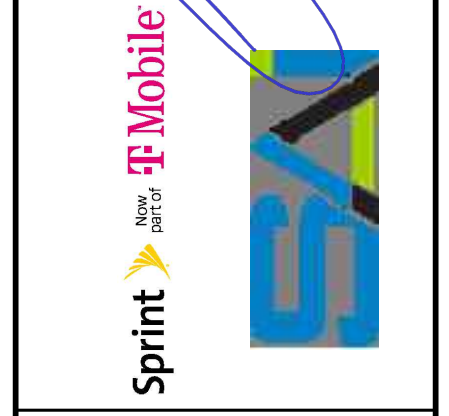
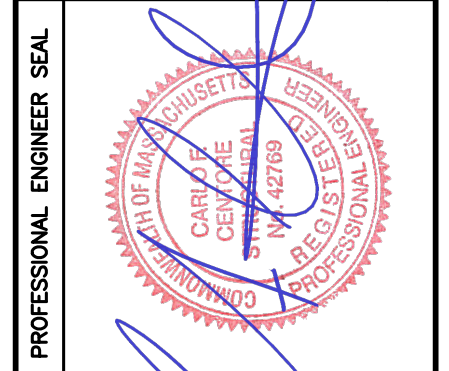
**ANTENNA MOUNTS & EQUIPMENT PLATFORM**

A STRUCTURAL ANALYSIS OF THE ANTENNA MOUNTS AND EQUIPMENT PLATFORM WAS PERFORMED FOR THE PROPOSED EQUIPMENT INSTALLATION AND THEY WERE FOUND TO BE STRUCTURALLY DEFICIENT AND WARRANTING MODIFICATION PRIOR TO INSTALLATION OF THE PROPOSED EQUIPMENT. FOR REQUIRED STRUCTURAL MODIFICATIONS, SEE SHEET(S) S-1 FOR DETAILS.

REFER TO THE STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING (PROJECT # 22001.12) DATED 05/19/23 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

**NOTE:** NO EQUIPMENT SHALL BE INSTALLED ON THE HOSTING STRUCTURE WITHOUT A PASSING STRUCTURAL ANALYSIS REPORT AND CONTRACTOR PRIOR CONFIRMATION THAT ANY AND ALL REQUISITE MODIFICATIONS HAVE BEEN COMPLETED.

REV.	DATE	DESCRIPTION	BY
3	09/25/23	DRA	TJR
2	09/11/23	DRA	TJR
1	09/06/23	ASC	TJR
0	05/25/23	ASC	TJR
B	05/16/23	ASC	TJR
A	09/26/22	ASC	TJR



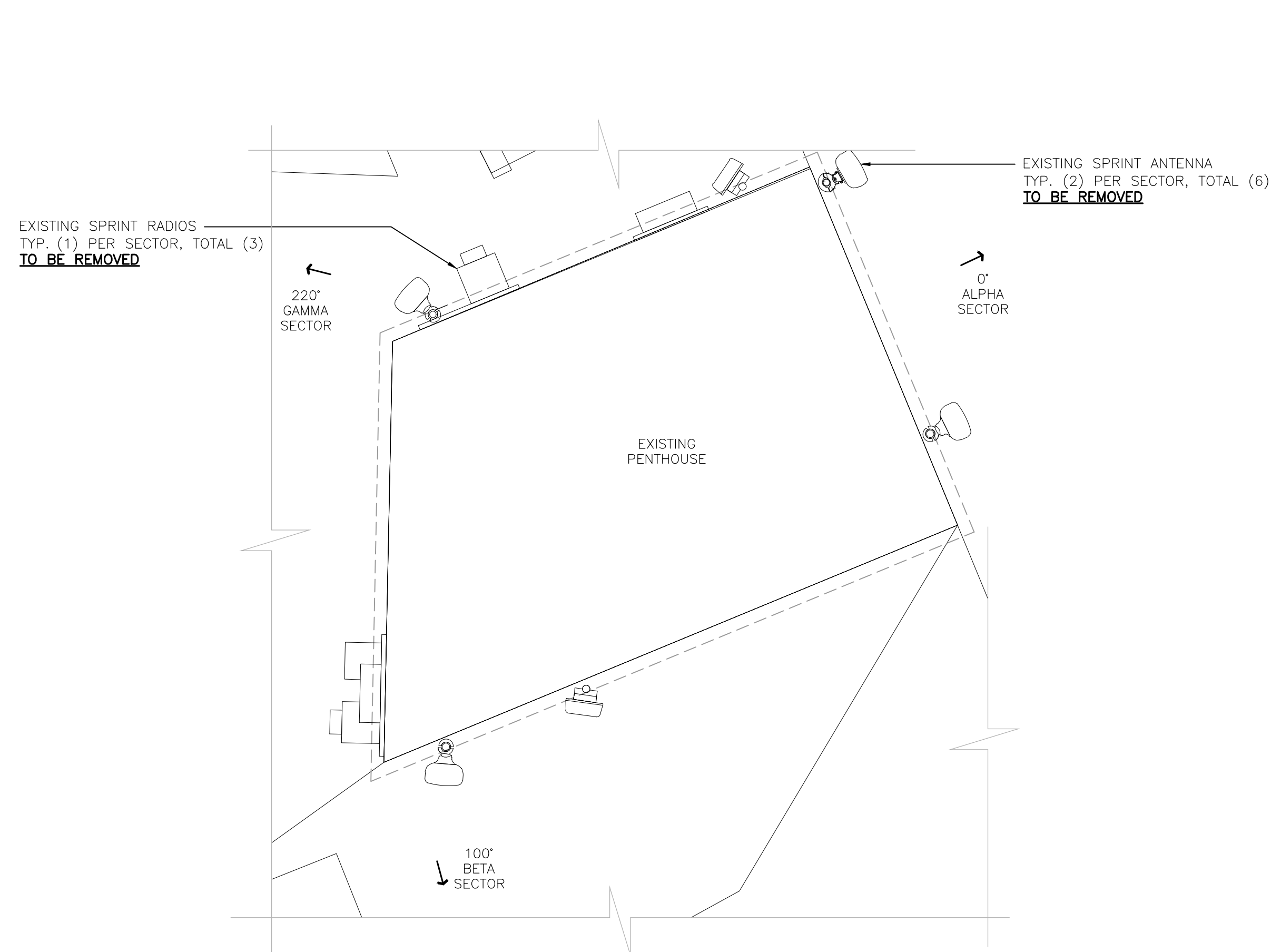
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**CAMBRIDGE, MA**

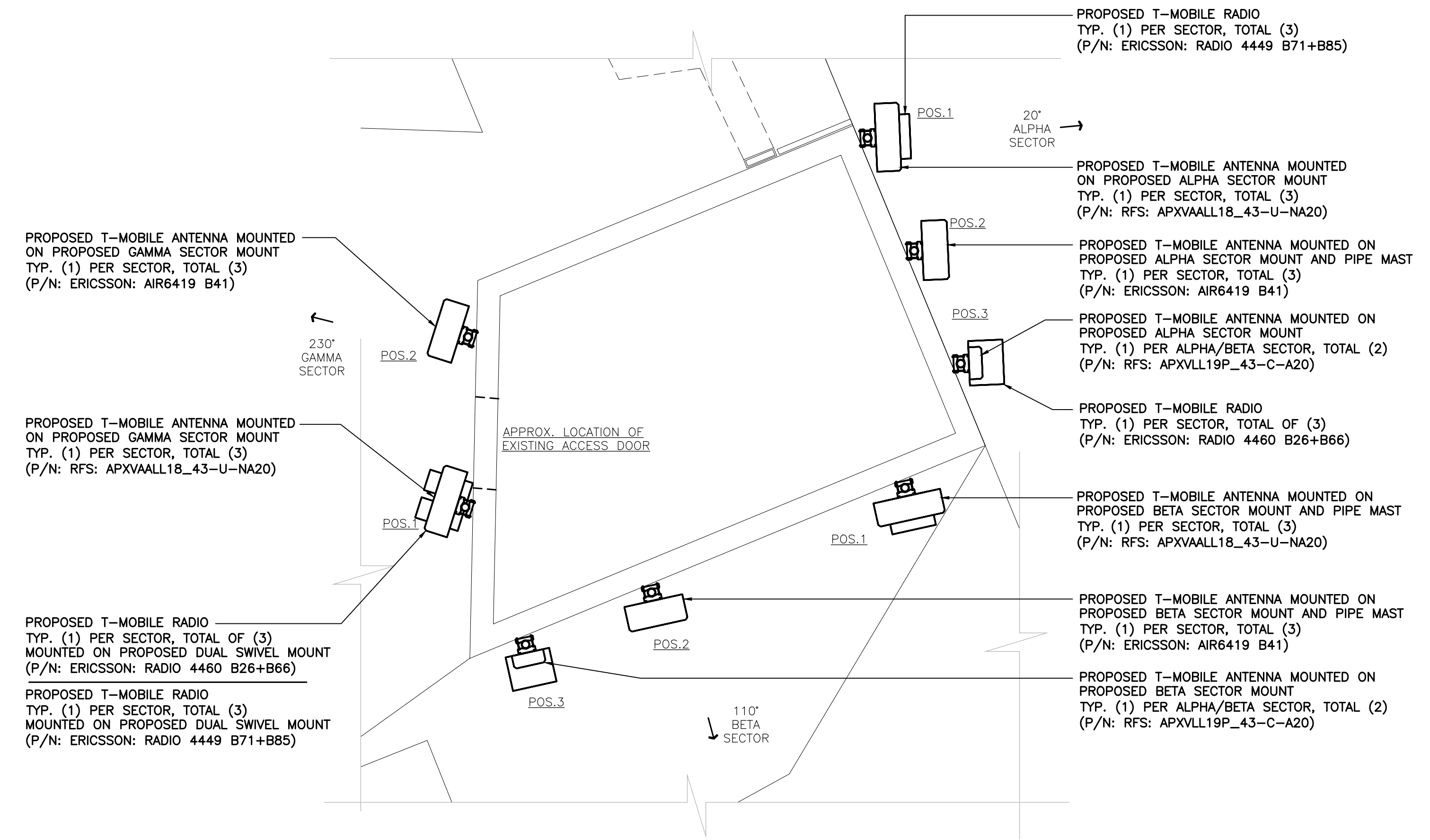
DATE: 08/26/22  
SCALE: AS NOTED  
JOB NO. 22001.12

ROOF PLAN,  
EQUIPMENT PLAN,  
AND ELEVATION

**C-2**  
Sheet No. 5 of 12

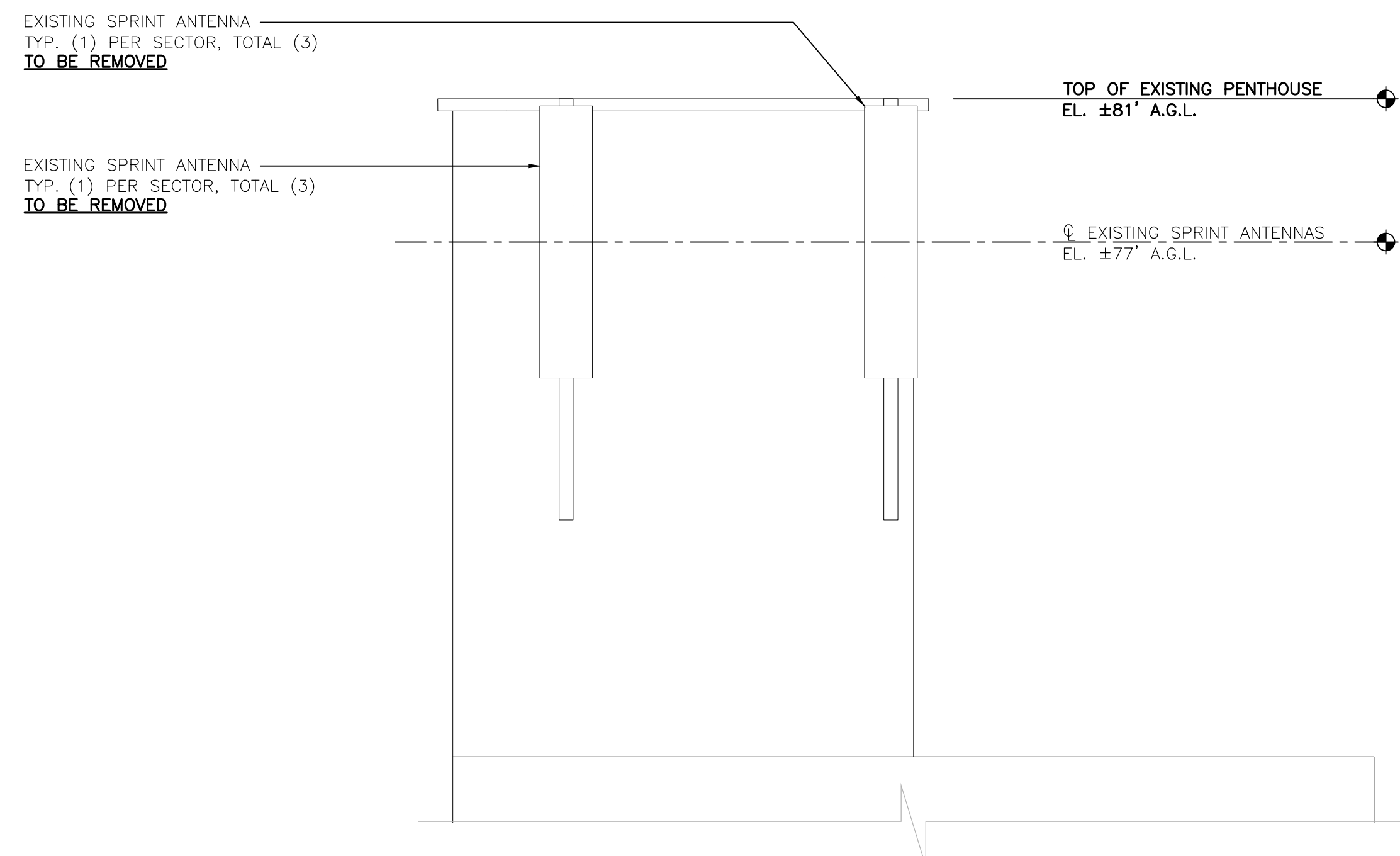


**1 ANTENNA PLAN - EXISTING**  
 C-3 SCALE: 3/8" = 1'-0" TRUE NORTH

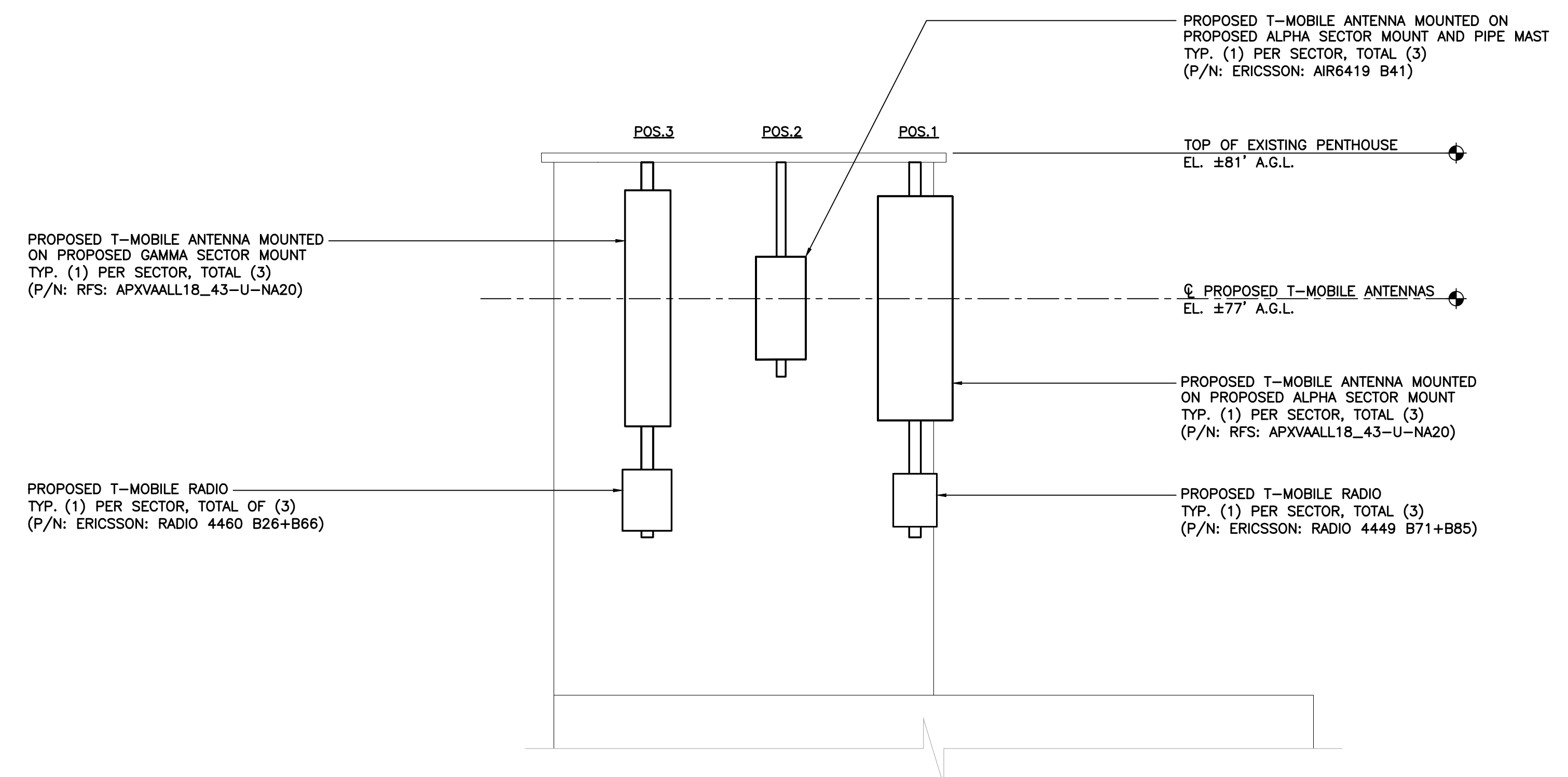


**1A ANTENNA PLAN - PROPOSED**  
 C-3 SCALE: 3/8" = 1'-0" TRUE NORTH

ALL ANTENNAS TO BE PAINTED MATCH FACADE OF PENTHOUSE



**2 ANTENNA ELEVATION - EXISTING**  
 C-3 SCALE: 3/8" = 1'-0"



**2A ANTENNA ELEVATION - PROPOSED**  
 C-3 SCALE: 3/8" = 1'-0"

CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS	TJR	DATE	DESCRIPTION
CONSTRUCTION DRAWINGS - REVISED RAD CENTER	TJR		
CONSTRUCTION DRAWINGS - REVISED TO ADD INSPECTION REQUIREMENTS	TJR		
CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION	TJR		
CONSTRUCTION DRAWINGS - REVISED PER CLIENT ISSUED RFDS	TJR		
CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW	TJR		

3	09/25/23	DRA		DATE	DRAWN BY	CHK'D BY
2	09/11/23	DRA				
1	08/06/23	ASC				
0	05/25/23	ASC				
0	05/16/23	ASC				
A	08/26/22	ASC				

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**CAMBRIDGE, MA**

DATE: 08/26/22  
 SCALE: AS NOTED  
 JOB NO. 22001.12

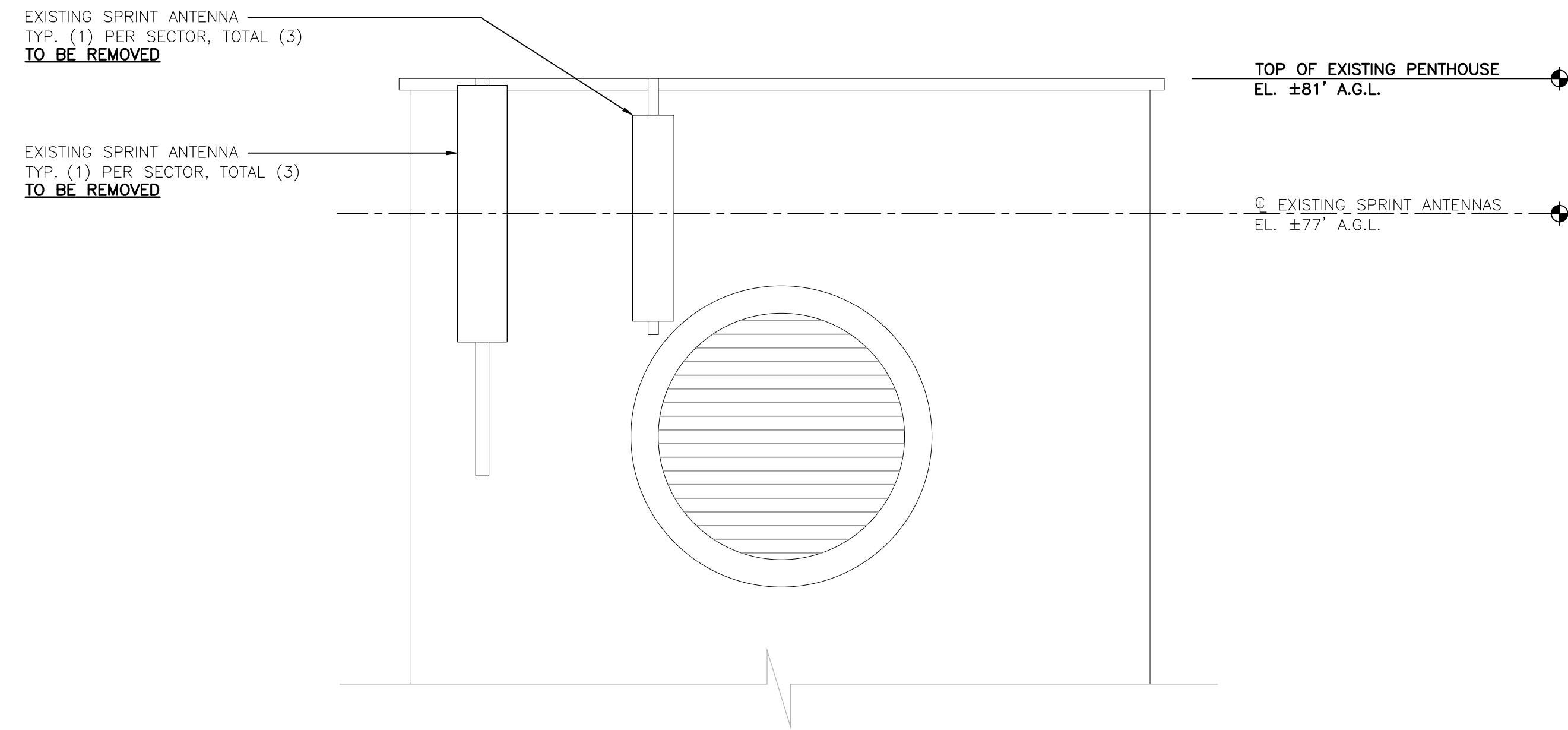
  

ANTENNA PLANS AND ELEVATIONS

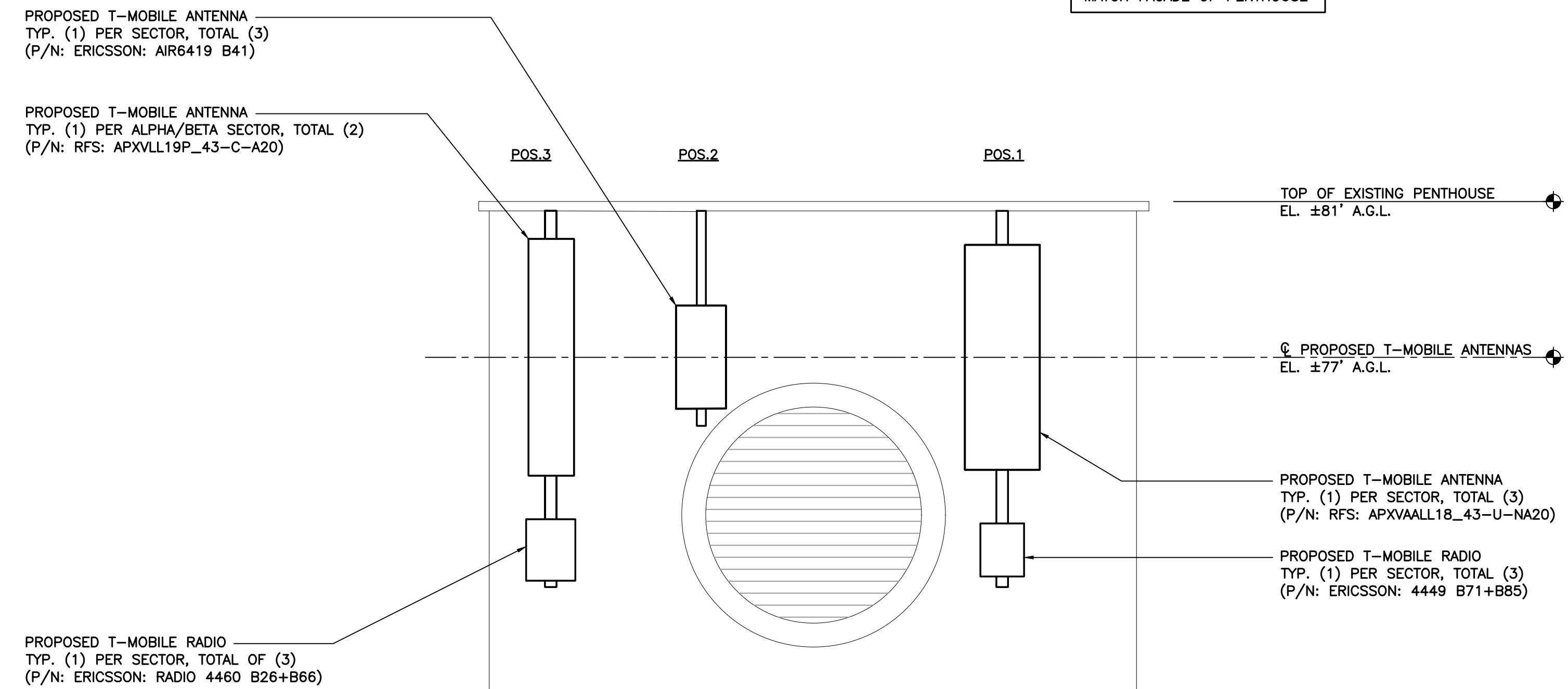
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Sheet No. 6 of 12



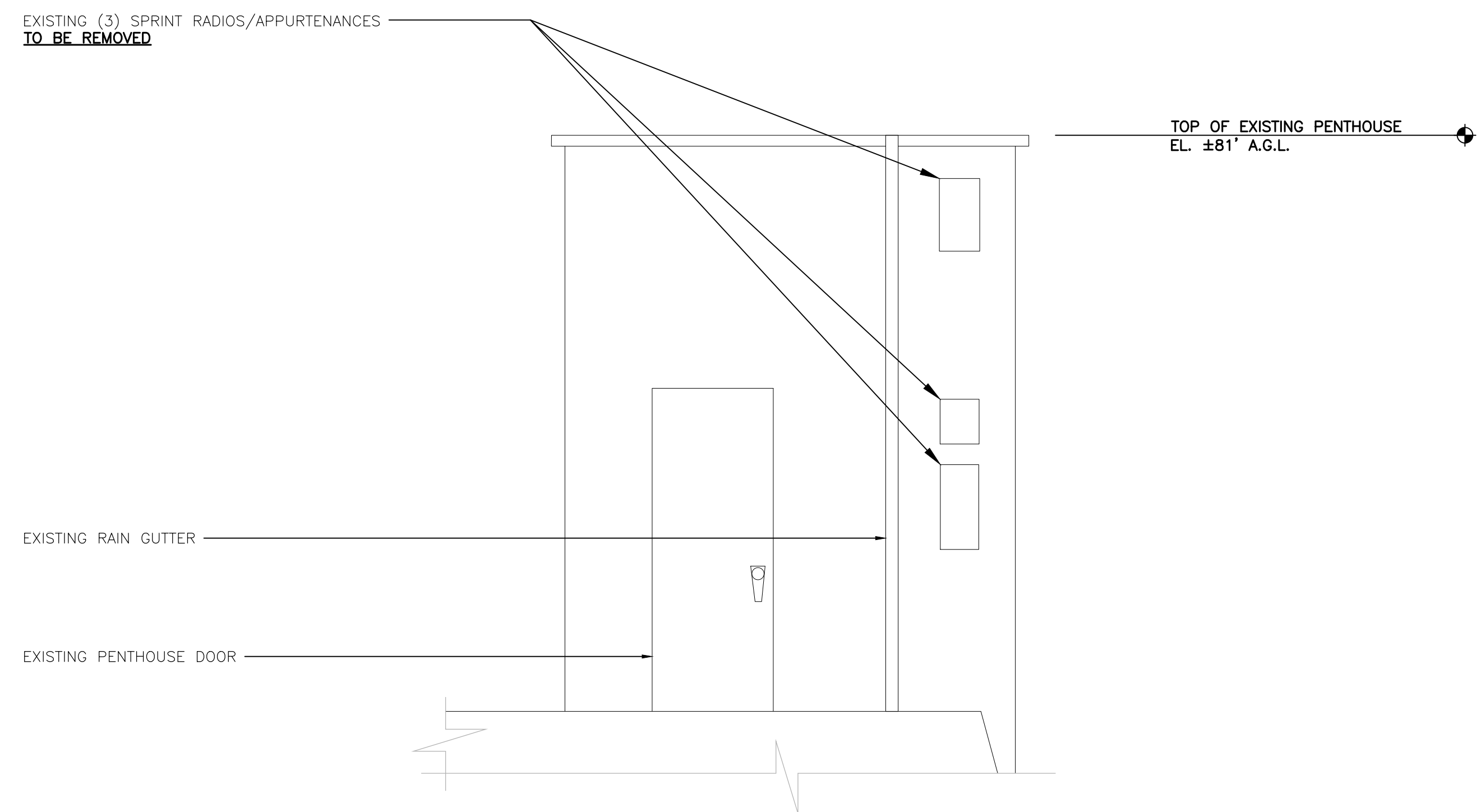
BETA SECTOR

**1** ANTENNA ELEVATION - EXISTING  
C-4 SCALE: 3/8" = 1'-0"



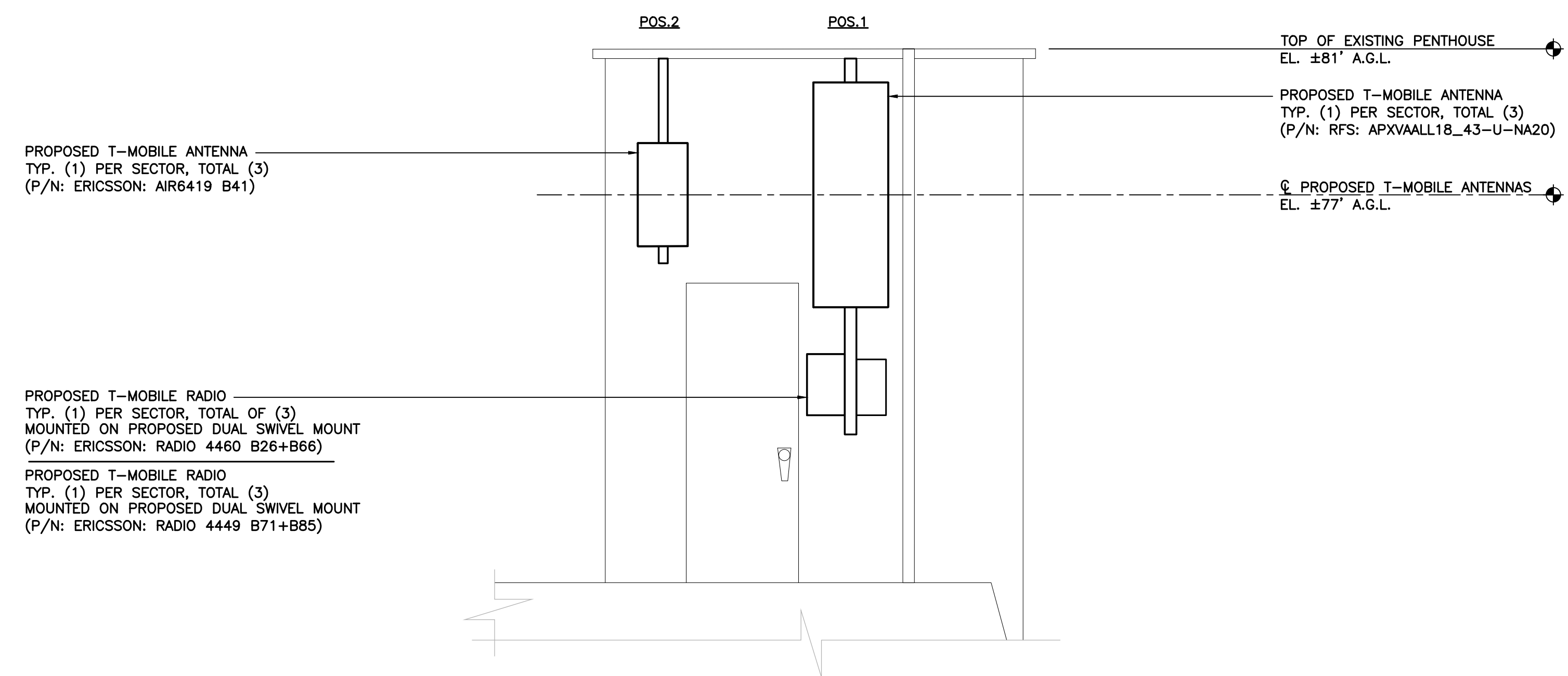
BETA SECTOR

**1A** ANTENNA ELEVATION - PROPOSED  
C-4 SCALE: 3/8" = 1'-0"



GAMMA SECTOR

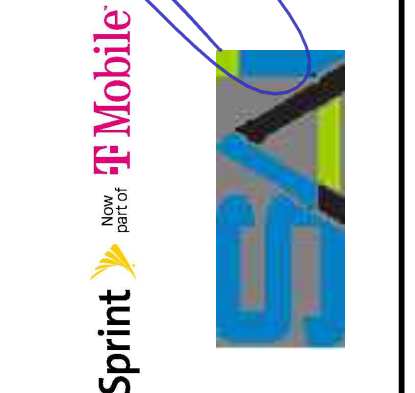
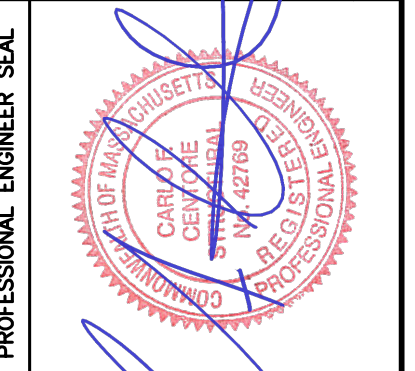
**2** ANTENNA ELEVATION - EXISTING  
C-4 SCALE: 3/8" = 1'-0"



GAMMA SECTOR

**2A** ANTENNA ELEVATION - PROPOSED  
C-4 SCALE: 3/8" = 1'-0"

REV.	DATE	BY	CHK'D	DESCRIPTION
3	09/25/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
2	09/11/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED RAD CENTER
1	09/06/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED TO ADD INSPECTION REQUIREMENTS
0	09/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
B	09/18/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER MEET ISSUED RFD
A	09/26/22	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW



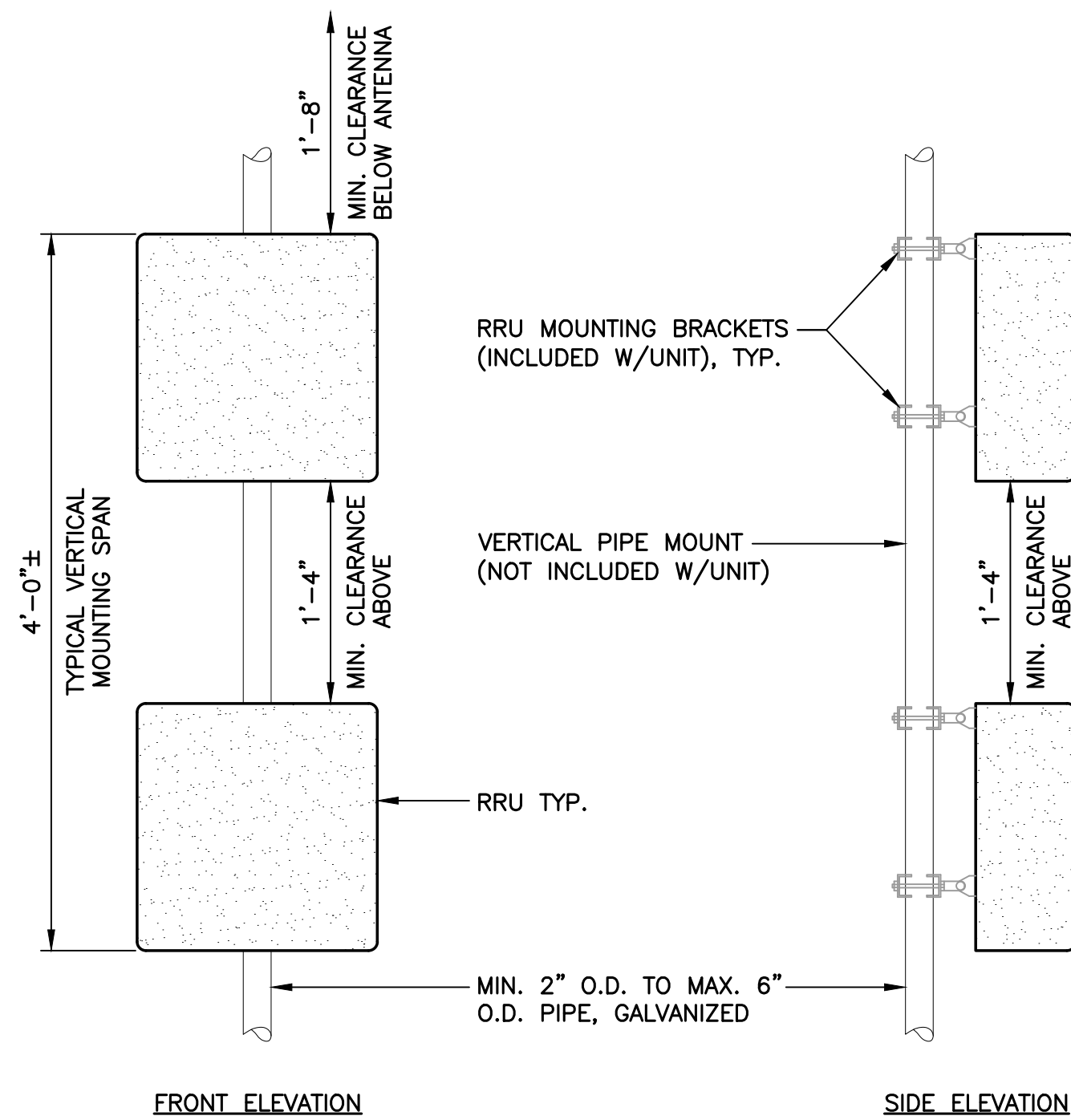
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4BSS031A  
SITE ID: 4BSS031A  
1430 MASSACHUSETTS AVE  
CAMBRIDGE, MA

DATE: 08/26/22  
SCALE: AS NOTED  
JOB NO. 22001.12

ANTENNA PLANS  
AND ELEVATIONS

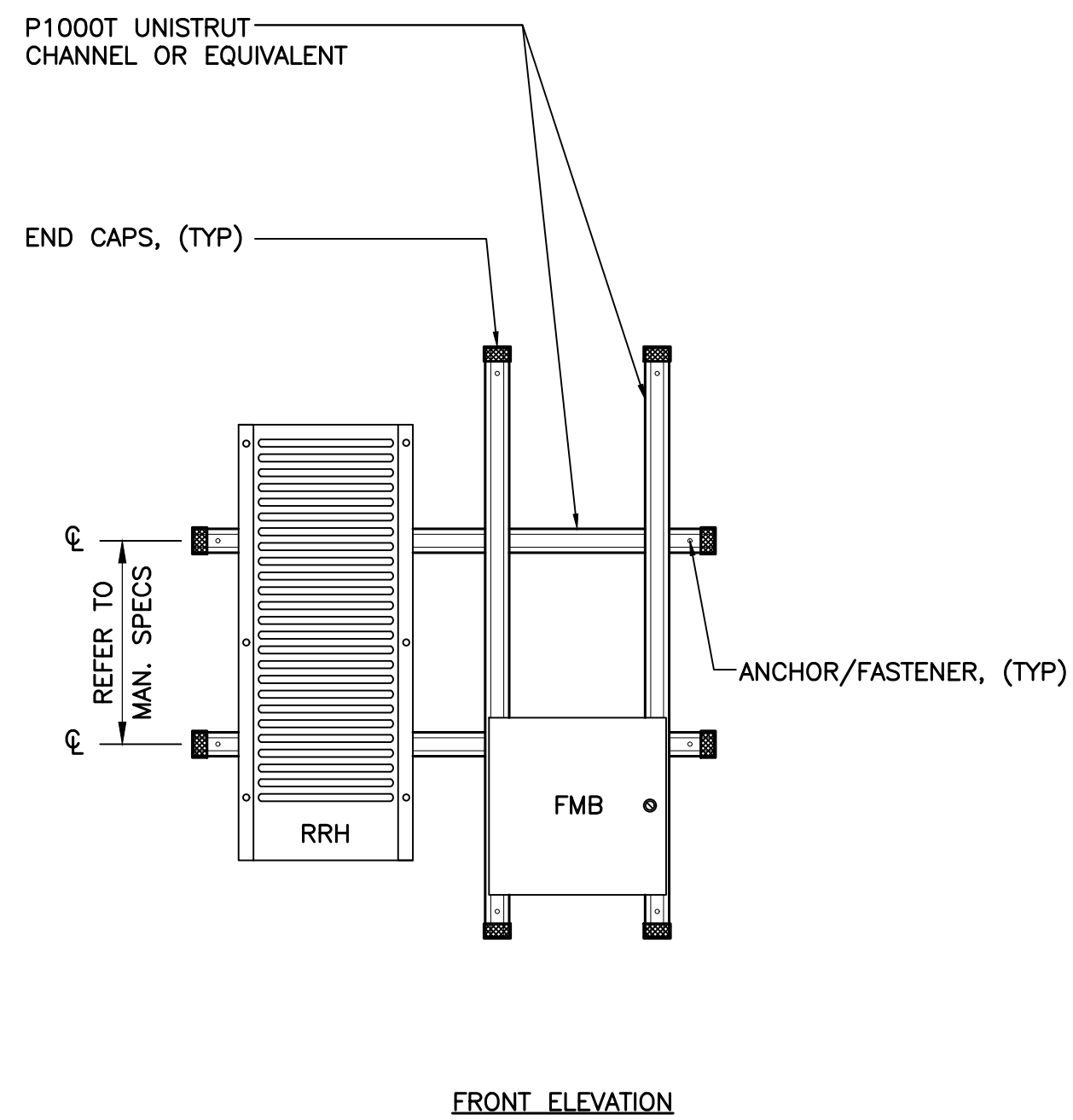
**C-4**  
Sheet No. Z of 12



**NOTES: (PIPE MOUNTING)**

- T-MOBILE SHALL SUPPLY RRU, AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET.
- NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

**1 TYPICAL RRU MOUNTING DETAILS**  
C-5 SCALE: NOT TO SCALE



**NOTES: (UNISTRUT MOUNTING)**

- INSTALL A MINIMUM OF (2) ANCHORS PER UNISTRUT ( $\pm 16^\circ/c$  MIN).
- MOUNT RRU TO UNISTRUT WITH  $3/8"$  UNISTRUT BOLTING HARDWARE AND SPRING NUTS. TYPICAL FOUR PER BRACKET.
- NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.



AIR6419 B41



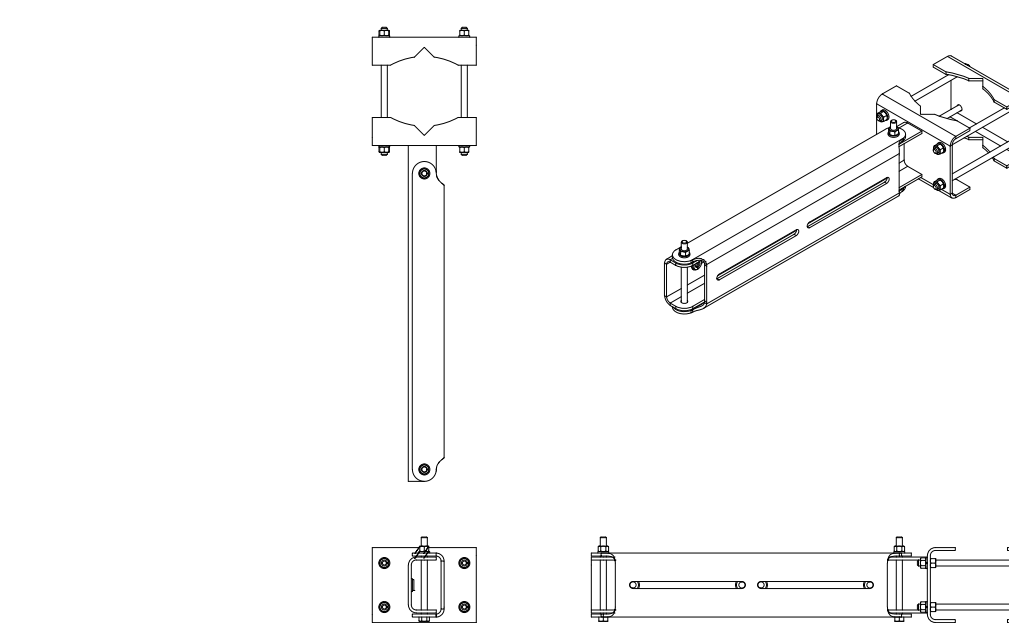
APXVAALL18\_43-U-NA20



APXVLL19P\_43-C-A20

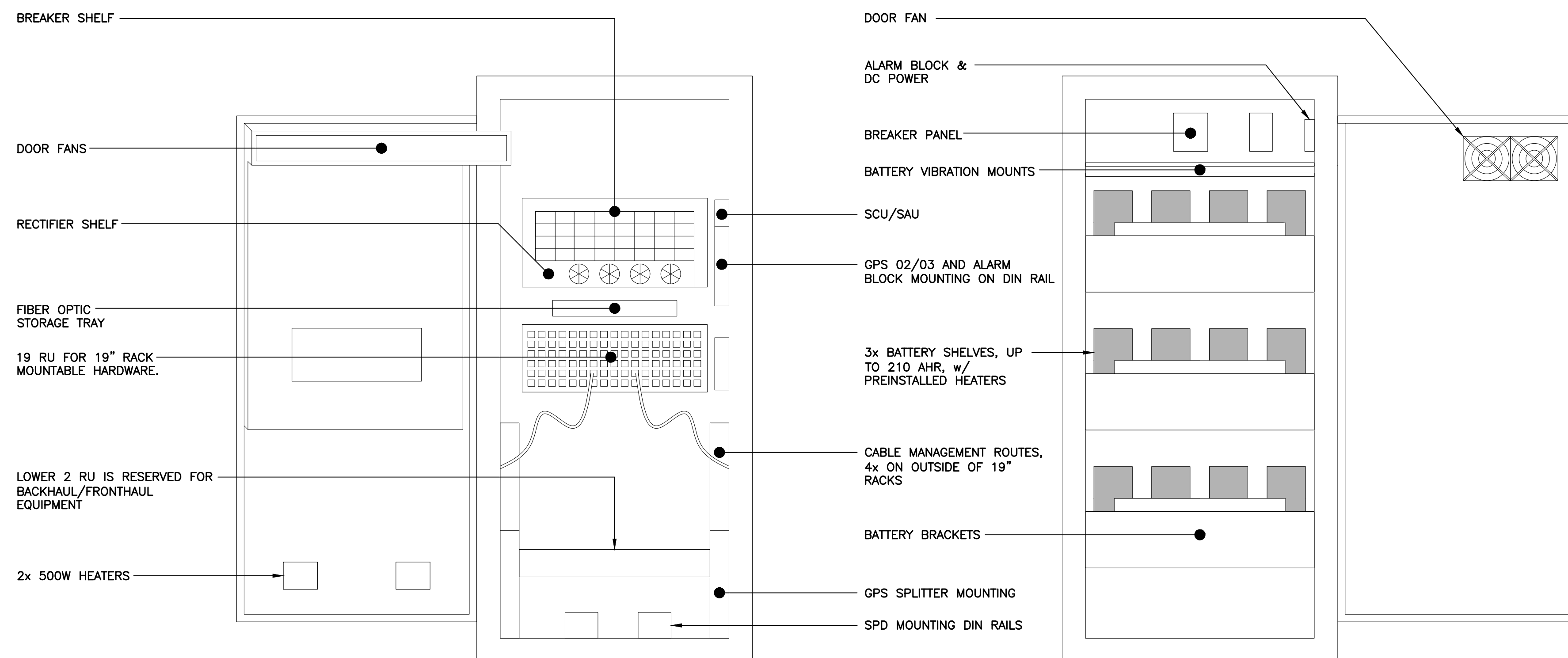
ALPHA/BETA/GAMMA ANTENNA			
EQUIPMENT	DIMENSIONS	WEIGHT	
MAKE: ERICSSON MODEL: AIR6419 B41	33.0"L x 16.0"W x 9.0"D	±41 LBS.	
MAKE: RFS MODEL: APXVAALL18_43-U-NA20	72"L x 24.0"W x 8.5"D	±139 LBS.	
MAKE: RFS MODEL: APXVLL19P_43-C-A20	75.8"L x 11.3"W x 4.6"D	±40 LBS.	

**NOTES:**  
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH T-MOBILE CONSTRUCTION MANAGER PRIOR TO ORDERING.



RRU DUAL SWIVEL MOUNT		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: SITE PRO 1 PART NO.: RRUDSM	27.75"L x 6.5"W x 4.7"D	39.4 LBS.

**3 RRU DUAL SWIVEL MOUNT DETAIL**  
C-5 SCALE: NOT TO SCALE



EQUIPMENT CABINET		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: ERICSSON MODEL: ENCLOSURE 6160 CABINET	62.0"H x 26.0"W x 26.0"D	±1200 LBS

**4 ENCLOSURE 6160 CABINET DETAIL**  
C-5 SCALE: NOT TO SCALE

EQUIPMENT CABINET		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: ERICSSON MODEL: BATTERY B160 CABINET	62.0"H x 26.0"W x 26.0"D	±1883 LBS

**5 BATTERY B160 CABINET DETAIL**  
C-5 SCALE: NOT TO SCALE



RADIO 4460 B25+B66



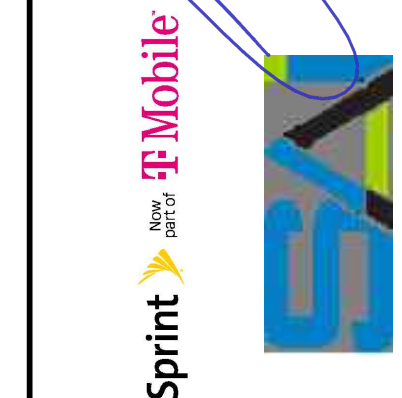
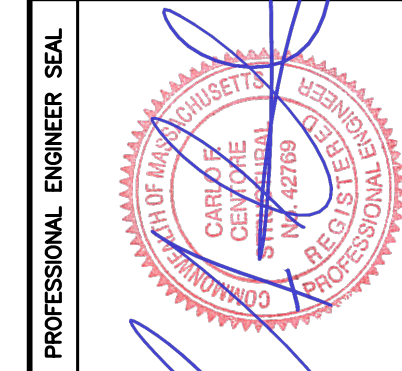
RADIO 4449 B71+B85

RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RADIO 4460 B25+B66	19.6"L x 15.7"W x 12.1"D	±109 LBS.	BEHIND ANT.: 8" MIN. BELOW ANT.: 20" MIN. BELOW RRU: 16" MIN.
MAKE: ERICSSON MODEL: RADIO 4449 B71+B85	14.9"L x 13.2"W x 5.4"D	±74 LBS.	BEHIND ANT.: 8" MIN. BELOW ANT.: 20" MIN. BELOW RRU: 16" MIN.

**NOTES:**  
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH T-MOBILE CONSTRUCTION MANAGER PRIOR TO ORDERING.

**6 PROPOSED RRU DETAIL**  
C-5 SCALE: NOT TO SCALE

REV.	DATE	BY	CHKD.	DESCRIPTION
3	09/25/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
2	09/11/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED FOR CLIENT
1	09/06/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED TO ADD INSPECTION REQUIREMENTS
B	09/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
A	09/16/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER MEETINGS ISSUED RFD
	09/26/22	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW



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**T-MOBILE NORTHEAST LLC**  
4BSS031A  
SITE ID: 4BSS031A  
1430 MASSACHUSETTS AVE  
CAMBRIDGE, MA

DATE: 08/26/22  
SCALE: AS NOTED  
JOB NO. 22001.12

TYPICAL EQUIPMENT DETAILS

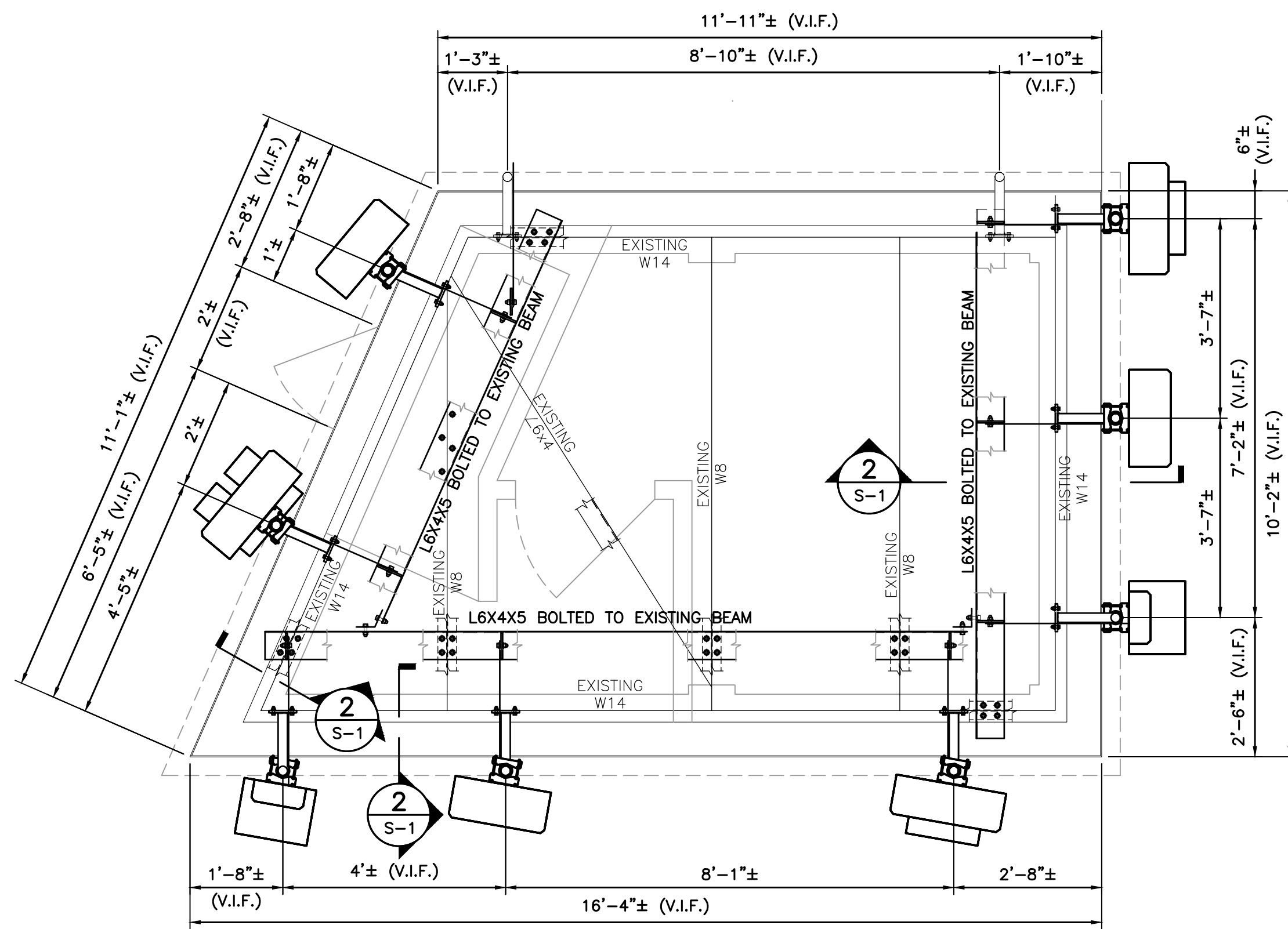
C-5

**SPECIAL INSPECTION NOTE:**

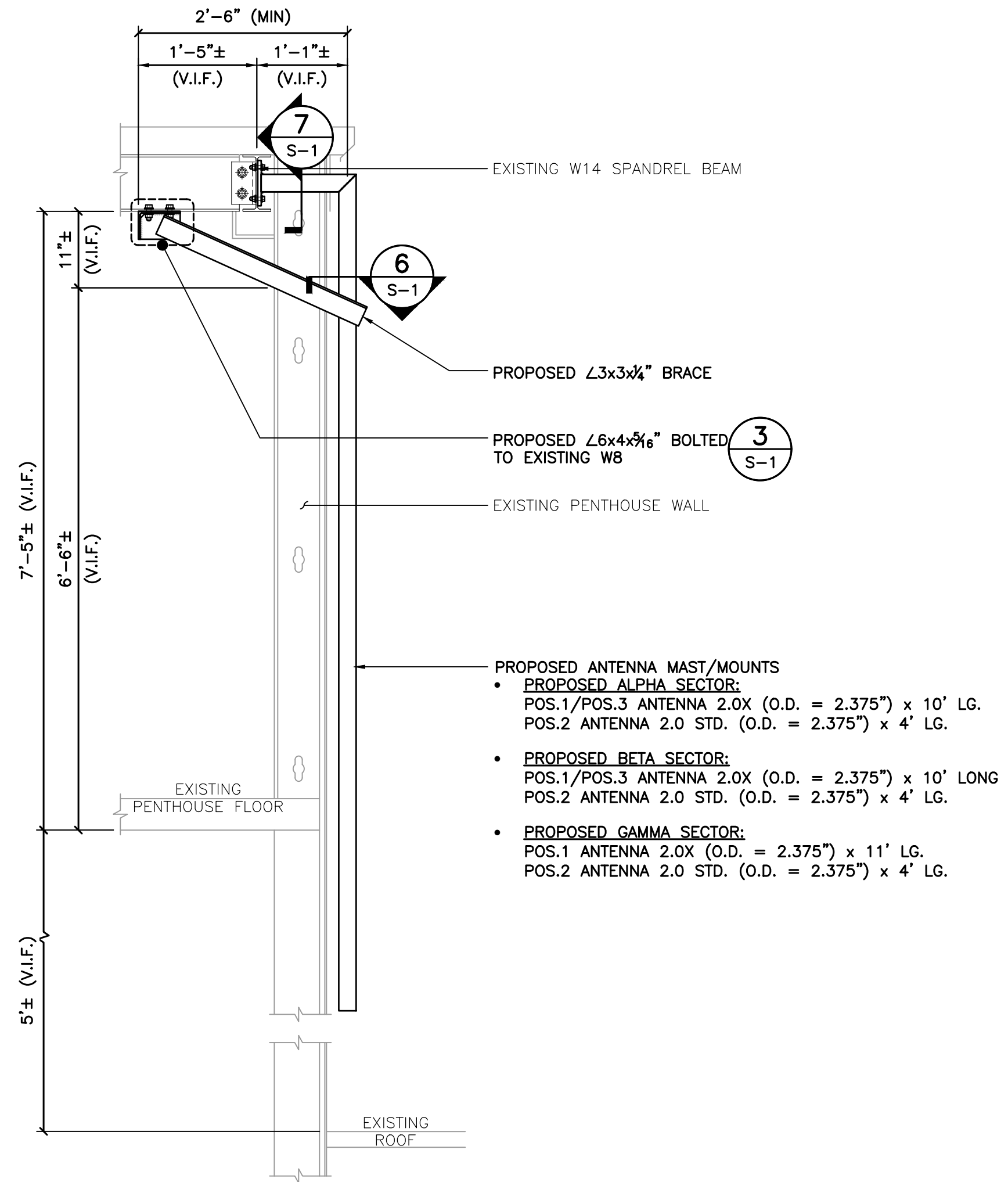
FOR REQUIRED SPECIAL INSPECTIONS, NOTES, AND REQUIREMENTS, SEE SHEET(S) N-2 FOR ADDITIONAL DETAILS.

**NOTE:**

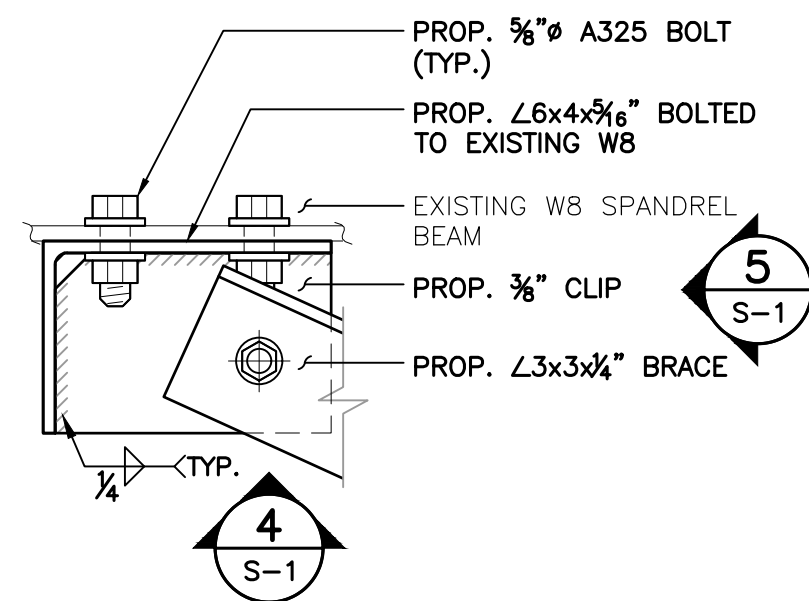
VERIFY ALL EXISTING BEAM SIZES AND FRAMING CONFIGURATION PRIOR TO FABRICATION OF PROPOSED SUPPORT STEEL.



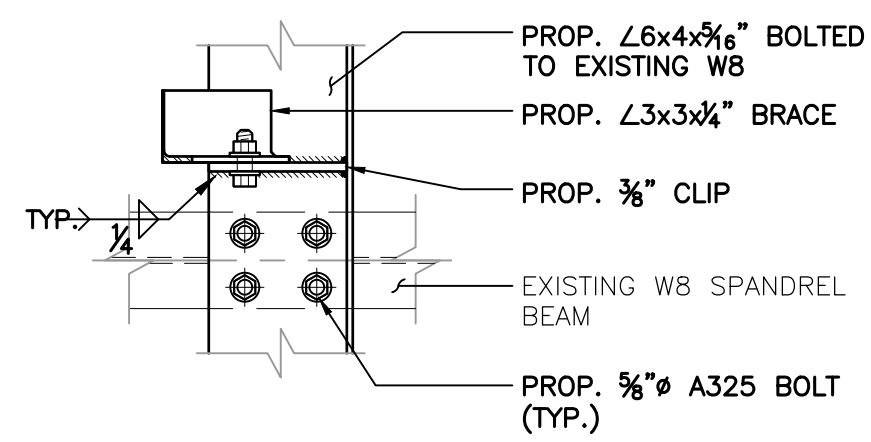
**1 PROPOSED ANTENNA PLAN**  
SCALE: 1/2" = 1'-0"  
APPROXIMATE NORTH



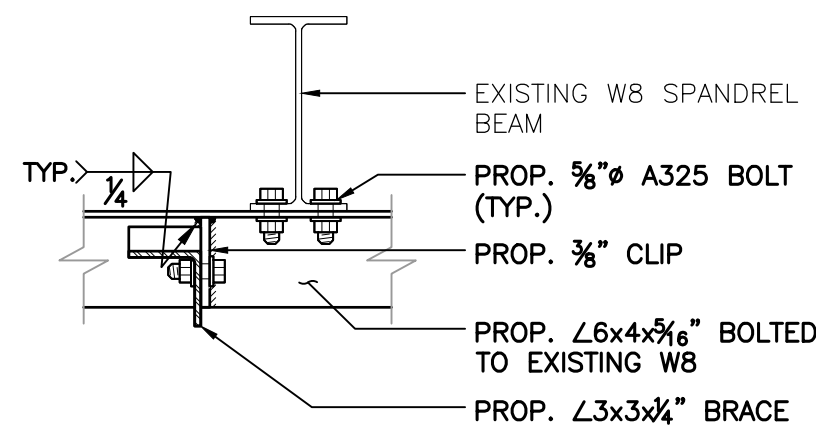
**2 PROPOSED ANTENNA MOUNT SECTION**  
SCALE: 3/4" = 1'-0"



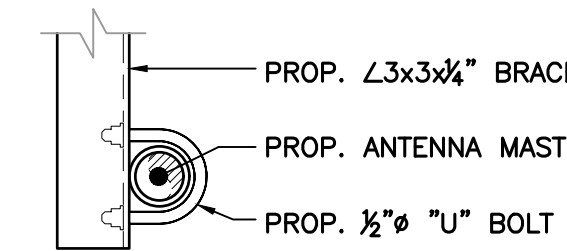
**3 PROP. CONN. DETAIL**  
SCALE: 3" = 1'-0"



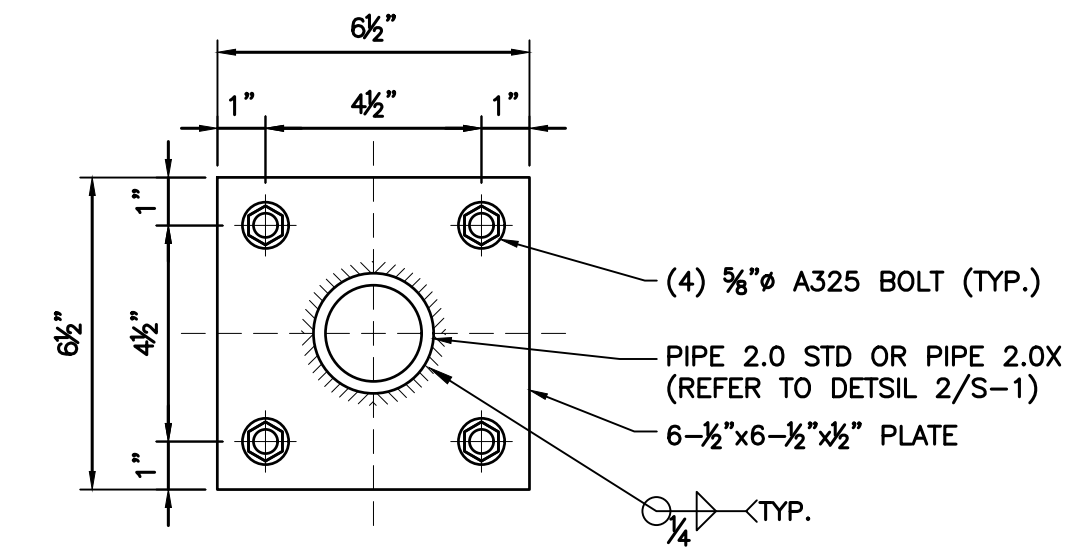
**4 PROP. CONN. DETAIL**  
SCALE: 1 1/2" = 1'-0"



**5 PROP. CONN. DETAIL**  
SCALE: 1 1/2" = 1'-0"

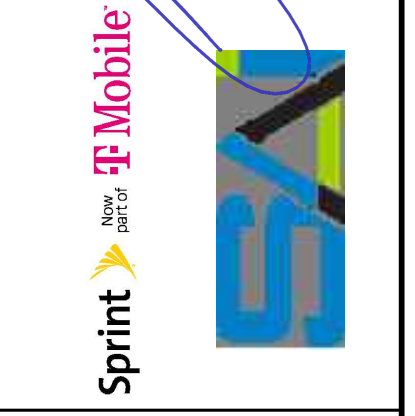


**6 PROP. CONN. DETAIL**  
SCALE: 1 1/2" = 1'-0"



**7 PROP. CONN. DETAIL**  
SCALE: 3" = 1'-0"

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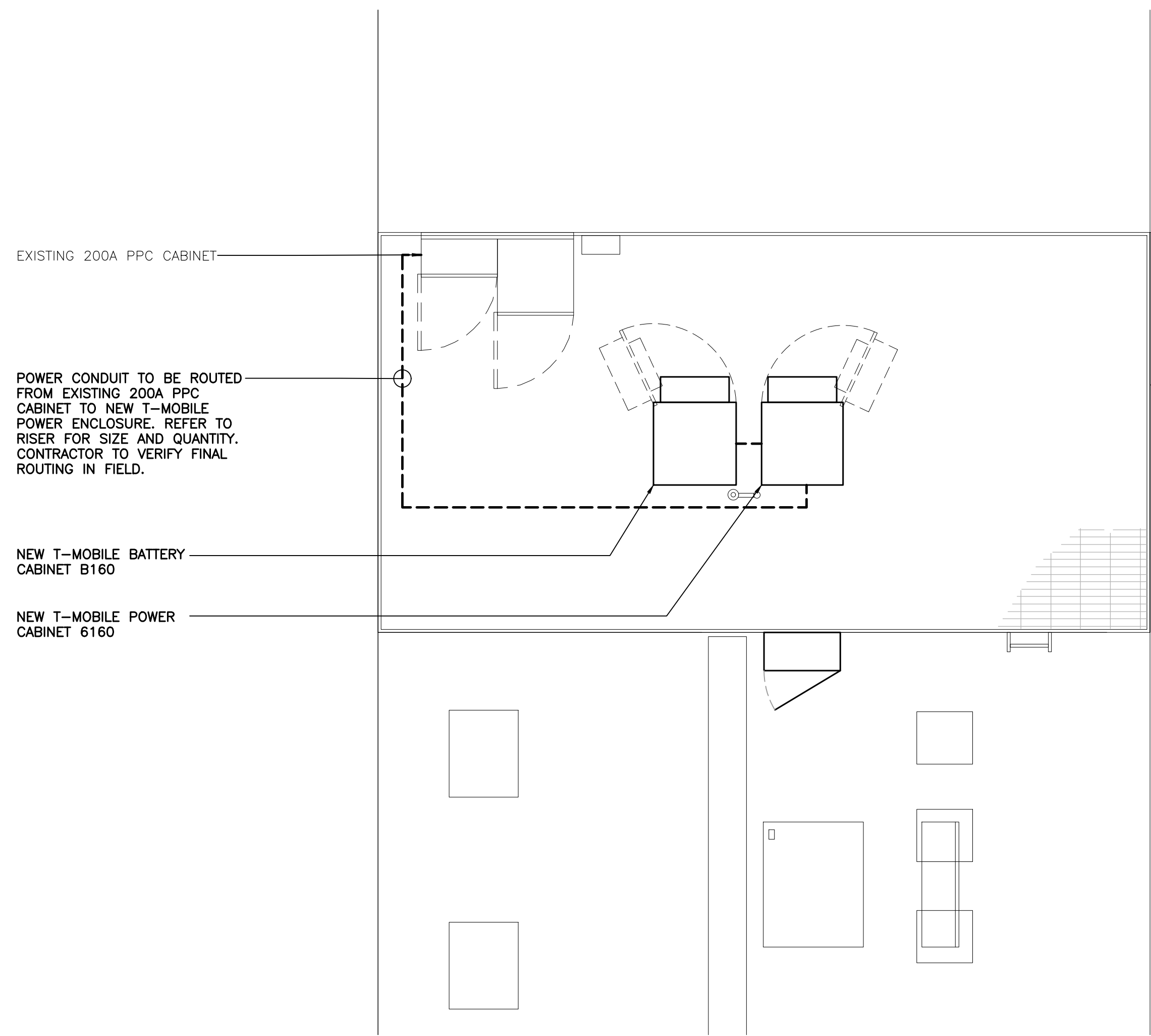
**T-MOBILE NORTHEAST LLC**  
**4BSS031A**  
**SITE ID: 4BSS031A**  
**1430 MASSACHUSETTS AVE**  
**CAMBRIDGE, MA**

DATE: 08/26/22  
 SCALE: AS NOTED  
 JOB NO. 22001.12

STRUCTURAL DETAILS AND MODIFICATIONS

**S-1**

REV.	DATE	BY	CHK'D	DESCRIPTION
3	09/25/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
2	09/11/23	DRA	TJR	CONSTRUCTION DRAWINGS - REVISED TO ADD CENTER
1	09/06/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED TO ADD INSPECTION REQUIREMENTS
0	09/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
B	09/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
A	09/16/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
A	09/26/22	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS



EXISTING 200A PPC CABINET

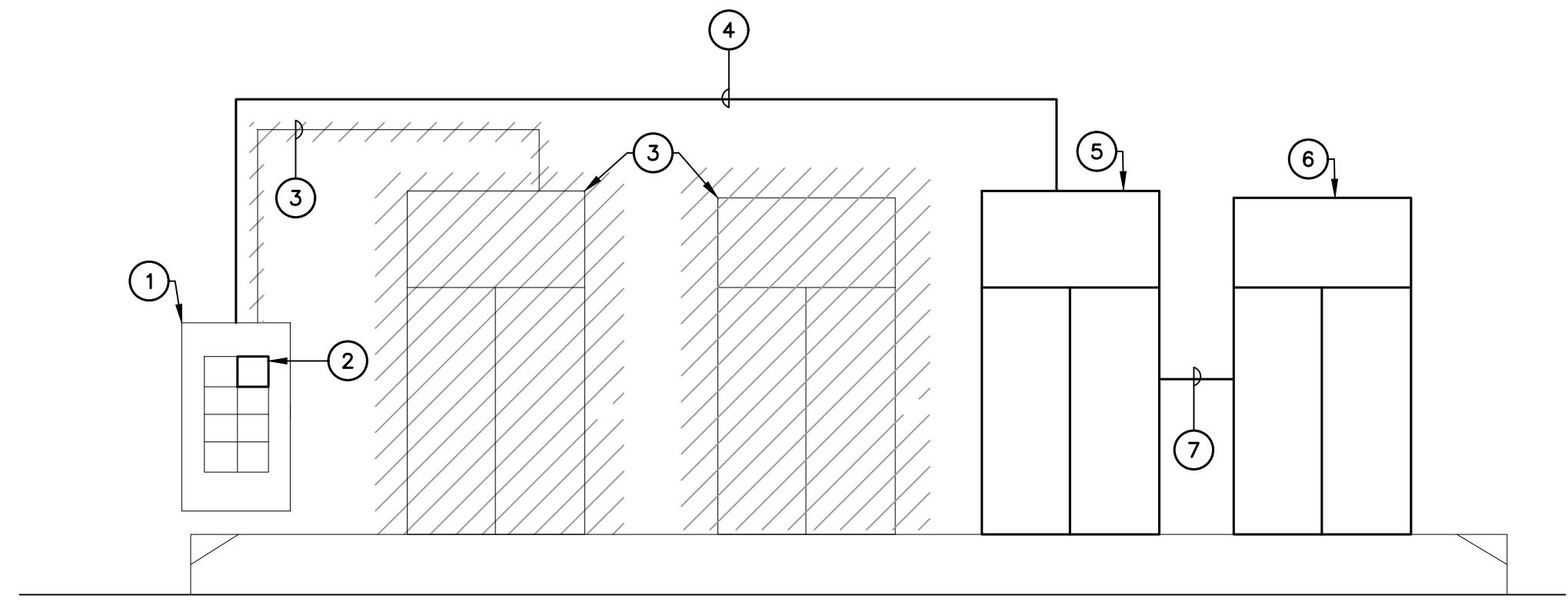
POWER CONDUIT TO BE ROUTED FROM EXISTING 200A PPC CABINET TO NEW T-MOBILE POWER ENCLOSURE. REFER TO RISER FOR SIZE AND QUANTITY. CONTRACTOR TO VERIFY FINAL ROUTING IN FIELD.

NEW T-MOBILE BATTERY CABINET B160

NEW T-MOBILE POWER CABINET 6160

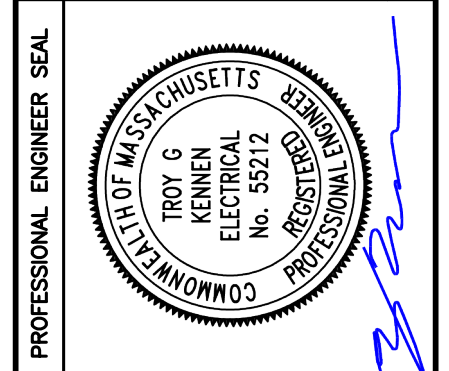
**1 ELECTRICAL CONDUIT ROUTING PLAN**  
E-1 SCALE: 1/4" = 1'

- RISER DIAGRAM NOTES**
- ① EXISTING 200A, PPC CABINET TO REMAIN.
  - ② NEW 125A/2P CIRCUIT BREAKER TO SERVE NEW EQUIPMENT CABINET.
  - ③ EXISTING CABINETS AND ASSOCIATED CONDUITS AND CONDUCTORS TO BE REMOVED.
  - ④ (3) #1 AWG, (1) #6 AWG GROUND, 1-1/2" CONDUIT.
  - ⑤ NEW T-MOBILE EQUIPMENT CABINET
  - ⑥ NEW T-MOBILE BATTERY CABINET
  - ⑦ DC CONDUIT AND CONDUCTORS FOR BATTERY CABINET CONNECTION PER MANUFACTURERS SPECIFICATIONS.



**2 ELECTRICAL POWER RISER DIAGRAM**  
E-1 SCALE: NOT TO SCALE

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1	09/06/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED TO ADD INSPECTION REQUIREMENTS
0	09/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
B	09/18/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER MEETINGS ISSUED RFD
A	09/26/22	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER MEETINGS ISSUED RFD

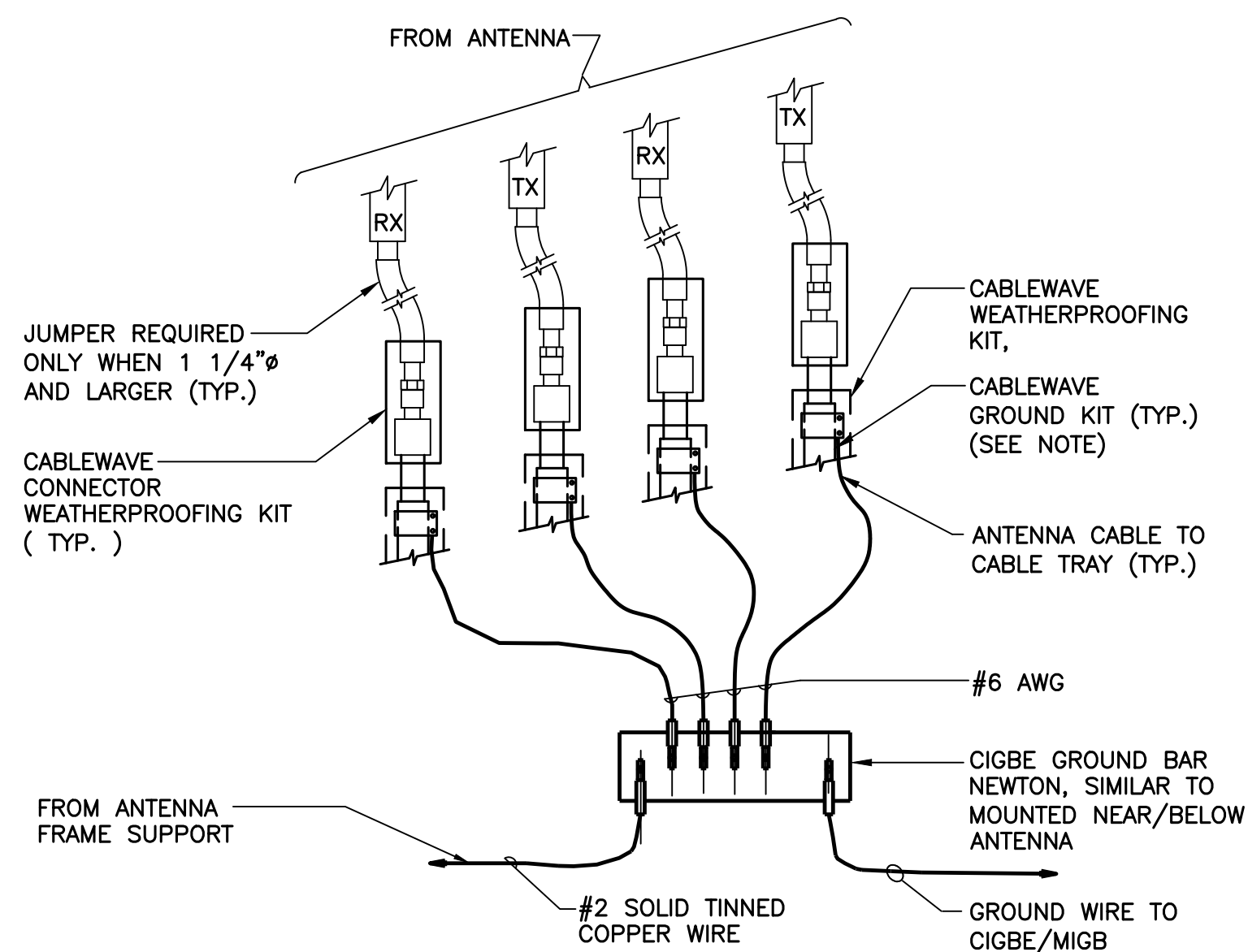


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SITE ID: 4BSS031A  
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CAMBRIDGE, MA

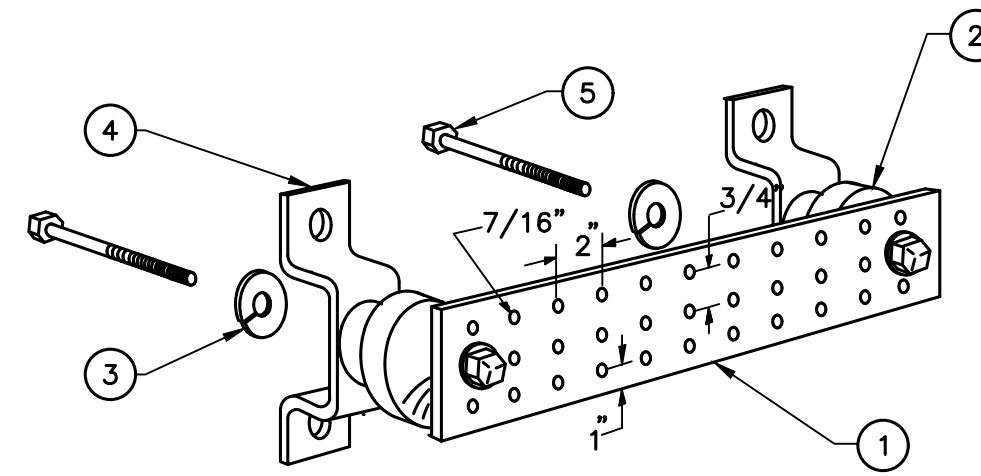
DATE: 08/26/22  
SCALE: AS NOTED  
JOB NO. 22001.12

ELECTRICAL RISER  
DIAGRAM AND  
CABLE ROUTING



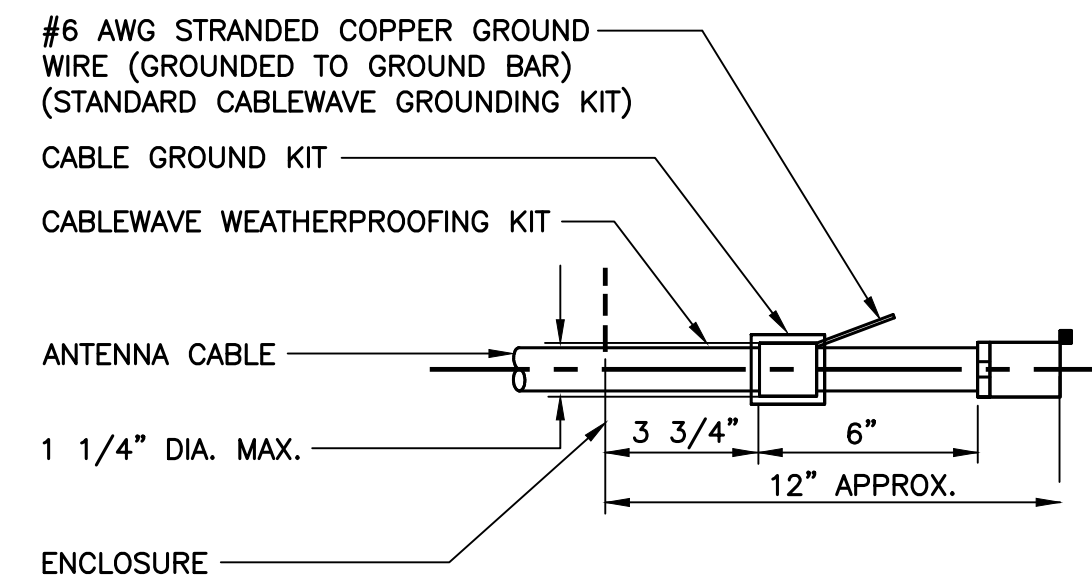
- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

**1 CONNECTION OF GROUND WIRES TO GROUND BAR**  
E-2 SCALE: NOT TO SCALE



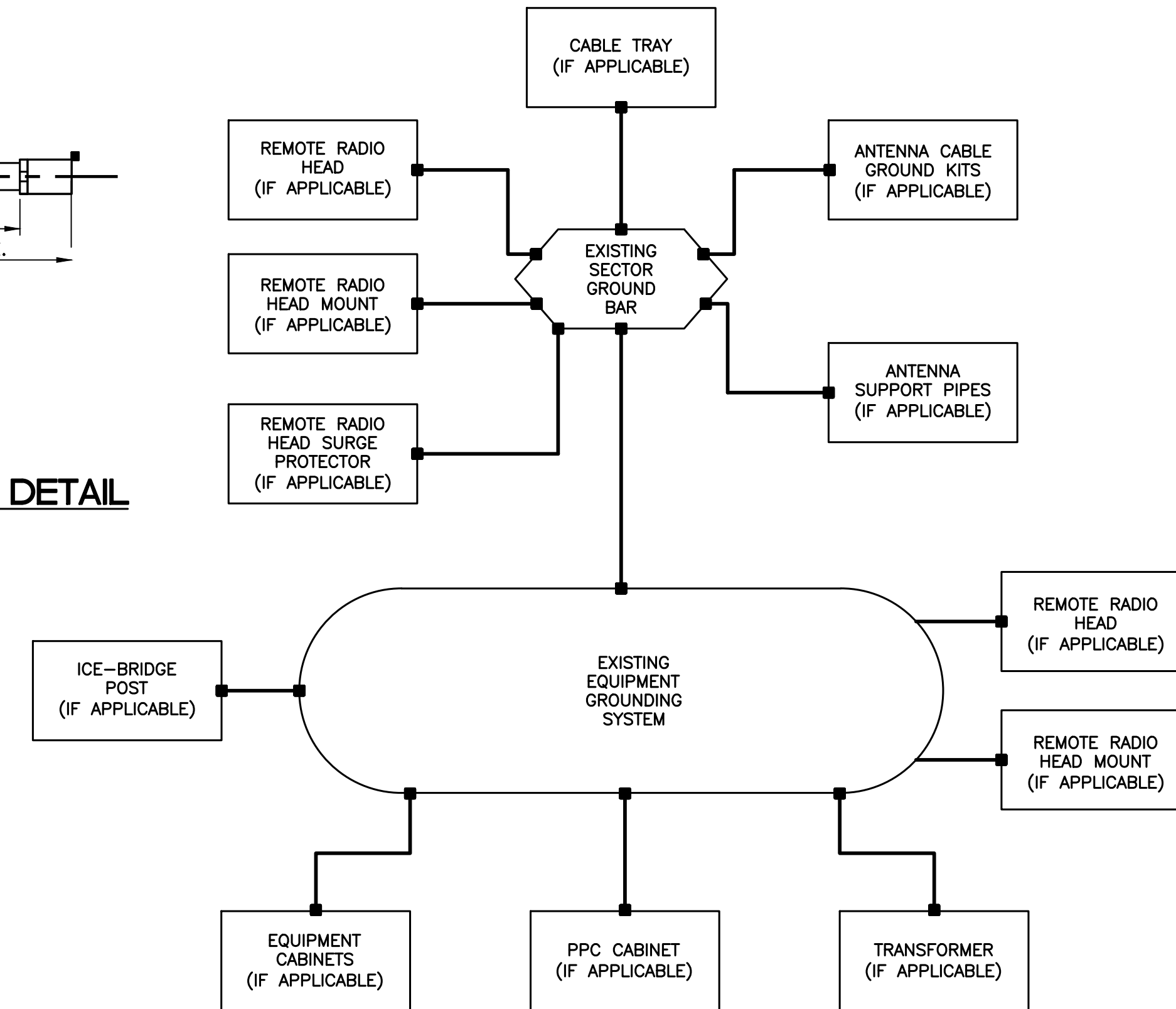
- NOTES**
- TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
  - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
  - 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
  - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056.
  - 5/8-11 x 1" STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS.

**2 GROUND BAR DETAIL**  
E-2 SCALE: NOT TO SCALE



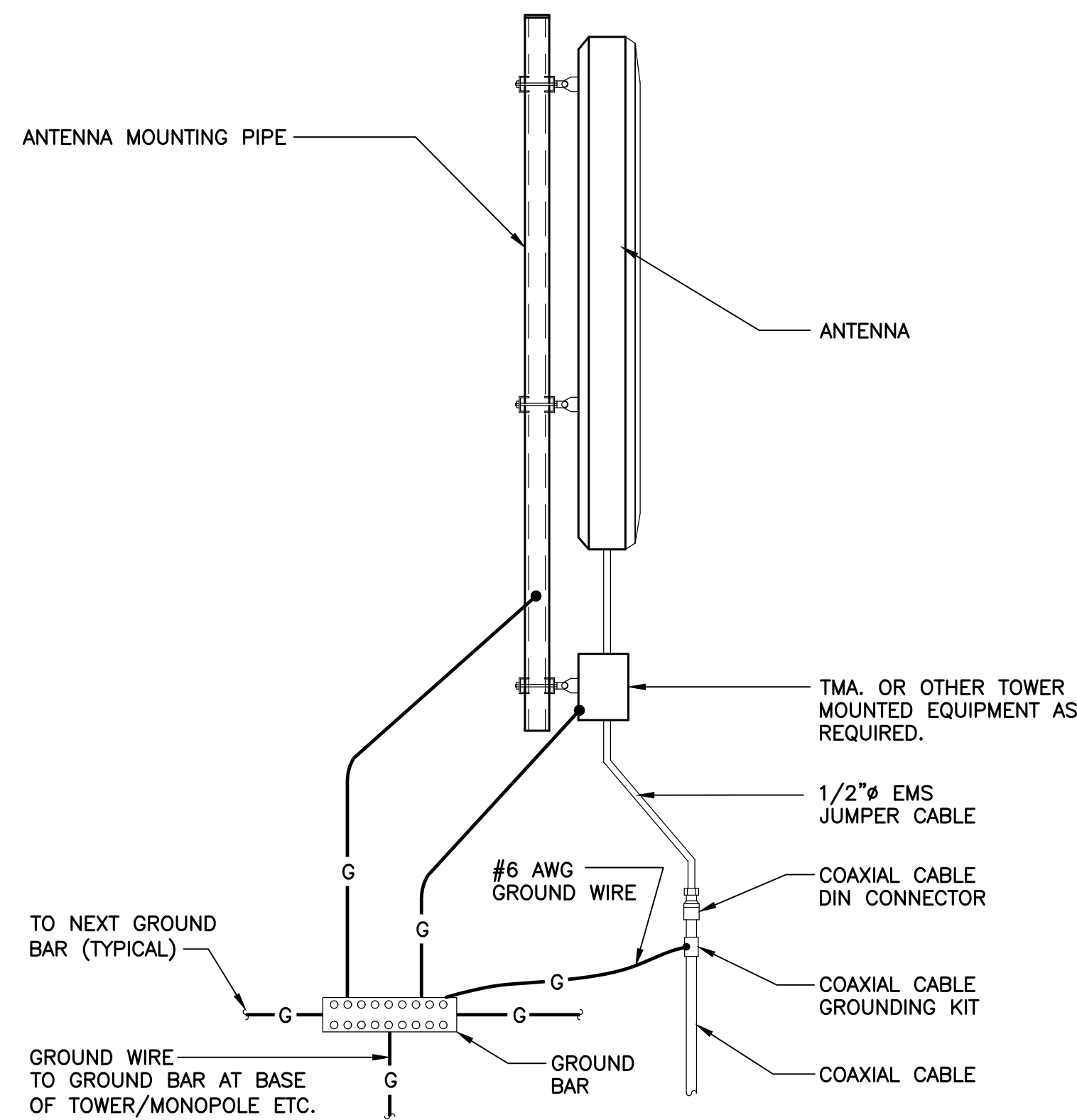
- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

**3 ANTENNA CABLE GROUNDING DETAIL**  
E-2 SCALE: NOT TO SCALE

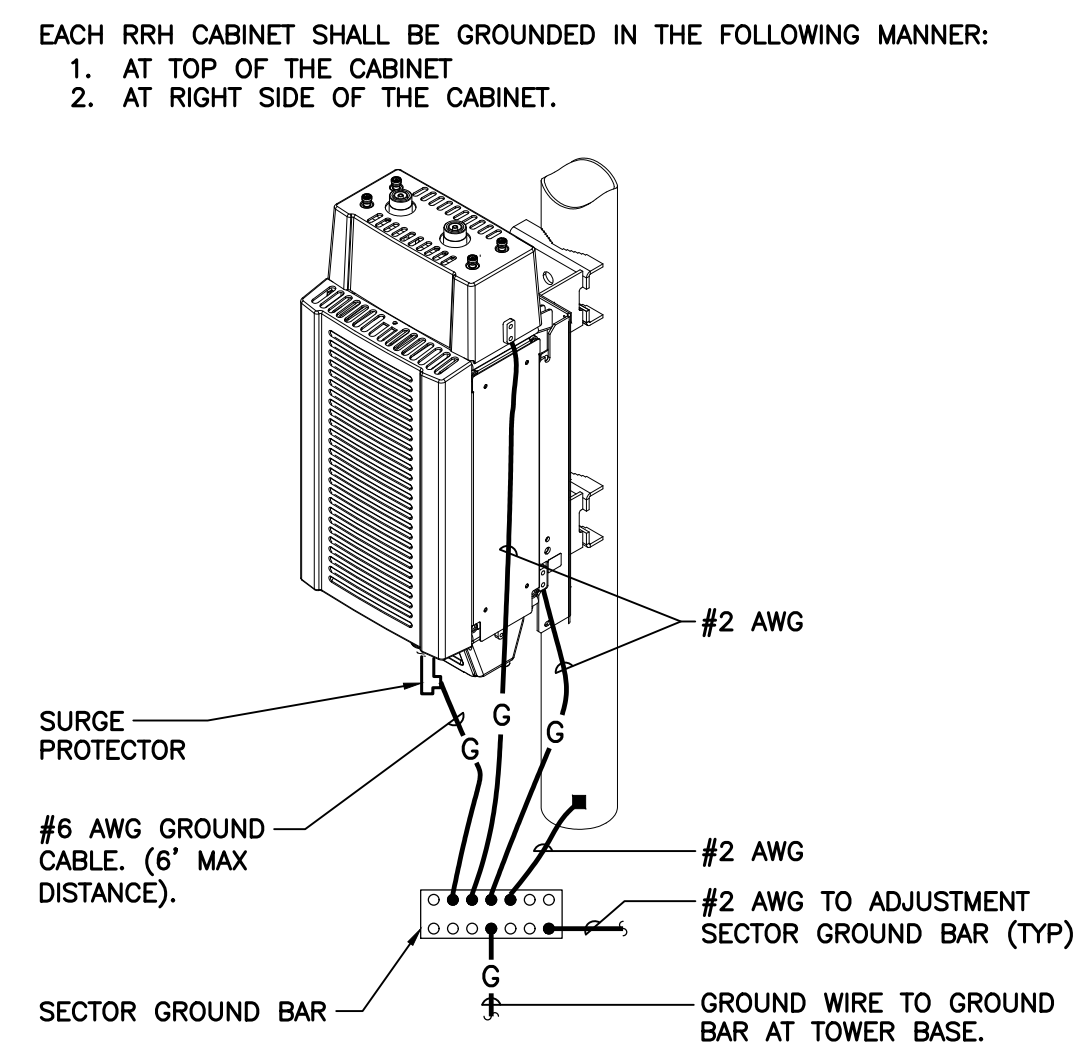


- GROUNDING SCHEMATIC NOTES**
- GENERAL NOTES:**
- ALL SURGE SUPPRESSION EQUIPMENT SHALL BE BONDED TO GROUND PER MANUFACTURER'S SPECIFICATIONS
  - UNLESS OTHERWISE NOTED OR REQUIRED BY CODE, GROUND CONDUCTORS SHOWN SHALL BE #2 AWG (SOLID TINNED BCW - EXTERIOR; STRANDED GREEN INSULATED - INTERIOR).
  - BOND CABLE TRAY SECTIONS TOGETHER WITH #6 AWG STRANDED GREEN INSULATED JUMPERS.
  - ALL SECTOR GROUND BARS SHALL BE BONDED TOGETHER WITH #2 AWG SOLID TINNED BCW.
  - BOND ALL EQUIPMENT CABINETS AND BATTERY CABINETS TO GROUND PER MANUFACTURER'S SPECIFICATIONS.
  - REFER TO ALL ELECTRICAL AND GROUNDING DETAILS.
  - COORDINATE ALL ROOF MOUNTED EQUIPMENT WITH OWNER.
  - ALL ROOF MOUNTED AMPLIFIERS AND ASSOCIATED EQUIPMENT SHALL BE BONDED TO THE SECTOR GROUND BAR PER MANUFACTURER'S SPECIFICATIONS.
  - ALL GROUNDING SHALL BE IN ACCORDANCE WITH NEC AND OWNER'S REQUIREMENTS.

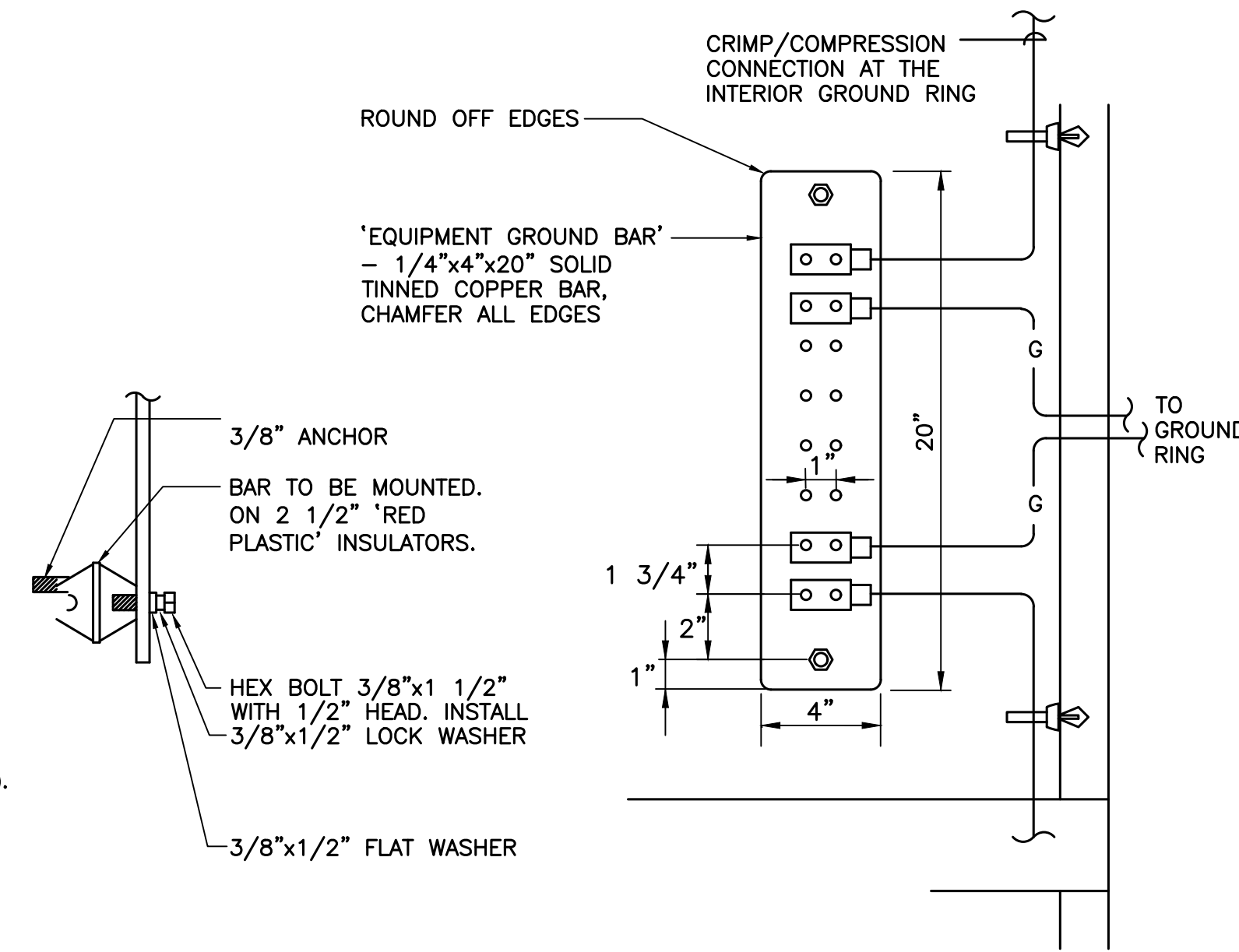
**7 ELECTRICAL SCHEMATIC DIAGRAM**  
E-2 SCALE: NOT TO SCALE



**4 TYPICAL ANTENNA GROUNDING DETAIL**  
E-2 SCALE: NOT TO SCALE



**5 RRH POLE MOUNT GROUNDING**  
E-2 SCALE: NOT TO SCALE



**6 EQUIPMENT GROUND BAR DETAIL**  
E-2 SCALE: NOT TO SCALE

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0	09/25/23	ASC	TJR	CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
B	09/16/23	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW
A	09/26/22	ASC	TJR	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW
				DATE
				DESCRIPTION
				DRAWN BY
				CHECKED BY

PROFESSIONAL ENGINEER SEAL

ROY G. KENNEDY  
ELECTRICAL ENGINEER  
No. 35214  
REGISTERED PROFESSIONAL

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New part of  
T-Mobile

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CAMBRIDGE, MA

DATE: 08/26/22  
SCALE: AS NOTED  
JOB NO. 22001.12

TYPICAL GROUNDING DETAILS

**E-2**

Sheet No. 11 of 12







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# CITY OF CAMBRIDGE

Community Development Department

---

**IRAM FAROOQ**  
Assistant City Manager for  
Community Development

**SANDRA CLARKE**  
Deputy Director  
Chief of Administration

**KHALIL MOGASSABI**  
Deputy Director  
Chief of Planning

To: Planning Board

From: Community Development Department (CDD) Staff

Date: September 20, 2023

Re: **Wireless Antenna Installation BZA-237886 (T-Mobile)  
: 1430 Mass Ave**

This proposal involves the modification of an existing wireless antenna installation located on the rooftop penthouse of 1430 Massachusetts Avenue, which is within the Harvard Square Conservation District. The penthouse is clad in standing seam metal with a large circular vent on the eastern elevation. T-Mobile proposes replacing five (5) existing panel antennas and one (1) dish antennae with eight (8) new panel antennas, replacing six (6) existing RRUs with six (6) new like kind RRHs, and replacing ancillary radio equipment and cabinets.

The penthouse to which the existing antennas are affixed extends well above the building roofline, making it prominent and clearly visible and when entering Harvard Square from both the north and south direction on Massachusetts Avenue despite being set back from the facade. Due to this high degree of visibility, configurations that minimize the visual impact of the proposed antenna are strongly preferred. There are no concerns about the impact of the proposed equipment cabinets as they are not visible from the public realm and are being replaced in kind.

The proposal expands not only the number of antenna but also the size of the existing antenna, resulting in increased visual impacts. Additional devices are proposed for the prominent northern, eastern, and southern elevations, while all antennas are removed from the least-visible western façade. Furthermore, the new antennas have varying dimensions and some appear to interrupt the parapet line when viewed from the ground. The following refinements are suggested to help improve the new layout.

1. If feasible, all antennas should be moved down the penthouse façade to avoid visually interrupting the horizontal cornice line at the top portion of parapet. This should be calibrated using photo simulations to account for the lower vantage point of the typical viewer.
2. Antennas should be organized and arranged by size, shape, and location to produce a symmetrical composition on each elevation. Horizontal offsets from the corners of the penthouse should be consistent.

3. No portion of an antenna, mounting bracket, or wiring should occlude the existing circular vent.
4. The proposed configuration concentrates all devices on the more prominent northern, eastern, and southern elevations. Where possible, proposed antennas should be relocated to the western elevation to reduce their visibility.
5. Utilize the smallest mounting brackets available so that the antennas can be mounted as close as possible to the mounting surface as possible.
6. Remove all unused devices, mounts, brackets, and wiring.
7. Proposal documentation should be updated to include both existing and proposed south, west, and north elevations.
8. All painted and wrapped materials, including existing equipment, cabling, and mounts, should have a consistent finish that mimics the existing standing seam metal cladding in color and reflectivity.