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

BZA APPLICATION FORM

Plan No: BZA-016963-2018

GENERAL INFORMATION

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

Special Permit : √ **Variance :** _____ **Appeal :** _____

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

PETITIONER'S ADDRESS : 85 Rangeway Road, Building 3, Suite 102 North Billerica, MA 01862

LOCATION OF PROPERTY : 280 Brookline St Cambridge, MA

TYPE OF OCCUPANCY : >8-Unit-Apt **ZONING DISTRICT :** Residence C Zone

REASON FOR PETITION :

Other: Wireless Communications Facility Upgrade

DESCRIPTION OF PETITIONER'S PROPOSAL :

AT&T is proposing modifications to its existing cell site at this location. As part of nationwide network upgrades, they propose to replace (6) panel antennas with (6) new panel antennas, as well as install (9) remote radio units on the rooftop. Please see application for further details.

SECTIONS OF ZONING ORDINANCE CITED :

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

Original Signature(s) : _____
(Petitioner(s) / Owner)

Ryan Lynch / Smartlink LLC / AT&T
(Print Name)

Address : 85 Rangeway Rd., Bldg. 3, Ste 102 N. Billerica, MA 01862

Tel. No. : (781) 392-4040

E-Mail Address : Ryan.Lynch@Smartlinkllc.com

Date : 7/24/18

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 Chiccarelli Real Estate, Inc. 1
(OWNER)

Address: 289 Great Road, Suite 104, Acton, Massachusetts

State that I/We own the property located at 274-280 Brookline St., cambridge, MA 02139 which is the subject of this zoning application.

The record title of this property is in the name of Chiccarelli Real Estate, Inc.

*Pursuant to a deed of duly recorded in the date June 9, 2010, Middlesex South County Registry of Deeds at Book 54799, Page 350; or

Middlesex Registry District of Land Court, Certificate No. _____

Book _____ Page _____.

Rita Lambergs Tomes
*SIGNATURE BY LAND OWNER OR AUTHORIZED TRUSTEE, OFFICER OR AGENT**

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

Commonwealth of Massachusetts, County of Suffolk

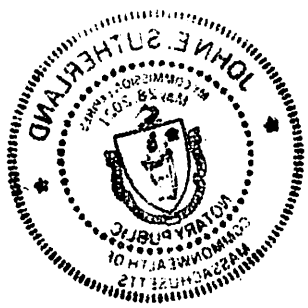
The above-name Rita Lambergs Tomes personally appeared before me, this 11th of May, 2018, and made oath that the above statement is true.

John Sutherland
Notary

My commission expires 5/28/21 (Notary Seal)

JOHN E. SUTHERLAND
MY COMMISSION EXPIRES May 28, 2021
NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS

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


JOHN E. SUTHERLAND
NOTARY PUBLIC
COMMONWEALTH OF
MASSACHUSETTS

BZA APPLICATION FORM

SUPPORTING STATEMENT FOR A SPECIAL PERMIT

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

Granting the Special Permit requested for 280 Brookline St Cambridge, MA (location) would not be a detriment to the public interest because:

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

Please see attached support statements

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

Please see attached support statements

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

Please see attached support statements

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

Please see attached support statements

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

Please see attached support statements

July 13, 2018

Donna P. Lopez, City Clerk City of Cambridge City Hall 795 Massachusetts Avenue Cambridge, MA 02139	Constantine Alexander, Chair Board of Zoning Appeal City Hall 795 Massachusetts Avenue Cambridge, MA 02139

Applicant: New Cingular Wireless PCS, LLC ("AT&T")
Property Address: 280 Brookline Street
Re: Assessor's Map 96, Lot 103 (the "Property")
Application for:
(i) Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1455; or, in the alternative,
(ii) Special Permit under Cambridge Zoning Ordinance Section 4.32(g)(1) and M.G.L. c. 40A, Section 9; and
(iii) Any other zoning relief required.
(All relief if and to the extent necessary, all rights reserved)

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

Pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (a/k/a the "Spectrum Act" or "Section 6409"), 47 U.S.C. § 1455, as further implemented by the Federal Communications Commission's Report and Order *In re Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, FCC Docket No. 13-238, Report and Order No. 14-153 (October 17, 2014) (the "FCC Order"), New Cingular Wireless PCS, LLC ("AT&T") hereby submits this Eligible Facilities Request ("Request"); and, in the alternative, applies for a special permit from the City of Cambridge Board of Zoning Appeal (the "Board") under Section 432(g)(1) of the Cambridge Zoning Ordinance (the "Ordinance") to modify its existing "Telephone Exchange including Transmission Facilities to serve a Mobile Communication System" (the "Facility") on and within the existing building located at 280 Brookline Street. (the "Special Permit Application").[2]

Under Section 6409, AT&T's proposed modification of its existing transmission equipment on and within the existing building, previously approved by the Board for use as a wireless communication base station, does "not substantially change the physical dimensions" of the existing building. Therefore, AT&T's Request must be approved administratively, including the issuance of a building permit, to enable AT&T to make the proposed modifications to its transmission equipment.

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

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

I. APPLICATION PACKAGE

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

1. The following completed and signed application forms:

   a. BZA Application Form – General Information;

   b. BZA Application Form – Ownership Information;

   c. BZA Application Form – Dimensional Requirements;

   d. BZA Application Form – Supporting Statement for a Special Permit; and

   e. BZA Application Form – Check List;

2. AT&T's relevant FCC License information;

3. The following drawings prepared by Infinigy

SHEET	TITLE	REV DATE
T1	Title Page	5/18/18
C1	General Notes	5/18/18
C2	Overall & Enlarged Site Plan	5/18/18
C3	Elevation View	5/18/18
C4	Antenna Orientation Plan	5/18/18
C5	Equipment Details	5/18/18
C6	Plumbing Diagram	5/18/18
C7	Grounding Details	5/18/18
S1	General Notes	5/18/18
S2	Site Plan	5/18/18
S3	Modification Details	5/18/18

4. Manufacturer's specification sheets for AT&T's proposed antennas and other featured equipment;

5. Photographs of the existing building and photo simulations of the proposed modifications Facility by Infinigy dated 4/16/2018

6. Radio Frequency Coverage Report, demonstrating the public need for the proposed modifications to the Facility, radio frequency coverage maps showing (a) existing or predicted coverage from neighboring facilities; and (b) coverage with the proposed Facility;

7. Structural Analysis by Infinigy dated 2/2/2018

8. Maximum Permissible Exposure Study, Theoretical Report, by Site Safe, dated March 23, 2018

9. Deed to subject property;

10. Attorney General's letters to the Towns of Mount Washington, Lynnfield and Montague; and

11. Special Permit for existing Facility granted by the ZBA on July 17, 2013.

II. PROPOSED FACILITY DESIGN

The proposed modifications include the replacement of two (2) antenna per sector. The replacement antennas will be mounted within two (2) existing faux chimneys, and one (1) wall screen and will have no visible change to the current Facility's design. Six (6) remote radio-head units (RRUs) will be mounted to the existing cable tray ballast mounts out of public view.

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

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

III. BACKGROUND

AT&T is licensed by the Federal Communications Commission to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and the City of Cambridge. A copy of the AT&T's FCC license

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

IV. RF COVERAGE DETERMINATION

AT&T has performed a study of radio frequency coverage for the City of Cambridge and from the Property, the results of which are described in the Radio Frequency Report submitted with this application (see Exhibit 6). Without the proposed modifications to its existing Facility, AT&T has a substantial coverage gap in this area of Cambridge. AT&T has determined that the proposed modifications to the existing Facility located on the building at the Property will provide needed coverage to the targeted sections of the City and the immediately surrounding area if AT&T's antennas are located on the building's roof at the height and in the configuration requested. The importance of a facility at this location is underscored by AT&T's interest in enhancing its ability to provide its most up-to-date wireless technology, known as long-term evolution technology ("LTE"), in this area to satisfy its customers' ever-increasing needs for high-speed data services. Radio frequency coverage maps included in the report are provided to pictorially and vividly show the differences in existing and proposed wireless coverage at the various bands authorized for AT&T's service. The maps show dramatic improvements to wireless coverage at all three (3) bands with the inclusion of the proposed Facility, namely, at 700, 1900, and 2100 MHz.

V. THE FEDERAL SPECTRUM ACT AND THE FCC ORDER

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

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[3] Pursuant to Section 6409(a)(2) an "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves—

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

47 U.S.C. § 1455(a)(2).

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

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

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

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

FCC Order, ¶ 88.

As a result, the FCC Order implementing Section 6409 establishes clear and objective criteria for determining eligibility, limits the types of information that a municipality may require when processing an application for an eligible facilities request, and imposes a "deemed granted" remedy for failure to timely process and eligible facilities request.[5] The FCC Order also establishes significant limits on the information that can be required to be provided with an eligible facilities request and limits it to only that information "reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation". 47 CFR 1.40001(c)(1).

Both before and after the FCC Order was issued, the Massachusetts Attorney General's Office provided clear guidance that an eligible request cannot be subjected to a discretionary special permit process. *See* Attorney General's letters to (i) Town of Mount Washington, dated June 12, 2014, p. 3 (ii) Town of Lynnfield, dated February 10, 2015, p. 3 (the "AG Lynnfield Letter") and (iii) Town of Montague, dated February 23, 2015, p. 2 (all attached hereto). As set

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

forth in each letter [t]he Act's requirement that a local government 'may not deny, and shall approve, any eligible facilities request' means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. ***Such qualifying requests also cannot be subject to a discretionary special permit.***")(Emphasis added). In providing these opinions, the Attorney General's Office specifically opined that provisions in zoning ordinances that specifically required a special permit for modifications to existing facilities could not be applied to eligible facilities requests. While approving the Town of Lynnfield's Zoning Bylaw, the Attorney General stated that "Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act." *AG Lynnfield Letter*, p. 3.

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

In addition, the FCC Order establishes a 60-day period for approval from the time of AT&T's submission. 47 CFR §1.40001(c)(2). Within the context of the Spectrum Act and FCC Order, approval means all necessary approvals to permit the proposed modifications, including the issuance of a building permit, if required. The FCC found that this 60-day period is appropriate due to "the more restricted scope of review applicable to applications under section 6409(a)." *FCC Order*, ¶ 108. If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4).

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

VI. THE PROPOSED MODIFICATIONS ARE AN ELIGIBLE FACILITIES REQUEST

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

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

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

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

(i) Result in an increase in "the height of the structure by more than 10% or more than ten feet, whichever is greater" because the proposed replacement antennas will either be mounted and located below the screen wall or utilize the existing equipment mounting frame and therefore will not exceed 10 feet above the existing building;

(ii) Protrude from the edge of the building by more than six feet because AT&T's proposed antennas will not protrude more than six feet from building façade;

(iii) Involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets, because no new radio communications equipment cabinets will be installed;

(iv) Require any excavation or deployment outside the current site of the tower or base station because all antennas, equipment cabinets and related equipment will be installed entirely on and within the existing building; or

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

See FCC Order, §1.40001(b)(7)(i)-(v).

VII. COMPLIANCE WITH THE CAMBRIDGE ZONING ORDINANCE

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

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

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

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

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

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

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

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

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

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

AT&T's Response: The design of the overall Facility, including the choice and placement of replacement antennas and associated equipment, behind the existing screen wall or utilizing the existing mounting frame, minimizes the visual impact of the proposed Facility. This is because and the proposed modifications will be minimally visible and consistent with the elements of the existing Facility, and in fact will be no more visible than the existing antennas and equipment. The minimal visual impact of the Facility is shown in the photographs of the existing Facility and the photo simulations that superimpose the proposed modifications to the existing Facility (*see,* Exhibit 5).

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

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

AT&T's Response: As demonstrated by the Radio Frequency Report and the associated coverage maps, AT&T has demonstrated an immediate and compelling need for the proposed modifications to its existing Facility located at the Property in order to provide substantially improved indoor coverage to residents, businesses, students and faculty, and the general public in that area.8 AT&T also seeks to substantially improve its ability to satisfy the ever-increasing need of its customers for data accessibility, navigation and use. This is especially critical in and around the area of Brookline Ave. which also serves as home for numerous businesses. AT&T proposes to satisfy its RF coverage needs in the area by adding to the existing Facility the antennas and equipment necessary to provide the latest LTE wireless communications service technology. By modifying its existing Facility, AT&T obviates the need to construct an entirely new facility within this area of Cambridge in order to meet the wireless network coverage needs of the residents, businesses, and general public in the area.

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

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

Section 10.43 of the Ordinance specifies the following criteria for issuance of a special permit: "Special permits will normally be granted where specific provisions of this

Ordinance are met, except when particulars of the location or use, not generally true of the district or of the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

(a) The requirements of this Ordinance cannot or will not be met, or

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

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

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

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

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

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

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

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

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

As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the Property, the visual impact on the underlying and adjacent zoning districts will be *de minimis*. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying PUD-2 & Residence C-3A district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

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

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

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

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

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

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

19.33 The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include[8]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

VIII. SUMMARY

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

Best Regards,

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

cc: Jonathan Elder, Esq.

BZA APPLICATION FORM

DIMENSIONAL INFORMATION

APPLICANT: Ryan Lynch **PRESENT USE/OCCUPANCY:** Wireless

LOCATION: 280 Brookline St Cambridge, MA **ZONE:** Residence C Zone

PHONE: _____ **REQUESTED USE/OCCUPANCY:** No Change

		EXISTING CONDITIONS	*REQUESTED CONDITIONS*	*ORDINANCE REQUIREMENTS* [1]	
TOTAL GROSS FLOOR AREA:		0	0	0	(max.)
LOT AREA:		0	0	0	(min.)
RATIO OF GROSS FLOOR AREA TO LOT AREA: [2]		0	0	0	(max.)
LOT AREA FOR EACH DWELLING UNIT:		0	0	0	(min.)
SIZE OF LOT:	WIDTH	0	0	0	(min.)
	DEPTH	0	0	0	
SETBACKS IN FEET:	FRONT	0	0	0	(min.)
	REAR	0	0	0	(min.)
	LEFT SIDE	0	0	0	(min.)
	RIGHT SIDE	0	0	0	(min.)
SIZE OF BLDG.:	HEIGHT	0	0	0	(max.)
	LENGTH	0	0	0	
	WIDTH	0	0	0	
RATIO OF USABLE OPEN SPACE TO LOT AREA: [3]		0	0	0	(min.)
NO. OF DWELLING UNITS:		0	0	0	(max.)
NO. OF PARKING SPACES:		0	0	0	(min./max)
NO. OF LOADING AREAS:		0	0	0	(min.)
DISTANCE TO NEAREST BLDG. ON SAME LOT:		0	0	0	(min.)

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

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

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

2018 JUL 25 AM 11:41
OFFICE OF THE CITY CLERK
CAMBRIDGE, MASSACHUSETTS

BZA APPLICATION FORM

Plan No: BZA-016963-2018

GENERAL INFORMATION

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

Special Permit : √ **Variance :** _____ **Appeal :** _____

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

PETITIONER'S ADDRESS : 85 Rangeway Road, Building 3, Suite 102 North Billerica, MA 01862

LOCATION OF PROPERTY : 280 Brookline St Cambridge, MA

TYPE OF OCCUPANCY : >8-Unit-Apt **ZONING DISTRICT :** Residence C Zone

REASON FOR PETITION :

Other: Wireless Communications Facility Upgrade

DESCRIPTION OF PETITIONER'S PROPOSAL :

AT&T is proposing modifications to its existing cell site at this location. As part of nationwide network upgrades, they propose to replace (6) panel antennas with (6) new panel antennas, as well as install (9) remote radio units on the rooftop. Please see application for further details.

SECTIONS OF ZONING ORDINANCE CITED :

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

Original Signature(s) : _____
(Petitioner(s) / Owner)

Ryan Lynch / Smartlink LLC / AT&T
(Print Name)

Address : 85 Rangeway Rd, Bldg 3, Ste 102
N. Billerica, MA 01862

Tel. No. : (781) 392-4040

E-Mail Address : Ryan.Lynch@smartlinkllc.com

Date : 7/24/18

CAMBRIDGE HISTORICAL COMMISSION

831 Massachusetts Avenue, 2nd Floor, Cambridge, Massachusetts 02139
Telephone: 617 349 4683 TTY: 617 349 6112
E-mail: histcomm@cambridgema.gov URL: http://www.cambridgema.gov/Historic

Bruce A. Irving, *Chair*; Susannah Barton Tobin, *Vice Chair*; Charles M. Sullivan, *Executive Director*
William G. Barry, Jr., Robert G. Crocker, Joseph V. Ferrara, Chandra Harrington, Jo M. Solet, *Members*
Gavin W. Kleespies, Paula A. Paris, Kyle Sheffield, *Alternates*

Jurisdiction Advice

To the Owner of Property at 280 Brookline Street

The above-referenced property is subject to the jurisdiction of the Cambridge Historical Commission (CHC) by reason of the status referenced below:

__ Old Cambridge Historic District
__ Fort Washington Historic District
(M.G.L. Ch. 40C, City Code §2.78.050)
__ Avon Hill Neighborhood Conservation District
__ Half Crown – Marsh Neighborhood Conservation District
__ Harvard Square Conservation District
__ Mid Cambridge Neighborhood Conservation District
__ Designated Landmark
__ Property is being studied for designation: _____
(City Code, Ch. 2.78., Article III, and various City Council Orders)
__ Preservation Restriction or Easement (as recorded)
_X_ Structure is fifty years or more old and therefore subject to CHC review of any application for a demolition permit, if one is required by ISD. (City Code, Ch. 2.78, Article II). See the back of this page for definition of demolition.
No demolition permit application anticipated.
__ No jurisdiction: not a designated historic property and the structure is less than fifty years old.
__ No local jurisdiction, but the property is listed on the National Register of Historic Places; CHC staff is available for consultation, upon request.
Staff comments: _____

The Board of Zoning Appeal advises applicants to complete Historical Commission or Neighborhood Conservation District Commission reviews before appearing before the Board.

If a line indicating possible jurisdiction is checked, the owner needs to consult with the staff of the Historical Commission to determine whether a hearing will be required.

CHC staff initials SLB Date July 16, 2018

Received by Uploaded to Energov Date July 16, 2018
Relationship to project BZA 16963-2018

cc: Applicant
Inspectional Services Commissioner

Demolition Delay Ordinance and Application Information

The Demolition Delay Ordinance (Chapter 2.78, Article II of the Cambridge Municipal Code) was adopted by the City Council in 1979 to afford public review of demolition permit applications for potentially significant buildings. When the Historical Commission determines that a building is significant and should be preserved, demolition will be delayed for up to six months so that solutions can be sought to preserve the building indefinitely. The Ordinance covers all buildings over 50 years old, city-wide. The Historical Commission archives provide dates of construction for all properties in the City.

Demolition is defined in the ordinance as "the act of pulling down, destroying, removing or razing a building or commencing the work of total or substantial destruction with the intent of completing the same." The Inspectional Services Commissioner has provided further guidelines to outline what actions require a demolition permit. **In addition to complete demolition of a building, the following actions may require a demolition permit,**

- **removal of a roof,**
- **removal of one side of a building,**
- **gutting of a building's interior to the point where exterior features (windows, etc.) are impacted, and**
- **removal of more than 25% of a structure.**

Please contact the building inspector or a staff member of the Historical Commission if you have questions about whether a demolition permit is required for a particular project.

Demolition permit applications can be obtained from the Inspectional Services Department. The completed application should be submitted to the Historical Commission, where the staff will review the application. If the Executive Director of the Historical Commission makes an initial determination that the building is significant, a public hearing will be scheduled with Historical Commission. If the staff makes an initial determination that the building is not significant, the application is released for further review by the Building Commissioner.

More information about the demolition permit application procedures is available on the Historical Commission's web site or by calling or dropping by the Historical Commission office.

July 2003

Cambridge Historical Commission
831 Massachusetts Ave., 2nd Fl.
Cambridge, MA 02139
Ph: 617/349-4683 or TTY: 617/349-6112
http://www.cambridgema.gov/Historic

City of Cambridge

MASSACHUSETTS

BOARD OF ZONING APPEAL

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

2018 JUL 25 AM 11:42
OFFICE OF THE CITY CLERK
CAMBRIDGE, MASSACHUSETTS

Board of Zoning Appeal Waiver Form

The Board of Zoning Appeal
831 Mass Avenue
Cambridge, MA 02139

RE: Case # BZA-016963-2018.

Address: 280 Brookline St.

Owner: Chicarella Real Estate, Inc.

I _____, *Owner,* _____,
(Print Owner Name) *(Print Petitioner Name)*

Petitioner or Ryan Lynch, *Petitioner's and/or Owner's*
(Print Agent/Representative Name)

Agent or Representative, hereby waives the Petitioner's and/or Owner's right to a Decision by the Board of Zoning Appeal on the above referenced Case # BZA-016963-2018 *within the time period as required by Section 9 or Section 15 of the Zoning Act of the Commonwealth of Massachusetts, Massachusetts General Laws, Chapter 40A, and/or Section 6409 of the federal Middle Class Tax Relief and Job Creation Act of 2012, codified as 47 U.S.C. §1455(a), or any other relevant state or federal regulation or law, as applicable, until* _____, *20*____.

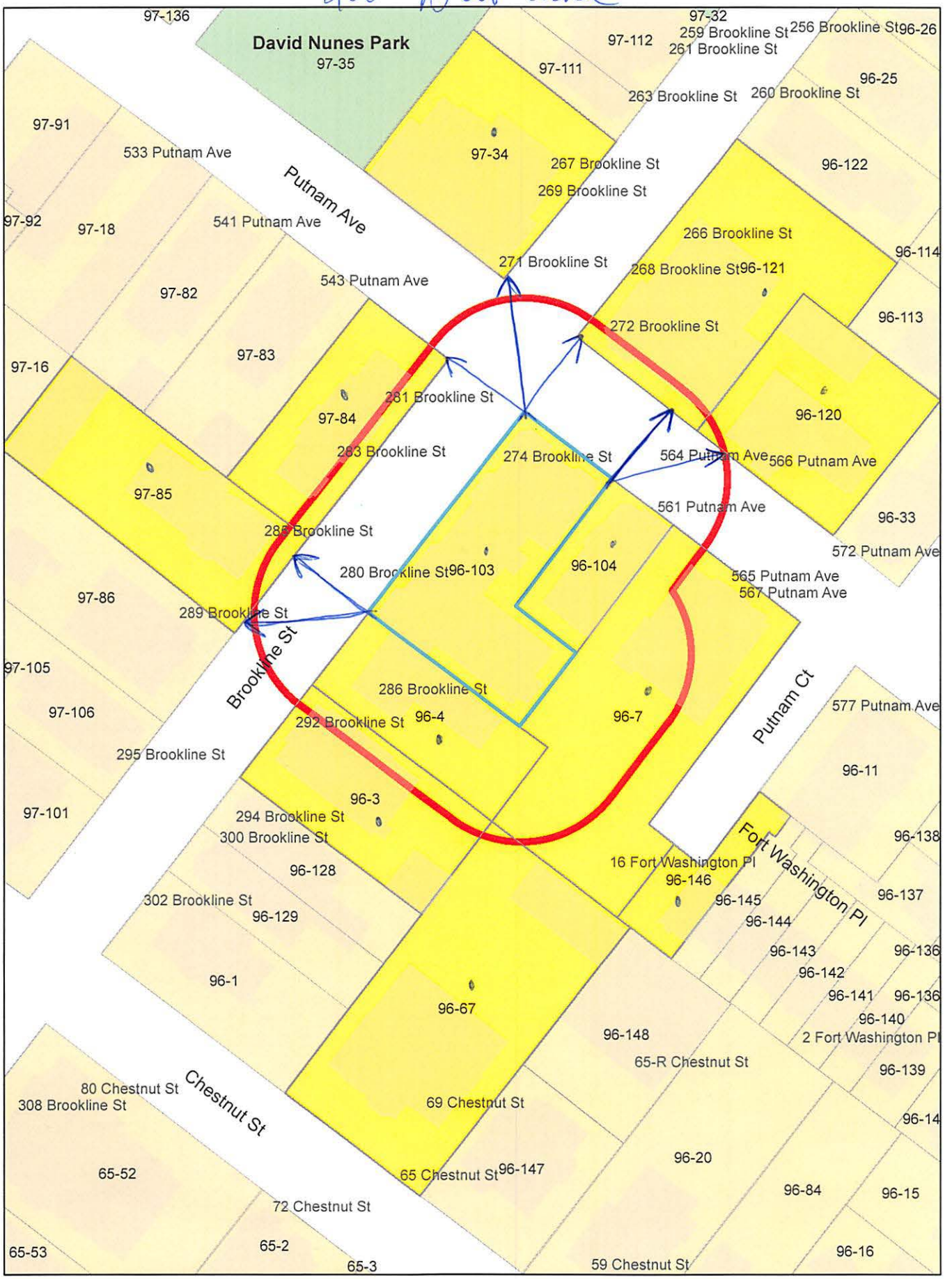
Date: 7/24/18

Signature

Ryan Lynch
Print Name

☐ *Owner*
☐ *Petitioner*
☑ *Petitioner's and/or Owner's Agent or Representative*

280 Brookline



280 Brookline St.

Petitioner

96-3
YEE, JUDITH A.,
TR. OF THE YEE NOMINEE TRUST
292 BROOKLINE ST
CAMBRIDGE, MA 02139

96-4
MCLEAN, PAUL & MARY-MARGARET SEGRAVES
286 BROOKLINE ST
CAMBRIDGE, MA 02139

SMARTLINK, LLC
C/O RYAN LYNCH, AGENT FOR AT&T
85 RANGEWAY RD. BLDG 3, Suite 102
NORTH BILLERICA, MA 01862

96-67
PI KAPPA ALPHA OF M I T INC
69-71 CHESTNUT ST
CAMBRIDGE, MA 02139

96-103
CHICCARELLI REAL ESTATE, INC. 1
P.O BX 2215
ACTON, MA 01720

96-104
HAYNES, DENISE S.
TR. THE HAYNES REV INVESTMENT TRUST
561 PUTNAM AVE
CAMBRIDGE, MA 02139

96-120
BACKER, RUSSELL A.
PO BOX 187
SOMERVILLE, MA 02143

96-121
BALAFAS, DIMITRIOS & JOANNE F. BALAFAS
1C HARTFORD ST
DOVER, MA 02030

96-146
HASSAN-ZAHRAEE, MINA
16 FORT WASHINGTON PL
CAMBRIDGE, MA 02139

97-34
TOCMAN, ADELINE E.
TRUSTEE OF HOWARD REALTY TRUST
834 LANSDOWNE RD.
CHARLOTTE, NC 28270

97-84
GRANT, ANDY H. & KAREN B. RILEY-GRANT
281-283 BROOKLINE ST., #281
CAMBRIDGE, MA 02139

97-84
BOWERS, JAYSON L. & TANYA D. SOKOLSKY
283 BROOKLINE ST
CAMBRIDGE, MA 02139

97-85
PATRICIA A. ENGLISH-PIERCE, APRIL C. ENGLISH
& DAVID B. ENGLISH
285 BROOKLINE ST
CAMBRIDGE, MA 02139

96-7
HAYNES, DENISE S.,
TR. THE HAYNES REVOCABLE INVESTMENT TR.
565 PUTNAM AVE
CAMBRIDGE, MA 02139

Cambridge Board of Zoning Appeal

Special Permit Application

280 Brookline Street, Cambridge, MA

Map 96 Lot 103

Applicant:

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

c/o Ryan Lynch, Smartlink

Ryan.Lynch@smartlinkllc.com

(781.392.4040)

July 13, 2018

July 13, 2018

Donna P. Lopez, City Clerk City of Cambridge City Hall 795 Massachusetts Avenue Cambridge, MA 02139	Constantine Alexander, Chair Board of Zoning Appeal City Hall 795 Massachusetts Avenue Cambridge, MA 02139

Applicant: New Cingular Wireless PCS, LLC ("AT&T")
Property Address: 280 Brookline Street
Re: Assessor's Map 96, Lot 103 (the "Property")
Application for:
(i) Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1455; or, in the alternative,
(ii) Special Permit under Cambridge Zoning Ordinance Section 4.32(g)(1) and M.G.L. c. 40A, Section 9; and
(iii) Any other zoning relief required.
(All relief if and to the extent necessary, all rights reserved)

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

Pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (a/k/a the "Spectrum Act" or "Section 6409"), 47 U.S.C. § 1455, as further implemented by the Federal Communications Commission's Report and Order *In re Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, FCC Docket No. 13-238, Report and Order No. 14-153 (October 17, 2014) (the "FCC Order"), New Cingular Wireless PCS, LLC ("AT&T") hereby submits this Eligible Facilities Request ("Request"); and, in the alternative, applies for a special permit from the City of Cambridge Board of Zoning Appeal (the "Board") under Section 432(g)(1) of the Cambridge Zoning Ordinance (the "Ordinance") to modify its existing "Telephone Exchange including Transmission Facilities to serve a Mobile Communication System" (the "Facility") on and within the existing building located at 280 Brookline Street. (the "Special Permit Application").[2]

Under Section 6409, AT&T's proposed modification of its existing transmission equipment on and within the existing building, previously approved by the Board for use as a wireless communication base station, does "not substantially change the physical dimensions" of the existing building. Therefore, AT&T's Request must be approved administratively, including the issuance of a building permit, to enable AT&T to make the proposed modifications to its transmission equipment.

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

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

I. APPLICATION PACKAGE

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

1. The following completed and signed application forms:

   a. BZA Application Form – General Information;

   b. BZA Application Form – Ownership Information;

   c. BZA Application Form – Dimensional Requirements;

   d. BZA Application Form – Supporting Statement for a Special Permit; and

   e. BZA Application Form – Check List;

2. AT&T's relevant FCC License information;

3. The following drawings prepared by Infinigy

SHEET	TITLE	REV DATE
T1	Title Page	5/18/18
C1	General Notes	5/18/18
C2	Overall & Enlarged Site Plan	5/18/18
C3	Elevation View	5/18/18
C4	Antenna Orientation Plan	5/18/18
C5	Equipment Details	5/18/18
C6	Plumbing Diagram	5/18/18
C7	Grounding Details	5/18/18
S1	General Notes	5/18/18
S2	Site Plan	5/18/18
S3	Modification Details	5/18/18

4. Manufacturer's specification sheets for AT&T's proposed antennas and other featured equipment;

5. Photographs of the existing building and photo simulations of the proposed modifications Facility by Infinigy dated 4/16/2018

6. Radio Frequency Coverage Report, demonstrating the public need for the proposed modifications to the Facility, radio frequency coverage maps showing (a) existing or predicted coverage from neighboring facilities; and (b) coverage with the proposed Facility;

7. Structural Analysis by Infinigy dated 2/2/2018

8. Maximum Permissible Exposure Study, Theoretical Report, by Site Safe, dated March 23, 2018

9. Deed to subject property;

10. Attorney General's letters to the Towns of Mount Washington, Lynnfield and Montague; and

11. Special Permit for existing Facility granted by the ZBA on July 17, 2013.

II. PROPOSED FACILITY DESIGN

The proposed modifications include the replacement of two (2) antenna per sector. The replacement antennas will be mounted within two (2) existing faux chimneys, and one (1) wall screen and will have no visible change to the current Facility's design. Six (6) remote radio-head units (RRUs) will be mounted to the existing cable tray ballast mounts out of public view.

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

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

III. BACKGROUND

AT&T is licensed by the Federal Communications Commission to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and the City of Cambridge. A copy of the AT&T's FCC license

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

IV. RF COVERAGE DETERMINATION

AT&T has performed a study of radio frequency coverage for the City of Cambridge and from the Property, the results of which are described in the Radio Frequency Report submitted with this application (see Exhibit 6). Without the proposed modifications to its existing Facility, AT&T has a substantial coverage gap in this area of Cambridge. AT&T has determined that the proposed modifications to the existing Facility located on the building at the Property will provide needed coverage to the targeted sections of the City and the immediately surrounding area if AT&T's antennas are located on the building's roof at the height and in the configuration requested. The importance of a facility at this location is underscored by AT&T's interest in enhancing its ability to provide its most up-to-date wireless technology, known as long-term evolution technology ("LTE"), in this area to satisfy its customers' ever-increasing needs for high-speed data services. Radio frequency coverage maps included in the report are provided to pictorially and vividly show the differences in existing and proposed wireless coverage at the various bands authorized for AT&T's service. The maps show dramatic improvements to wireless coverage at all three (3) bands with the inclusion of the proposed Facility, namely, at 700, 1900, and 2100 MHz.

V. THE FEDERAL SPECTRUM ACT AND THE FCC ORDER

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

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[3] Pursuant to Section 6409(a)(2) an "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves—

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

47 U.S.C. § 1455(a)(2).

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

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

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

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

FCC Order, ¶ 88.

As a result, the FCC Order implementing Section 6409 establishes clear and objective criteria for determining eligibility, limits the types of information that a municipality may require when processing an application for an eligible facilities request, and imposes a "deemed granted" remedy for failure to timely process and eligible facilities request.[5] The FCC Order also establishes significant limits on the information that can be required to be provided with an eligible facilities request and limits it to only that information "reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation". 47 CFR 1.40001(c)(1).

Both before and after the FCC Order was issued, the Massachusetts Attorney General's Office provided clear guidance that an eligible request cannot be subjected to a discretionary special permit process. *See* Attorney General's letters to (i) Town of Mount Washington, dated June 12, 2014, p. 3 (ii) Town of Lynnfield, dated February 10, 2015, p. 3 (the "AG Lynnfield Letter") and (iii) Town of Montague, dated February 23, 2015, p. 2 (all attached hereto). As set

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

forth in each letter [t]he Act's requirement that a local government 'may not deny, and shall approve, any eligible facilities request' means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. ***Such qualifying requests also cannot be subject to a discretionary special permit***.")(Emphasis added). In providing these opinions, the Attorney General's Office specifically opined that provisions in zoning ordinances that specifically required a special permit for modifications to existing facilities could not be applied to eligible facilities requests. While approving the Town of Lynnfield's Zoning Bylaw, the Attorney General stated that "Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act." *AG Lynnfield Letter*, p. 3.

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

In addition, the FCC Order establishes a 60-day period for approval from the time of AT&T's submission. 47 CFR §1.40001(c)(2). Within the context of the Spectrum Act and FCC Order, approval means all necessary approvals to permit the proposed modifications, including the issuance of a building permit, if required. The FCC found that this 60-day period is appropriate due to "the more restricted scope of review applicable to applications under section 6409(a)." *FCC Order*, ¶ 108. If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4).

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

VI. THE PROPOSED MODIFICATIONS ARE AN ELIGIBLE FACILITIES REQUEST

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

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

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

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

(i) Result in an increase in "the height of the structure by more than 10% or more than ten feet, whichever is greater" because the proposed replacement antennas will either be mounted and located below the screen wall or utilize the existing equipment mounting frame and therefore will not exceed 10 feet above the existing building;

(ii) Protrude from the edge of the building by more than six feet because AT&T's proposed antennas will not protrude more than six feet from building façade;

(iii) Involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets, because no new radio communications equipment cabinets will be installed;

(iv) Require any excavation or deployment outside the current site of the tower or base station because all antennas, equipment cabinets and related equipment will be installed entirely on and within the existing building; or

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

See FCC Order, §1.40001(b)(7)(i)-(v).

VII. COMPLIANCE WITH THE CAMBRIDGE ZONING ORDINANCE

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

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

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

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

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

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

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

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

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

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

AT&T's Response: The design of the overall Facility, including the choice and placement of replacement antennas and associated equipment, behind the existing screen wall or utilizing the existing mounting frame, minimizes the visual impact of the proposed Facility. This is because and the proposed modifications will be minimally visible and consistent with the elements of the existing Facility, and in fact will be no more visible than the existing antennas and equipment. The minimal visual impact of the Facility is shown in the photographs of the existing Facility and the photo simulations that superimpose the proposed modifications to the existing Facility (*see,* Exhibit 5).

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

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

AT&T's Response: As demonstrated by the Radio Frequency Report and the associated coverage maps, AT&T has demonstrated an immediate and compelling need for the proposed modifications to its existing Facility located at the Property in order to provide substantially improved indoor coverage to residents, businesses, students and faculty, and the general public in that area.8 AT&T also seeks to substantially improve its ability to satisfy the ever-increasing need of its customers for data accessibility, navigation and use. This is especially critical in and around the area of Brookline Ave. which also serves as home for numerous businesses. AT&T proposes to satisfy its RF coverage needs in the area by adding to the existing Facility the antennas and equipment necessary to provide the latest LTE wireless communications service technology. By modifying its existing Facility, AT&T obviates the need to construct an entirely new facility within this area of Cambridge in order to meet the wireless network coverage needs of the residents, businesses, and general public in the area.

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

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

Section 10.43 of the Ordinance specifies the following criteria for issuance of a special permit: "Special permits will normally be granted where specific provisions of this

Ordinance are met, except when particulars of the location or use, not generally true of the district or of the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

(a) The requirements of this Ordinance cannot or will not be met, or

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

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

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

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

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

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

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

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

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

As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the Property, the visual impact on the underlying and adjacent zoning districts will be *de minimis*. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying PUD-2 & Residence C-3A district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

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

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

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

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

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

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

19.33 The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include[8]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

VIII. SUMMARY

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

Best Regards,

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

cc: Jonathan Elder, Esq.

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

BZA APPLICATION FORM

Plan No:

GENERAL INFORMATION

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

Special Permit : √ **Variance :** _____ **Appeal :** _____

PETITIONER : New Cingular Wireless PCS LLC d/b/a AT&T Mobility C/O Ryan Lynch

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

LOCATION OF PROPERTY : 280 Brookline Street, Cambridge, MA

TYPE OF OCCUPANCY : 8-Unit-Apt **ZONING DISTRICT :** Business C Zone

REASON FOR PETITION :

Other: Telecommunications Upgrade

DESCRIPTION OF PETITIONER'S PROPOSAL :

This Application is a Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C 1455; or in the alternative, for a special permit under the Zoning Ordinance as cited above, if and to the extent necessary, all rightys reserved.

AT&T will be replacing 6 antennas currently installed on site. AT&T will also be adding and upgrading other telecommunications equipment as part of nationwide network upgrades. These upgrades will be within the existing equipment room or out of public view.

SECTIONS OF ZONING ORDINANCE CITED :

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

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

Article 10.000 Section 10.40 (Special Permit).

Article 6409 Section Middle Class Tax Relief and Job Creation Act

Original Signature(s) : _____

(Petitioner(s) / Owner)

Ryan Lynch, Authorized Agent for AT&T

(Print Name)

Address : 85 Rangeway Road
Building 3, Suite 102, Billerica, MA 01862

Tel. No. : 781-392-4040

E-Mail Address : Ryan.Lynch@smartlinkllc.com

Date : _____

BZA APPLICATION FORM

DIMENSIONAL INFORMATION

APPLICANT : Smartlink LLC **PRESENT USE/OCCUPANCY :** Residential/Telecom

LOCATION : 280 Brookline Street, Cambridge, MA **ZONE :** Business C Zone

PHONE : **REQUESTED USE/OCCUPANCY :** Same

		EXISTING CONDITIONS	***REQUESTED CONDITIONS***	***ORDINANCE REQUIREMENTS*** [1]	
TOTAL GROSS FLOOR AREA:		0	0	0	(max.)
LOT AREA:		0	0	0	(min.)
RATIO OF GROSS FLOOR AREA TO LOT AREA: [2]		0	0	0	(max.)
LOT AREA FOR EACH DWELLING UNIT:		0	0	0	(min.)
SIZE OF LOT:	WIDTH	0	0	0	(min.)
	DEPTH	0	0	0	
SETBACKS IN FEET:	FRONT	0	0	0	(min.)
	REAR	0	0	0	(min.)
	LEFT SIDE	0	0	0	(min.)
	RIGHT SIDE	0	0	0	(min.)
SIZE OF BLDG.:	HEIGHT	0	0	0	(max.)
	LENGTH	0	0	0	
	WIDTH	0	0	0	
RATIO OF USABLE OPEN SPACE TO LOT AREA: [3]		0	0	0	(min.)
NO. OF DWELLING UNITS:		0	0	0	(max.)
NO. OF PARKING SPACES:		0	0	0	(min./max)
NO. OF LOADING AREAS:		0	0	0	(min.)
DISTANCE TO NEAREST BLDG. ON SAME LOT:		0	0	0	(min.)

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

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

BZA APPLICATION FORM

SUPPORTING STATEMENT FOR A VARIANCE

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

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

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

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

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

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

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

BZA APPLICATION FORM

SUPPORTING STATEMENT FOR A SPECIAL PERMIT

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

Granting the Special Permit requested for 280 Brookline St., Cambridge, MA (location) would not be a detriment to the public interest because:

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

See Attached Support Statements

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

See Attached Support Statements

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

See Attached Support Statements

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

See Attached Support Statements

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

See Attached Support Statements

BZA APPLICATION FORM

CHECK LIST

PROPERTY LOCATION: 280 Brookline St., Cambridge, MA **DATE:** 5/31/2018

Petitioner or Representative: New Cingular Wireless PCS d/b/a/ AT&T Mobility - c/o Ryan Lynch, Smartlink, LLC

ADDRESS & PHONE: 85 Rangeway Rd., Building 3, Suite 102, Billerica, MA 01862 / 781-290-9276

BLOCK: 96 **LOT:** 103

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

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

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

Petitioners are advised to refer to Attachment A (Procedures for applying to the Board of Zoning Appeal) & consult zoning staff for review.
It is advisable for the Petitioner to discuss the petition with the abutters as listed in the Zoning BZA Case file.

* For Special Permits under Art. 4.32.G.1 (Communication Towers and Antennas), include a photo simulation.
** Can be submitted after subdivision has been approved.

BZA APPLICATION FORM - OWNERSHIP INFORMATION

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

I/We Chiccarelli Real Estate, Inc. 1
(OWNER)

Address: 289 Great Road, Suite 104, Acton, Massachusetts

State that I/We own the property located at 274-280 Brookline St., cambridge, MA 02139 which is the subject of this zoning application.

The record title of this property is in the name of Chiccarelli Real Estate, Inc.

*Pursuant to a deed of duly recorded in the date June 9, 2010, Middlesex South County Registry of Deeds at Book 54799, Page 350; or Middlesex Registry District of Land Court, Certificate No. _____

Book _____ Page _____.

Rita Lambergs Tomes
SIGNATURE BY LAND OWNER OR AUTHORIZED TRUSTEE, OFFICER OR AGENT*

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

Commonwealth of Massachusetts, County of Suffolk

The above-name Rita Lambergs Tomes personally appeared before me, this 11th of May, 2018, and made oath that the above statement is true.

John Sutherland
NOTARY PUBLIC

My commission expires 5/28/21 (Notary Seal)

JOHN E. SUTHERLAND
MY COMMISSION EXPIRES May 28, 2021
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS

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

ULS License

700 MHz Lower Band (Blocks A, B & E) License - WQIZ616 - New Cingular Wireless PCS, LLC

Call Sign	WQIZ616	Radio Service	WY - 700 MHz Lower Band (Blocks A, B & E)
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	BEA003 - Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT	Channel Block	E
Submarket	0	Associated Frequencies (MHz)	000722.00000000-000728.00000000

Dates

Grant	06/26/2008	Expiration	03/07/2021
Effective	06/14/2017	Cancellation	

Buildout Deadlines

1st	03/07/2017	2nd	03/07/2021

Notification Dates

1st	03/16/2017	2nd	

Licensee

FRN	0003291192	Type	Limited Liability Company

Licensee

New Cingular Wireless PCS, LLC
208 S Akard St., RM 1016
Dallas, TX 75202
ATTN Leslie Wilson

P:(855)699-7073
F:(214)746-6410
E:FCCMW@att.com

Contact

AT&T Mobility LLC

1120 20th Street, NW - Suite 1000
Washington, DC 20036
ATTN Michael P. Goggin

P:(202)457-2055
F:(202)457-3073
E:michael.p.goggin@att.com

Ownership and Qualifications

Radio Service Type	Fixed, Mobile		
Regulatory Status	Common Carrier,	Interconnected	No

Non-Common
Carrier

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity

Gender

REFERENCE COPY

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

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

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
06-26-2008	06-14-2017	03-07-2021	

Market Number	Channel Block	Sub-Market Designator
BEA003	E	0

Market Name
Boston-Worcester-Lawrence-Lowe

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-07-2017	03-07-2021		

Waivers/Conditions:

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

Conditions:

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

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.

Reference Copy

ULS License

700 MHz Lower Band (Blocks A, B & E) License - WQJU427 - AT&T Mobility Spectrum LLC

Call Sign	WQJU427	Radio Service	WY - 700 MHz Lower Band (Blocks A, B & E)
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	CMA006 - Boston-Lowell-Brockton-Lawrence-Haverhill, MA-NH	Channel Block	B
Submarket	0	Associated Frequencies (MHz)	000704.00000000-000710.00000000 000734.00000000-000740.00000000

Dates

Grant	01/06/2009	Expiration	06/13/2019
Effective	06/08/2017	Cancellation	

Buildout Deadlines

1st	12/13/2016	2nd	06/13/2019

Notification Dates

1st	10/30/2012	2nd	10/30/2012

Licensee

FRN	0014980726	Type	Limited Liability Company

Licensee

AT&T Mobility Spectrum LLC
208 S Akard St., RM 1016
Dallas, TX 75202
ATTN Leslie Wilson

P:(855)699-7073
F:(214)746-6410
E:FCCMW@att.com

Contact

AT&T Mobility LLC
Michael P Goggin
1120 20th Street, NW - Suite 1000
Washington, DC 20036
ATTN Michael P. Goggin

P:(202)457-2055
F:(202)457-3073
E:michael.p.goggin@att.com

Ownership and Qualifications

Radio Service Type Mobile

Regulatory Status	Common Carrier	Interconnected	Yes

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity

Gender

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: LESLIE WILSON
AT&T MOBILITY SPECTRUM LLC
208 S AKARD ST., RM 1016
DALLAS, TX 75202

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

FCC Registration Number (FRN): 0014980726

Grant Date	Effective Date	Expiration Date	Print Date
01-06-2009	06-08-2017	06-13-2019	

Market Number	Channel Block	Sub-Market Designator
CMA006	B	0

Market Name
Boston-Lowell-Brockton-Lawrenc

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
12-13-2016	06-13-2019		

Waivers/Conditions:

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

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

Conditions:

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

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Reference Copy

ULS License

700 MHz Lower Band (Blocks C, D) License - WPWU950 - AT&T Mobility Spectrum LLC

Call Sign	WPWU950	Radio Service	WZ - 700 MHz Lower Band (Blocks C, D)
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	CMA006 - Boston-Lowell-Brockton-Lawrence-Haverhill, MA-NH	Channel Block	C
Submarket	0	Associated Frequencies (MHz)	000710.00000000-000716.00000000 000740.00000000-000746.00000000

Dates

Grant	01/24/2003	Expiration	06/13/2019
Effective	06/08/2017	Cancellation	

Buildout Deadlines

1st	06/13/2019	2nd	

Notification Dates

1st		2nd	

Licensee

FRN	0014980726	Type	Limited Liability Company

Licensee

AT&T Mobility Spectrum LLC
208 S Akard St., RM 1016
Dallas, TX 75202
ATTN Leslie Wilson

P:(855)699-7073
F:(214)746-6410
E:FCCMW@att.com

Contact

AT&T Mobility LLC
Michael P Goggin
1120 20th Street, NW - Suite 1000
Washington, DC 20036
ATTN Michael P. Goggin

P:(202)457-2055
F:(202)457-3073
E:michael.p.goggin@att.com

Ownership and Qualifications

Radio Service Type Fixed, Mobile, Radio Location

Regulatory Status	Common Carrier, Non-Common Carrier, Private Comm	Interconnected	Yes

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity

Gender

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: LESLIE WILSON
AT&T MOBILITY SPECTRUM LLC
208 S AKARD ST., RM 1016
DALLAS, TX 75202

Call Sign	File Number
WPWU950	
Radio Service	
WZ - 700 MHz Lower Band (Blocks C, D)	

FCC Registration Number (FRN): 0014980726

Grant Date	Effective Date	Expiration Date	Print Date
01-24-2003	06-08-2017	06-13-2019	

Market Number	Channel Block	Sub-Market Designator
CMA006	C	0

Market Name
Boston-Lowell-Brockton-Lawrenc

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-13-2019			

Waivers/Conditions:

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

Operation of the facilities authorized herein, are subject to the condition that harmful interference may not be caused to, but must be accepted from UHF TV transmitters in Canada and Mexico as identified in existing and any future agreements with those countries.

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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Reference Copy

Licensee Name: AT&T MOBILITY SPECTRUM LLC

Call Sign: WPWU950 **File Number:** **Print Date:**

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

Reference Copy

ULS License

AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) License - WQVN675 - AT&T Wireless Services 3 LLC

Call Sign	WQVN675	Radio Service	AT - AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz)
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	BEA003 - Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT	Channel Block	J
Submarket	0	Associated Frequencies (MHz)	001770.00000000-001780.00000000 002170.00000000-002180.00000000

Dates

Grant	04/08/2015	Expiration	04/08/2027
Effective	10/21/2017	Cancellation	

Buildout Deadlines

1st	04/08/2021	2nd	04/08/2027

Notification Dates

1st	2nd

Licensee

FRN	0023910920	Type	Limited Liability Company

Licensee

AT&T Wireless Services 3 LLC
208 S Akard St., RM 1016
Dallas, TX 75202
ATTN Leslie Wilson

P:(855)699-7073
F:(214)746-6410
E:FCCMW@att.com

Contact

AT&T MOBILITY LLC
Michael P Goggin
1120 20th Street, NW - Suite 1000
Washington, DC 20036
ATTN Michael P. Goggin

P:(202)457-2055
F:(202)457-3073
E:michael.p.goggin@att.com

Ownership and Qualifications

Radio Service Type	Mobile		
Regulatory Status	Common Carrier, Non-Common Carrier	Interconnected	Yes

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity Gender

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T WIRELESS SERVICES 3 LLC

ATTN: LESLIE WILSON
AT&T WIRELESS SERVICES 3 LLC
208 S AKARD ST., RM 1016
DALLAS, TX 75202

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

FCC Registration Number (FRN): 0023910920

Grant Date	Effective Date	Expiration Date	Print Date
04-08-2015	10-21-2017	04-08-2027	

Market Number	Channel Block	Sub-Market Designator
BEA003	J	0

Market Name
Boston-Worcester-Lawrence-Lowe

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
04-08-2021	04-08-2027		

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.

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Reference Copy

ULS License

Wireless Communications Service License - KNLB210 - New Cingular Wireless PCS, LLC

This license has pending applications: 0007815701

Call Sign	KNLB210	Radio Service	WS - Wireless Communications Service
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	MEA001 - Boston	Channel Block	A
Submarket	0	Associated Frequencies (MHz)	002305.00000000-002310.00000000 002350.00000000-002355.00000000

Dates

Grant	09/27/2010	Expiration	07/21/2017
Effective	07/21/2017	Cancellation	

Buildout Deadlines

1st	03/13/2017	2nd	09/13/2019

Notification Dates

1st	03/03/2017	2nd	

Licensee

FRN	0003291192	Type	Limited Liability Company

Licensee

New Cingular Wireless PCS, LLC
208 S. Akard St., RM 1016
Dallas, TX 75202
ATTN Leslie A. Wilson

P:(855)699-7073
F:(214)746-6410
E:FCCMW@att.com

Contact

AT&T Mobility LLC

1120 20th Street, NW - Suite 1000
Washington, DC 20036
ATTN Michael P. Goggin

P:(202)457-2055
F:(202)457-3073
E:michael.p.goggin@att.com

Ownership and Qualifications

Radio Service Type

Regulatory Status	Interconnected

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity	Gender

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

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

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

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
09-27-2010	07-21-2017	07-21-2017	

Market Number	Channel Block	Sub-Market Designator
MEA001	A	0

Market Name
Boston

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-13-2017	09-13-2019		

Waivers/Conditions:

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).

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

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.

Reference Copy

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.

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

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

Reference Copy

ULS Application

Wireless Communications Service - 0007815701 - New Cingular Wireless PCS, LLC

File Number	0007815701	Radio Service	WS - Wireless Communications Service
Call Sign	KNLB210	Application Status	2 - Pending

General Information

Application Purpose	RO - Renewal Only		
Existing Radio Service			
Authorization Type	Regular	Emergency STA	
Receipt Date	06/15/2017	Action Date	06/16/2017
Entered Date	06/15/2017	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments	Yes	Grandfathered Privileges	
Application Fee Exempt	No	Regulatory Fee Exempt	No
Major Request			

Market Data

Market	MEA001 - Boston	Channel Block	A
Submarket Designator	0	Associated Frequencies (MHz)	002305.00000000-002310.00000000 002350.00000000-002355.00000000

Applicant Information

FRN	0003291192	Type	Limited Liability Company
Name	New Cingular Wireless PCS, LLC 208 S. Akard St., RM 1016 Dallas, TX 75202 ATTN Leslie A. Wilson		P:(855)699-7073 F:(214)746-6410 E:FCCMW@att.com
Real Party in Interest		FRN of Real Party in Interest	

Contact Information

Name	AT&T Mobility LLC 1120 20th Street, NW - Suite 1000 Washington, DC 20036 ATTN Michael P. Goggin		P:(202)457-2055 F:(202)457-3073 E:michael.p.goggin@att.com

Reference Copy Only. Do Not Mail to the FCC as an Application.

Submitted: 06/15/2017 at 12:19:23
File Number: 0007815701

FCC 601
Main Form

FCC Application for Radio Service Authorization: Wireless Telecommunications Bureau Public Safety and Homeland Security Bureau

Approved by OMB
3060 - 0798
See instructions for public burden estimate

1) Radio Service Code: **WS**	1a) Existing Radio Service Code:

General Information

2) (Select only one) **(RO)**

NE - New **RO** - Renewal Only **AU** - Administrative Update **NT** - Required Notifications
MD - Modification **RM** - Renewal/Modification **WD** - Withdrawal of Application **EX** - Requests for Extension of Time
AM - Amendment **CA** - Cancellation of License **DU** - Duplicate License **RL** – Registered Location/Link

3a) If this application is for a **D**evelopmental License, De**m**onstration License, or a **S**pecial Temporary Authorization (STA), enter the code and attach the required exhibit as described in the instructions. Otherwise enter '**N**' (Not Applicable).	(**N**)**D M S N**/A
3b) If this application is for Special Temporary Authority due to an emergency situation, enter 'Y'; otherwise enter 'N'. Refer to Rule 1.915 for an explanation of situations considered to be an emergency.	( )**Y**es **N**o
4) If this application is for an Amendment or Withdrawal, enter the file number of the pending application currently on file with the FCC.	File Number
5) If this application is for a Modification, Renewal Only, Renewal/Modification, Cancellation of License, Duplicate License, or Administrative Update, enter the call sign of the existing FCC license. If this is a request for Registered Location/Link, enter the FCC call sign assigned to the geographic license.	Call Sign **KNLB210**
6) If this application is for a New, Amendment, Renewal Only, or Renewal/Modification, enter the requested authorization expiration date (this item is optional).	MM DD _____/_____
7) Is this application "major" as defined in §1.929 of the Commission's Rules when read in conjunction with the applicable radio service rules found in Parts 22 and 90 of the Commission's Rules? (NOTE: This question only applies to certain site-specific applications. See the instructions for applicability and full text of §1.929).	( )**Y**es **N**o
8) Are attachments (other than associated schedules) being filed with this application?	(**Y**)**Y**es **N**o

Fees, Waivers, and Exemptions

9) Is the Applicant exempt from FCC application fees?	(**N**)**Y**es **N**o
10) Is the Applicant exempt from FCC regulatory fees?	(**N**)**Y**es **N**o
11a) Does this application include a request for a Waiver of the Commission's Rule(s)? If 'Yes', attach an exhibit providing rule number(s) and explaining circumstances.	(**N**)**Y**es **N**o
11b) If 11a is 'Y', enter the number of rule sections involved.	Number of Rule Section(s): _____
12) Are the frequencies or parameters requested in this filing covered by grandfathered privileges, previously approved by waiver, or functionally integrated with an existing station?	( )**Y**es **N**o

Applicant Information

13) FCC Registration Number (FRN):
0003291192

14) Applicant/Licensee Legal Entity Type: (Select One)
( ) Individual ( )Unincorporated Association ( )Trust ( )Government Entity ( )Corporation (**X**)Limited Liability Company
( ) General Partnership ( ) Limited Partnership ( ) Limited Liability Partnership ( ) Consortium
( ) Other: _____

15) If the Licensee name is being updated, is the update a result from the sale (or transfer of control) of the license(s) to another party and for which proper Commission approval has not been received or proper notification not provided? ( )**Y**es **N**o

16) First Name (if individual):	MI:	Last Name:	Suffix:

17) Legal Entity Name (if other than individual):
New Cingular Wireless PCS, LLC

18) Attention To:
Leslie A. Wilson

19) P.O. Box:	**And/Or**	20) Street Address**:**
		208 S. Akard St., RM 1016

21) City:	22) State:	23) Zip Code:
Dallas	**TX**	**75202**

24) Telephone Number:	25) FAX:
(855)699-7073	**(214)746-6410**

26) E-Mail Address:
FCCMW@att.com

27) **Demographics (Optional)**:

Race:	**Ethnicity:**	**Gender:**
( )American Indian or Alaska Native	( )Hispanic or Latino	( )Male
( )Asian	( )Not Hispanic or Latino	( )Female
( )Black or African-American		
( )Native Hawaiian or Other Pacific Islander		
( )White		

Real Party in Interest

28) Name of Real Party in Interest of Applicant (If different from Applicant):	29) FCC Registration Number (FRN) of Real Party in Interest:

Contact Information (If different from the Applicant)
(____) Check here if same as Applicant.

30) First Name:	MI:	Last Name:	Suffix:

31) Company Name:
AT&T Mobility LLC

32) Attention To:
Michael P. Goggin

33) P.O. Box:	**And /Or**	34) Street Address**:**
		1120 20th Street, NW - Suite 1000

35) City:	36) State:	37) Zip Code:
Washington	**DC**	**20036**

38) Telephone Number**:**	39) FAX:
(202)457-2055	**(202)457-3073**

40) E-Mail Address:
michael.p.goggin@att.com

Regulatory Status

41) This filing is for authorization to provide or use the following type(s) of radio service offering (enter all that apply):

( )**C**ommon Carrier ( )**N**on-Common Carrier ( )**P**rivate, internal communications ( )**B**roadcast Services ( )**B**and **M**anager

Reference Copy

Type of Radio Service

42) This filing is for authorization to provide the following type(s) of radio service (choose all that apply):

( )**F**ixed ( )**M**obile ( )**R**adiolocation ( )**S**atellite (sound) ( )**B**roadcast Services

43) Does the Applicant propose to provide service interconnected to the public telephone network? ( )**Y**es **N**o

Alien Ownership Questions (If any answer is 'Y", provide an attachment explaining the circumstances. In preparing the attachment, refer to the Main Form Instructions for the "Alien Ownership Questions".)

44) Is the Applicant a foreign government or the representative of any foreign government? ( )**Y**es **N**o

45) Is the Applicant an alien or the representative of an alien? ( )**Y**es **N**o

46) Is the Applicant a corporation organized under the laws of any foreign government? ( )**Y**es **N**o

47) Is the Applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ( )**Y**es **N**o

48a) Is the Applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ( ) **Y**es **N**o

48b) If the answer to 47 or 48a is 'Y' select one of the choices below.

☐ The Applicant is exempt from the provisions of Section 310(b).

It is not necessary to file a petition for declaratory ruling if the Applicant includes in the attachment required by Item 47 or Item 48a a showing that the requested license(s) is exempt from the provisions of Section 310(b).

☐ The Applicant has received a declaratory ruling(s) approving its foreign ownership, and the application involves only the acquisition of additional spectrum for the provision of a wireless service in a geographic coverage area for which the Applicant has been previously authorized.

If checked, include in the attachment required by Item 47 or Item 48a the citation(s) of the applicable declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that there has been no change in the foreign ownership of the Applicant since the issuance of its ruling.

☐ The Applicant: (i) has received a declaratory ruling(s) approving its foreign ownership, but is not able to make the certification specified immediately above; or (ii) is an "affiliate" of a Licensee or Lessee/Sublessee that received a declaratory ruling(s) under 47 CFR § 1.990(a) and is relying on the affiliate's ruling for purposes of filing this application as permitted under the affiliate's ruling and 47 CFR § 1.994(b).

If checked, and if the Applicant *received its declaratory ruling(s) on or after August 9, 2013, include in the attachment required by Item 47 or Item 48a the citation(s) of the Applicant's declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that the Applicant is in compliance with the terms and conditions of its ruling and with the Commission's Rules.*

If checked, and if the Applicant received its declaratory ruling(s) prior to August 9, 2013, include in the attachment required by Item 48a a copy of a petition for declaratory ruling filed contemporaneously with the Commission to extend the Applicant's existing ruling(s) to cover the same radio service(s) and geographic coverage area(s) involved in the application. Alternatively, the Applicant may request a new declaratory ruling pursuant to Section 1.990(a) of the Commission's Rules, 47 CFR § 1.990(a). Petitions for declaratory ruling may be filed electronically on the Internet through the International Bureau Filing System (IBFS) (with a copy attached hereto).

If checked, and if the Applicant is relying on an affiliate's ruling for purposes of filing this application, include in the attachment required by Item 47 or Item 48a the citation(s) of the applicable declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that the Applicant is in compliance with the terms and conditions of the named affiliate's ruling and with the Commission's Rules. The Applicant must also include a certification of compliance signed by the named affiliate or other qualified entity as specified in 47 CFR § 1.994(b). See Main Form Instructions for Items 47 or 48a, as applicable.

☐ The Applicant has not received a declaratory ruling approving its foreign ownership and is requesting a declaratory ruling under 47 CFR § 1.990(a) in a petition filed contemporaneously with the Commission.

If checked, include in the attachment required by Item 47 or 48a a copy of the petition for declaratory ruling filed contemporaneously with the Commission pursuant to 47 CFR § 1.990(a). Petitions for declaratory ruling may be filed electronically on the Internet through the International Bureau Filing System (IBFS) (with a copy attached hereto).

Reference Copy

Basic Qualification Questions

49) Has the Applicant or any party to this application had any FCC station authorization, license or construction permit revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission?	( )**Y**es **N**o
50) Has the Applicant or any party to this application, or any party directly or indirectly controlling the Applicant, ever been convicted of a felony by any state or federal court?	( )**Y**es **N**o
51) Has any court finally adjudged the Applicant or any party directly or indirectly controlling the Applicant guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement, or any other means or unfair methods of competition? If the answer to any of 49-51 is 'Y', attach an exhibit explaining the circumstances.	( )**Y**es **N**o

Aeronautical Advisory Station (Unicom) Certification

52) ( ) I certify that the station will be located on property of the airport to be served, and, in cases where the airport does not have a control tower, RCO, or FAA flight service station, that I have notified the owner of the airport and all aviation service organizations located at the airport within ten days prior to application.

Broadband Radio Service and Educational Broadband Service Cable Cross-Ownership

53a) Will the requested facilities be used to provide multichannel video programming service?	( )**Y**es **N**o
53b) If the answer to question 53a is 'Y', does the Applicant operate, control or have an attributable interest (as defined in 47 CFR § 27.1202) in a cable television system whose franchise area is located within the geographic service area of the requested facilities? **Note: If the answer to question 53b is 'Y'**, attach an exhibit explaining how the Applicant complies with 47 CFR § 27.1202 or justifying a waiver of that rule. If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o

Broadband Radio Service and Educational Broadband Service (Part 27)

54) (For EBS only) Does the Applicant comply with the programming requirements contained in 47 CFR § 27.1203? **Note: If the answer to item 54 is 'N',** attach an exhibit explaining how the Applicant complies with 47 CFR § 27.1203 of the Commission's Rules or justifying a waiver of that rule. If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o
55) (For BRS and EBS) Does the Applicant comply with 47 CFR §§ 27.50, 27.55, and 27.1221? **Note: If the answer to item 55 is 'N',** attach an exhibit justifying a waiver of that rule(s). If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o

For Applicants Who Participated in an Auction

56) Is the Applicant a qualifying rural wireless partnership or a member of a qualifying rural wireless partnership? **Note: If the answer to item 56 is 'Y',** attach an exhibit listing all members of the qualifying rural wireless partnership, including their FRN numbers.	( )**Y**es **N**o

General Certification Statements

1)	The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application.
2)	The Applicant certifies that grant of this application would not cause the Applicant to be in violation of any pertinent cross-ownership or attribution rules.* *If the Applicant has sought a waiver of any such rule in connection with this application, it may make this certification subject to the outcome of the waiver request.
3)	The Applicant certifies that all statements made in this application and in the exhibits, attachments, or documents incorporated by reference are material, are part of this application, and are true, complete, correct, and made in good faith.
4)	The Applicant certifies that neither the Applicant nor any other party to the application is subject to a denial of Federal benefits pursuant to § 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 862, because of a conviction for possession or distribution of a controlled substance. This certification does not apply to applications filed in services exempted under § 1.2002(c) of the rules, 47 CFR § 1.2002(c). *See* 47 CFR § 1.2002(b) for the definition of "party to the application" as used in this certification.
5)	The Applicant certifies that it either (1) has current required ownership data on file with the Commission, (2) is filing updated ownership data simultaneously with this application, or (3) is not required to file ownership data under the Commission's Rules.
6)	The Applicant certifies that the facilities, operations, and transmitters for which this authorization is hereby requested are either: (1) categorically excluded from routine environmental evaluation for RF exposure as set forth in 47 CFR § 1.1307(b); or, (2) have been found not to cause human exposure to levels of radiofrequency radiation in excess of the limits specified in 47 CFR §§ 1.1310 and 2.1093; or, (3) are the subject of one or more Environmental Assessments filed with the Commission.
7)	The Applicant certifies that it has reviewed the appropriate Commission Rules defining eligibility to hold the requested license(s), and is eligible to hold the requested license(s).
8)	The Applicant certifies that it is not in default on any payment for Commission licenses and that it is not delinquent on any non-tax debt owed to any federal agency.
9)	The Applicant certifies that the Applicant and all of the related individuals and entities required to be disclosed on this application and FCC Form 602 (FCC Ownership Disclosure Information for the Wireless Telecommunications Services) are not person(s) who have been, for reasons of national security, barred by any agency of the Federal Government from bidding on a contract, participating in an auction, or receiving a grant. This certification applies only to applications for licenses for spectrum that is required by Sections 6103, 6401-6403 of the Middle Class Tax Relief and Job Creation Act of 2012, codified at 47 U.S.C. §§ 309, 1413, 1451-1452, to be assigned by a system of competitive bidding under 47 U.S.C. § 309(j).

Pre-release copy

Signature

57)Typed or Printed Name of Party Authorized to Sign

First Name:	MI:	Last Name:	Suffix:
Dave		**Cundiff**	

58) Title:
Vice President - PO/M&P

Signature:	59) Date:
Dave Cundiff	**06/15/2017**

FAILURE TO SIGN THIS APPLICATION MAY RESULT IN DISMISSAL OF THE APPLICATION AND FORFEITURE OF ANY FEES PAID.

Upon grant of this license application, the Licensee may be subject to certain construction or coverage requirements. Failure to meet the construction or coverage requirements will result in termination of the license. Consult appropriate FCC regulations to determine the construction or coverage requirements that apply to the type of license requested in this application.

WILLFUL FALSE STATEMENTS MADE ON THIS FORM OR ANY ATTACHMENTS ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18, § 1001) AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. Code, Title 47, § 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, § 503).

Reference Copy

Attachment(s):

Type	Description	Date Entered
O	SUBSTANTIAL SERVICE SHOWING	06/15/2017

ULS License

Wireless Communications Service License - KNLB200 - New Cingular Wireless PCS, LLC

This license has pending applications: 0007815643

Call Sign	KNLB200	Radio Service	WS - Wireless Communications Service
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	MEA001 - Boston	Channel Block	B
Submarket	0	Associated Frequencies (MHz)	002310.00000000-002315.00000000 002355.00000000-002360.00000000

Dates

Grant	09/27/2010	Expiration	07/21/2017
Effective	07/21/2017	Cancellation	

Buildout Deadlines

1st	03/13/2017	2nd	09/13/2019

Notification Dates

1st	03/03/2017	2nd	

Licensee

FRN	0003291192	Type	Limited Liability Company

Licensee

New Cingular Wireless PCS, LLC
208 S. Akard St., RM 1016
Dallas, TX 75202
ATTN Leslie A. Wilson

P:(855)699-7073
F:(214)746-6410
E:FCCMW@att.com

Contact

AT&T Mobility LLC

1120 20th Street, NW - Suite 1000
Washington, DC 20036
ATTN Michael P. Goggin

P:(202)457-2055
F:(202)457-3073
E:michael.p.goggin@att.com

Ownership and Qualifications

Radio Service Type Fixed, Mobile

Regulatory Status	Common Carrier, Non-Common Carrier	Interconnected	Yes

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity Gender

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: NEW CINGULAR WIRELESS PCS, LLC

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

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

FCC Registration Number (FRN): 0003291192

Grant Date	Effective Date	Expiration Date	Print Date
09-27-2010	07-21-2017	07-21-2017	

Market Number	Channel Block	Sub-Market Designator
MEA001	B	0

Market Name
Boston

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-13-2017	09-13-2019		

Waivers/Conditions:

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).

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

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.

Reference Copy

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.

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

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

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

Reference Copy

ULS Application

Wireless Communications Service - 0007815643 - New Cingular Wireless PCS, LLC

File Number	0007815643	Radio Service	WS - Wireless Communications Service
Call Sign	KNLB200	Application Status	2 - Pending

General Information

Application Purpose	RO - Renewal Only		
Existing Radio Service			
Authorization Type	Regular	Emergency STA	
Receipt Date	06/15/2017	Action Date	06/16/2017
Entered Date	06/15/2017	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments	Yes	Grandfathered Privileges	
Application Fee Exempt	No	Regulatory Fee Exempt	No
Major Request			

Market Data

Market	MEA001 - Boston	Channel Block	B
Submarket Designator	0	Associated Frequencies (MHz)	002310.00000000-002315.00000000 002355.00000000-002360.00000000

Applicant Information

FRN	0003291192	Type	Limited Liability Company
Name	New Cingular Wireless PCS, LLC 208 S. Akard St., RM 1016 Dallas, TX 75202 ATTN Leslie A. Wilson		P:(855)699-7073 F:(214)746-6410 E:FCCMW@att.com
Real Party in Interest		FRN of Real Party in Interest	

Contact Information

Name	AT&T Mobility LLC 1120 20th Street, NW - Suite 1000 Washington, DC 20036 ATTN Michael P. Goggin		P:(202)457-2055 F:(202)457-3073 E:michael.p.goggin@att.com

Reference Copy Only. Do Not Mail to the FCC as an Application.

Submitted: 06/15/2017 at 12:06:55
File Number: 0007815643

FCC 601
Main Form

FCC Application for Radio Service Authorization: Wireless Telecommunications Bureau Public Safety and Homeland Security Bureau

Approved by OMB
3060 - 0798
See instructions for public burden estimate

1) Radio Service Code: **WS**	1a) Existing Radio Service Code:

General Information

2) (Select only one) **(RO)**

NE - New **RO** - Renewal Only **AU** - Administrative Update **NT** - Required Notifications
MD - Modification **RM** - Renewal/Modification **WD** - Withdrawal of Application **EX** - Requests for Extension of Time
AM - Amendment **CA** - Cancellation of License **DU** - Duplicate License **RL** – Registered Location/Link

3a) If this application is for a **D**evelopmental License, De**m**onstration License, or a **S**pecial Temporary Authorization (STA), enter the code and attach the required exhibit as described in the instructions. Otherwise enter '**N**' (Not Applicable).	(**N**)**D M S N**/A
3b) If this application is for Special Temporary Authority due to an emergency situation, enter 'Y'; otherwise enter 'N'. Refer to Rule 1.915 for an explanation of situations considered to be an emergency.	( )**Y**es **N**o
4) If this application is for an Amendment or Withdrawal, enter the file number of the pending application currently on file with the FCC.	File Number
5) If this application is for a Modification, Renewal Only, Renewal/Modification, Cancellation of License, Duplicate License, or Administrative Update, enter the call sign of the existing FCC license. If this is a request for Registered Location/Link, enter the FCC call sign assigned to the geographic license.	Call Sign **KNLB200**
6) If this application is for a New, Amendment, Renewal Only, or Renewal/Modification, enter the requested authorization expiration date (this item is optional).	MM DD _____/_____
7) Is this application "major" as defined in §1.929 of the Commission's Rules when read in conjunction with the applicable radio service rules found in Parts 22 and 90 of the Commission's Rules? (NOTE: This question only applies to certain site-specific applications. See the instructions for applicability and full text of §1.929).	( )**Y**es **N**o
8) Are attachments (other than associated schedules) being filed with this application?	(**Y**)**Y**es **N**o

Fees, Waivers, and Exemptions

9) Is the Applicant exempt from FCC application fees?	(**N**)**Y**es **N**o
10) Is the Applicant exempt from FCC regulatory fees?	(**N**)**Y**es **N**o
11a) Does this application include a request for a Waiver of the Commission's Rule(s)? If 'Yes', attach an exhibit providing rule number(s) and explaining circumstances.	(**N**)**Y**es **N**o
11b) If 11a is 'Y', enter the number of rule sections involved.	Number of Rule Section(s): _____
12) Are the frequencies or parameters requested in this filing covered by grandfathered privileges, previously approved by waiver, or functionally integrated with an existing station?	( )**Y**es **N**o

Applicant Information

13) FCC Registration Number (FRN):
0003291192

14) Applicant/Licensee Legal Entity Type: (Select One)
( ) Individual ( )Unincorporated Association ( )Trust ( )Government Entity ( )Corporation (**X**)Limited Liability Company
( ) General Partnership ( ) Limited Partnership ( ) Limited Liability Partnership ( ) Consortium
( ) Other: _____

15) If the Licensee name is being updated, is the update a result from the sale (or transfer of control) of the license(s) to another party and for which proper Commission approval has not been received or proper notification not provided? ( )**Y**es **N**o

16) First Name (if individual):	MI:	Last Name:	Suffix:

17) Legal Entity Name (if other than individual):
New Cingular Wireless PCS, LLC

18) Attention To:
Leslie A. Wilson

19) P.O. Box:	**And/Or**	20) Street Address**:**
		208 S. Akard St., RM 1016

21) City:	22) State:	23) Zip Code:
Dallas	**TX**	**75202**

24) Telephone Number:	25) FAX:
(855)699-7073	**(214)746-6410**

26) E-Mail Address:
FCCMW@att.com

27) **Demographics (Optional)**:

Race:	**Ethnicity:**	**Gender:**
( )American Indian or Alaska Native	( )Hispanic or Latino	( )Male
( )Asian	( )Not Hispanic or Latino	( )Female
( )Black or African-American		
( )Native Hawaiian or Other Pacific Islander		
( )White		

Real Party in Interest

28) Name of Real Party in Interest of Applicant (If different from Applicant):	29) FCC Registration Number (FRN) of Real Party in Interest:

Contact Information (If different from the Applicant)
(____) Check here if same as Applicant.

30) First Name:	MI:	Last Name:	Suffix:

31) Company Name:
AT&T Mobility LLC

32) Attention To:
Michael P. Goggin

33) P.O. Box:	**And /Or**	34) Street Address**:**
		1120 20th Street, NW - Suite 1000

35) City:	36) State:	37) Zip Code:
Washington	**DC**	**20036**

38) Telephone Number**:**	39) FAX:
(202)457-2055	**(202)457-3073**

40) E-Mail Address:
michael.p.goggin@att.com

Regulatory Status

41) This filing is for authorization to provide or use the following type(s) of radio service offering (enter all that apply):

( )**C**ommon Carrier ( )**N**on-Common Carrier ( )**P**rivate, internal communications ( )**B**roadcast Services ( )**B**and **M**anager

Reference Copy

Type of Radio Service

42) This filing is for authorization to provide the following type(s) of radio service (choose all that apply):

( )**F**ixed ( )**M**obile ( )**R**adiolocation ( )**S**atellite (sound) ( )**B**roadcast Services

43) Does the Applicant propose to provide service interconnected to the public telephone network? ( )**Y**es **N**o

Alien Ownership Questions (If any answer is 'Y", provide an attachment explaining the circumstances. In preparing the attachment, refer to the Main Form Instructions for the "Alien Ownership Questions".)

44) Is the Applicant a foreign government or the representative of any foreign government? ( )**Y**es **N**o

45) Is the Applicant an alien or the representative of an alien? ( )**Y**es **N**o

46) Is the Applicant a corporation organized under the laws of any foreign government? ( )**Y**es **N**o

47) Is the Applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ( )**Y**es **N**o

48a) Is the Applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ( ) **Y**es **N**o

48b) If the answer to 47 or 48a is 'Y' select one of the choices below.

☐ The Applicant is exempt from the provisions of Section 310(b).

It is not necessary to file a petition for declaratory ruling if the Applicant includes in the attachment required by Item 47 or Item 48a a showing that the requested license(s) is exempt from the provisions of Section 310(b).

☐ The Applicant has received a declaratory ruling(s) approving its foreign ownership, and the application involves only the acquisition of additional spectrum for the provision of a wireless service in a geographic coverage area for which the Applicant has been previously authorized.

If checked, include in the attachment required by Item 47 or Item 48a the citation(s) of the applicable declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that there has been no change in the foreign ownership of the Applicant since the issuance of its ruling.

☐ The Applicant: (i) has received a declaratory ruling(s) approving its foreign ownership, but is not able to make the certification specified immediately above; or (ii) is an "affiliate" of a Licensee or Lessee/Sublessee that received a declaratory ruling(s) under 47 CFR § 1.990(a) and is relying on the affiliate's ruling for purposes of filing this application as permitted under the affiliate's ruling and 47 CFR § 1.994(b).

If checked, and if the Applicant *received its declaratory ruling(s) on or after August 9, 2013, include in the attachment required by Item 47 or Item 48a the citation(s) of the Applicant's declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that the Applicant is in compliance with the terms and conditions of its ruling and with the Commission's Rules.*

If checked, and if the Applicant received its declaratory ruling(s) prior to August 9, 2013, include in the attachment required by Item 48a a copy of a petition for declaratory ruling filed contemporaneously with the Commission to extend the Applicant's existing ruling(s) to cover the same radio service(s) and geographic coverage area(s) involved in the application. Alternatively, the Applicant may request a new declaratory ruling pursuant to Section 1.990(a) of the Commission's Rules, 47 CFR § 1.990(a). Petitions for declaratory ruling may be filed electronically on the Internet through the International Bureau Filing System (IBFS) (with a copy attached hereto).

If checked, and if the Applicant is relying on an affiliate's ruling for purposes of filing this application, include in the attachment required by Item 47 or Item 48a the citation(s) of the applicable declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that the Applicant is in compliance with the terms and conditions of the named affiliate's ruling and with the Commission's Rules. The Applicant must also include a certification of compliance signed by the named affiliate or other qualified entity as specified in 47 CFR § 1.994(b). See Main Form Instructions for Items 47 or 48a, as applicable.

☐ The Applicant has not received a declaratory ruling approving its foreign ownership and is requesting a declaratory ruling under 47 CFR § 1.990(a) in a petition filed contemporaneously with the Commission.

If checked, include in the attachment required by Item 47 or 48a a copy of the petition for declaratory ruling filed contemporaneously with the Commission pursuant to 47 CFR § 1.990(a). Petitions for declaratory ruling may be filed electronically on the Internet through the International Bureau Filing System (IBFS) (with a copy attached hereto).

Reference Copy

Basic Qualification Questions

49) Has the Applicant or any party to this application had any FCC station authorization, license or construction permit revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission?	( )**Y**es **N**o
50) Has the Applicant or any party to this application, or any party directly or indirectly controlling the Applicant, ever been convicted of a felony by any state or federal court?	( )**Y**es **N**o
51) Has any court finally adjudged the Applicant or any party directly or indirectly controlling the Applicant guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement, or any other means or unfair methods of competition? If the answer to any of 49-51 is 'Y', attach an exhibit explaining the circumstances.	( )**Y**es **N**o

Aeronautical Advisory Station (Unicom) Certification

52) ( ) I certify that the station will be located on property of the airport to be served, and, in cases where the airport does not have a control tower, RCO, or FAA flight service station, that I have notified the owner of the airport and all aviation service organizations located at the airport within ten days prior to application.

Broadband Radio Service and Educational Broadband Service Cable Cross-Ownership

53a) Will the requested facilities be used to provide multichannel video programming service?	( )**Y**es **N**o
53b) If the answer to question 53a is 'Y', does the Applicant operate, control or have an attributable interest (as defined in 47 CFR § 27.1202) in a cable television system whose franchise area is located within the geographic service area of the requested facilities? **Note: If the answer to question 53b is 'Y'**, attach an exhibit explaining how the Applicant complies with 47 CFR § 27.1202 or justifying a waiver of that rule. If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o

Broadband Radio Service and Educational Broadband Service (Part 27)

54) (For EBS only) Does the Applicant comply with the programming requirements contained in 47 CFR § 27.1203? **Note: If the answer to item 54 is 'N',** attach an exhibit explaining how the Applicant complies with 47 CFR § 27.1203 of the Commission's Rules or justifying a waiver of that rule. If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o
55) (For BRS and EBS) Does the Applicant comply with 47 CFR §§ 27.50, 27.55, and 27.1221? **Note: If the answer to item 55 is 'N',** attach an exhibit justifying a waiver of that rule(s). If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o

For Applicants Who Participated in an Auction

56) Is the Applicant a qualifying rural wireless partnership or a member of a qualifying rural wireless partnership? **Note: If the answer to item 56 is 'Y',** attach an exhibit listing all members of the qualifying rural wireless partnership, including their FRN numbers.	( )**Y**es **N**o

General Certification Statements

1)	The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application.
2)	The Applicant certifies that grant of this application would not cause the Applicant to be in violation of any pertinent cross-ownership or attribution rules.* *If the Applicant has sought a waiver of any such rule in connection with this application, it may make this certification subject to the outcome of the waiver request.
3)	The Applicant certifies that all statements made in this application and in the exhibits, attachments, or documents incorporated by reference are material, are part of this application, and are true, complete, correct, and made in good faith.
4)	The Applicant certifies that neither the Applicant nor any other party to the application is subject to a denial of Federal benefits pursuant to § 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 862, because of a conviction for possession or distribution of a controlled substance. This certification does not apply to applications filed in services exempted under § 1.2002(c) of the rules, 47 CFR § 1.2002(c). *See* 47 CFR § 1.2002(b) for the definition of "party to the application" as used in this certification.
5)	The Applicant certifies that it either (1) has current required ownership data on file with the Commission, (2) is filing updated ownership data simultaneously with this application, or (3) is not required to file ownership data under the Commission's Rules.
6)	The Applicant certifies that the facilities, operations, and transmitters for which this authorization is hereby requested are either: (1) categorically excluded from routine environmental evaluation for RF exposure as set forth in 47 CFR § 1.1307(b); or, (2) have been found not to cause human exposure to levels of radiofrequency radiation in excess of the limits specified in 47 CFR §§ 1.1310 and 2.1093; or, (3) are the subject of one or more Environmental Assessments filed with the Commission.
7)	The Applicant certifies that it has reviewed the appropriate Commission Rules defining eligibility to hold the requested license(s), and is eligible to hold the requested license(s).
8)	The Applicant certifies that it is not in default on any payment for Commission licenses and that it is not delinquent on any non-tax debt owed to any federal agency.
9)	The Applicant certifies that the Applicant and all of the related individuals and entities required to be disclosed on this application and FCC Form 602 (FCC Ownership Disclosure Information for the Wireless Telecommunications Services) are not person(s) who have been, for reasons of national security, barred by any agency of the Federal Government from bidding on a contract, participating in an auction, or receiving a grant. This certification applies only to applications for licenses for spectrum that is required by Sections 6103, 6401-6403 of the Middle Class Tax Relief and Job Creation Act of 2012, codified at 47 U.S.C. §§ 309, 1413, 1451-1452, to be assigned by a system of competitive bidding under 47 U.S.C. § 309(j).

Pre-release copy

Signature

57)Typed or Printed Name of Party Authorized to Sign

First Name:	MI:	Last Name:	Suffix:
Dave		**Cundiff**	

58) Title:
Vice President - PO/M&P

Signature:	59) Date:
Dave Cundiff	**06/15/2017**

FAILURE TO SIGN THIS APPLICATION MAY RESULT IN DISMISSAL OF THE APPLICATION AND FORFEITURE OF ANY FEES PAID.

Upon grant of this license application, the Licensee may be subject to certain construction or coverage requirements. Failure to meet the construction or coverage requirements will result in termination of the license. Consult appropriate FCC regulations to determine the construction or coverage requirements that apply to the type of license requested in this application.

WILLFUL FALSE STATEMENTS MADE ON THIS FORM OR ANY ATTACHMENTS ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18, § 1001) AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. Code, Title 47, § 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, § 503).

Reference Copy

Attachment(s):

Type	Description	Date Entered
O	SUBSTANTIAL SERVICE SHOWING	06/15/2017

ULS License

Wireless Communications Service License - WPQL634 - New Cingular Wireless Services, Inc.

This license has pending applications: 0007789910

Call Sign	WPQL634	Radio Service	WS - Wireless Communications Service
Status	Active	Auth Type	Regular

Rural Service Provider Bidding Credit

Is the Applicant seeking a Rural Service Provider (RSP) bidding credit?

Reserved Spectrum

Reserved Spectrum

Market

Market	REA001 - Northeast	Channel Block	C
Submarket	7	Associated Frequencies (MHz)	002315.00000000-002320.00000000

Dates

Grant	09/27/2010	Expiration	07/21/2017
Effective	07/06/2017	Cancellation	

Buildout Deadlines

1st		2nd	09/13/2021

Notification Dates

1st		2nd	

Licensee

FRN	0004122032	Type	Corporation

Licensee

New Cingular Wireless Services, Inc.
208 S. Akard St., RM 1016
Dallas, TX 75202
ATTN Leslie A. Wilson

P:(855)699-7073
F:(214)746-6410
E:FCCMW@att.com

Contact

AT&T Mobility LLC

1120 20th Street, NW
Washington, DC 20036
ATTN Michael P. Goggin

P:(202)457-2055
F:(202)457-3074
E:michael.p.goggin@cingular.com

Ownership and Qualifications

Radio Service Type	Fixed, Mobile		
Regulatory Status	Common Carrier	Interconnected	Yes

Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Demographics

Race

Ethnicity

Gender

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: NEW CINGULAR WIRELESS SERVICES, INC.

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

Call Sign	File Number
WPQL634	
Radio Service	
WS - Wireless Communications Service	

FCC Registration Number (FRN): 0004122032

Grant Date	Effective Date	Expiration Date	Print Date
09-27-2010	07-06-2017	07-21-2017	

Market Number	Channel Block	Sub-Market Designator
REA001	C	7

Market Name
Northeast

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
	09-13-2021		

Waivers/Conditions:

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).

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

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.

Reference Copy

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.

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

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

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

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

Reference Copy

ULS Application

Wireless Communications Service - 0007789910 - New Cingular Wireless Services, Inc.

File Number	0007789910	Radio Service	WS - Wireless Communications Service
Call Sign	WPQL634	Application Status	2 - Pending

General Information

Application Purpose	RO - Renewal Only		
Existing Radio Service			
Authorization Type	Regular	Emergency STA	
Receipt Date	05/26/2017	Action Date	05/27/2017
Entered Date	05/26/2017	Requested Expiration Date	
Waiver	No	Number of Rules	
Attachments	Yes	Grandfathered Privileges	
Application Fee Exempt	No	Regulatory Fee Exempt	No
Major Request			

Market Data

Market	REA001 - Northeast	Channel Block	C
Submarket Designator	7	Associated Frequencies (MHz)	002315.00000000-002320.00000000

Applicant Information

FRN	0004122032	Type	Corporation
Name	New Cingular Wireless Services, Inc. 3300 E Renner Road, B3132 Richardson, TX 75082 ATTN Leslie A. Wilson		P:(855)699-7073 F:(972)907-1131 E:FCCMW@att.com
Real Party in Interest		FRN of Real Party in Interest	

Contact Information

Name	AT&T Mobility LLC Michael Goggin 1120 20th Street, NW Washington, DC 20036 ATTN Michael P. Goggin	P:(202)457-2055 F:(202)457-3074 E:michael.p.goggin@cingular.com

Reference Copy Only. Do Not Mail to the FCC as an Application.

Submitted: 05/26/2017 at 17:41:38
File Number: 0007789910

FCC 601
Main Form

FCC Application for Radio Service Authorization: Wireless Telecommunications Bureau Public Safety and Homeland Security Bureau

Approved by OMB
3060 - 0798
See instructions for public burden estimate

1) Radio Service Code:	1a) Existing Radio Service Code:
WS	

General Information

2) (Select only one) **(RO)**

NE - New **RO** - Renewal Only **AU** - Administrative Update **NT** - Required Notifications
MD - Modification **RM** - Renewal/Modification **WD** - Withdrawal of Application **EX** - Requests for Extension of Time
AM - Amendment **CA** - Cancellation of License **DU** - Duplicate License **RL** – Registered Location/Link

3a) If this application is for a **D**evelopmental License, De**m**onstration License, or a **S**pecial Temporary Authorization (STA), enter the code and attach the required exhibit as described in the instructions. Otherwise enter '**N**' (Not Applicable).	(**N**)**D M S N**/A
3b) If this application is for Special Temporary Authority due to an emergency situation, enter 'Y'; otherwise enter 'N'. Refer to Rule 1.915 for an explanation of situations considered to be an emergency.	( )**Y**es **N**o
4) If this application is for an Amendment or Withdrawal, enter the file number of the pending application currently on file with the FCC.	File Number
5) If this application is for a Modification, Renewal Only, Renewal/Modification, Cancellation of License, Duplicate License, or Administrative Update, enter the call sign of the existing FCC license. If this is a request for Registered Location/Link, enter the FCC call sign assigned to the geographic license.	Call Sign **WPQL634**
6) If this application is for a New, Amendment, Renewal Only, or Renewal/Modification, enter the requested authorization expiration date (this item is optional).	MM DD _____/_____
7) Is this application "major" as defined in §1.929 of the Commission's Rules when read in conjunction with the applicable radio service rules found in Parts 22 and 90 of the Commission's Rules? (NOTE: This question only applies to certain site-specific applications. See the instructions for applicability and full text of §1.929).	( )**Y**es **N**o
8) Are attachments (other than associated schedules) being filed with this application?	(**Y**)**Y**es **N**o

Fees, Waivers, and Exemptions

9) Is the Applicant exempt from FCC application fees?	(**N**)**Y**es **N**o
10) Is the Applicant exempt from FCC regulatory fees?	(**N**)**Y**es **N**o
11a) Does this application include a request for a Waiver of the Commission's Rule(s)? If 'Yes', attach an exhibit providing rule number(s) and explaining circumstances.	(**N**)**Y**es **N**o
11b) If 11a is 'Y', enter the number of rule sections involved.	Number of Rule Section(s): _____
12) Are the frequencies or parameters requested in this filing covered by grandfathered privileges, previously approved by waiver, or functionally integrated with an existing station?	( )**Y**es **N**o

Applicant Information

13) FCC Registration Number (FRN):
0004122032

14) Applicant/Licensee Legal Entity Type: (Select One)
( ) Individual ( )Unincorporated Association ( )Trust ( )Government Entity (**X**)Corporation ( )Limited Liability Company
( ) General Partnership ( ) Limited Partnership ( ) Limited Liability Partnership ( ) Consortium
( ) Other: _____

15) If the Licensee name is being updated, is the update a result from the sale (or transfer of control) of the license(s) to another party and for which proper Commission approval has not been received or proper notification not provided? ( )**Y**es **N**o

16) First Name (if individual):	MI:	Last Name:	Suffix:

17) Legal Entity Name (if other than individual):
New Cingular Wireless Services, Inc.

18) Attention To:
Leslie A. Wilson

19) P.O. Box:	**And/Or**	20) Street Address**:**
		3300 E Renner Road, B3132

21) City:	22) State:	23) Zip Code:
Richardson	**TX**	**75082**

24) Telephone Number:	25) FAX:
(855)699-7073	**(972)907-1131**

26) E-Mail Address:
FCCMW@att.com

27) **Demographics (Optional)**:

Race:	**Ethnicity:**	**Gender:**
( )American Indian or Alaska Native	( )Hispanic or Latino	( )Male
( )Asian	( )Not Hispanic or Latino	( )Female
( )Black or African-American		
( )Native Hawaiian or Other Pacific Islander		
( )White		

Real Party in Interest

28) Name of Real Party in Interest of Applicant (If different from Applicant):	29) FCC Registration Number (FRN) of Real Party in Interest:

Contact Information (If different from the Applicant)
(____) Check here if same as Applicant.

30) First Name:	MI:	Last Name:	Suffix:
Michael		**Goggin**	

31) Company Name:
AT&T Mobility LLC

32) Attention To:
Michael P. Goggin

33) P.O. Box:	**And /Or**	34) Street Address**:**
		1120 20th Street, NW

35) City:	36) State:	37) Zip Code:
Washington	**DC**	**20036**

38) Telephone Number**:**	39) FAX:
(202)457-2055	**(202)457-3074**

40) E-Mail Address:
michael.p.goggin@cingular.com

Regulatory Status

41) This filing is for authorization to provide or use the following type(s) of radio service offering (enter all that apply):

( )**C**ommon Carrier ( )**N**on-Common Carrier ( )**P**rivate, internal communications ( )**B**roadcast Services ( )**B**and **M**anager

Reference Copy

Type of Radio Service

42) This filing is for authorization to provide the following type(s) of radio service (choose all that apply):

( )**F**ixed ( )**M**obile ( )**R**adiolocation ( )**S**atellite (sound) ( )**B**roadcast Services

43) Does the Applicant propose to provide service interconnected to the public telephone network? ( )**Y**es **N**o

Alien Ownership Questions (If any answer is 'Y", provide an attachment explaining the circumstances. In preparing the attachment, refer to the Main Form Instructions for the "Alien Ownership Questions".)

44) Is the Applicant a foreign government or the representative of any foreign government? ( )**Y**es **N**o

45) Is the Applicant an alien or the representative of an alien? ( )**Y**es **N**o

46) Is the Applicant a corporation organized under the laws of any foreign government? ( )**Y**es **N**o

47) Is the Applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ( )**Y**es **N**o

48a) Is the Applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens or their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ( ) **Y**es **N**o

48b) If the answer to 47 or 48a is 'Y' select one of the choices below.

☐ The Applicant is exempt from the provisions of Section 310(b).

It is not necessary to file a petition for declaratory ruling if the Applicant includes in the attachment required by Item 47 or Item 48a a showing that the requested license(s) is exempt from the provisions of Section 310(b).

☐ The Applicant has received a declaratory ruling(s) approving its foreign ownership, and the application involves only the acquisition of additional spectrum for the provision of a wireless service in a geographic coverage area for which the Applicant has been previously authorized.

If checked, include in the attachment required by Item 47 or Item 48a the citation(s) of the applicable declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that there has been no change in the foreign ownership of the Applicant since the issuance of its ruling.

☐ The Applicant: (i) has received a declaratory ruling(s) approving its foreign ownership, but is not able to make the certification specified immediately above; or (ii) is an "affiliate" of a Licensee or Lessee/Sublessee that received a declaratory ruling(s) under 47 CFR § 1.990(a) and is relying on the affiliate's ruling for purposes of filing this application as permitted under the affiliate's ruling and 47 CFR § 1.994(b).

If checked, and if the Applicant *received its declaratory ruling(s) on or after August 9, 2013, include in the attachment required by Item 47 or Item 48a the citation(s) of the Applicant's declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that the Applicant is in compliance with the terms and conditions of its ruling and with the Commission's Rules.*

If checked, and if the Applicant received its declaratory ruling(s) prior to August 9, 2013, include in the attachment required by Item 48a a copy of a petition for declaratory ruling filed contemporaneously with the Commission to extend the Applicant's existing ruling(s) to cover the same radio service(s) and geographic coverage area(s) involved in the application. Alternatively, the Applicant may request a new declaratory ruling pursuant to Section 1.990(a) of the Commission's Rules, 47 CFR § 1.990(a). Petitions for declaratory ruling may be filed electronically on the Internet through the International Bureau Filing System (IBFS) (with a copy attached hereto).

If checked, and if the Applicant is relying on an affiliate's ruling for purposes of filing this application, include in the attachment required by Item 47 or Item 48a the citation(s) of the applicable declaratory ruling(s) by DA/FCC number, the FCC Record citation, if available, release date, and a statement that the Applicant is in compliance with the terms and conditions of the named affiliate's ruling and with the Commission's Rules. The Applicant must also include a certification of compliance signed by the named affiliate or other qualified entity as specified in 47 CFR § 1.994(b). See Main Form Instructions for Items 47 or 48a, as applicable.

☐ The Applicant has not received a declaratory ruling approving its foreign ownership and is requesting a declaratory ruling under 47 CFR § 1.990(a) in a petition filed contemporaneously with the Commission.

If checked, include in the attachment required by Item 47 or 48a a copy of the petition for declaratory ruling filed contemporaneously with the Commission pursuant to 47 CFR § 1.990(a). Petitions for declaratory ruling may be filed electronically on the Internet through the International Bureau Filing System (IBFS) (with a copy attached hereto).

Reference Copy

Basic Qualification Questions

49) Has the Applicant or any party to this application had any FCC station authorization, license or construction permit revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission?	( )**Y**es **N**o
50) Has the Applicant or any party to this application, or any party directly or indirectly controlling the Applicant, ever been convicted of a felony by any state or federal court?	( )**Y**es **N**o
51) Has any court finally adjudged the Applicant or any party directly or indirectly controlling the Applicant guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement, or any other means or unfair methods of competition? If the answer to any of 49-51 is 'Y', attach an exhibit explaining the circumstances.	( )**Y**es **N**o

Aeronautical Advisory Station (Unicom) Certification

52) ( ) I certify that the station will be located on property of the airport to be served, and, in cases where the airport does not have a control tower, RCO, or FAA flight service station, that I have notified the owner of the airport and all aviation service organizations located at the airport within ten days prior to application.

Broadband Radio Service and Educational Broadband Service Cable Cross-Ownership

53a) Will the requested facilities be used to provide multichannel video programming service?	( )**Y**es **N**o
53b) If the answer to question 53a is 'Y', does the Applicant operate, control or have an attributable interest (as defined in 47 CFR § 27.1202) in a cable television system whose franchise area is located within the geographic service area of the requested facilities? **Note: If the answer to question 53b is 'Y'**, attach an exhibit explaining how the Applicant complies with 47 CFR § 27.1202 or justifying a waiver of that rule. If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o

Broadband Radio Service and Educational Broadband Service (Part 27)

54) (For EBS only) Does the Applicant comply with the programming requirements contained in 47 CFR § 27.1203? **Note: If the answer to item 54 is 'N',** attach an exhibit explaining how the Applicant complies with 47 CFR § 27.1203 of the Commission's Rules or justifying a waiver of that rule. If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o
55) (For BRS and EBS) Does the Applicant comply with 47 CFR §§ 27.50, 27.55, and 27.1221? **Note: If the answer to item 55 is 'N',** attach an exhibit justifying a waiver of that rule(s). If a waiver of the Commission Rule(s) is being requested, Item 11a must be answered 'Y'.	( )**Y**es **N**o

For Applicants Who Participated in an Auction

56) Is the Applicant a qualifying rural wireless partnership or a member of a qualifying rural wireless partnership? **Note: If the answer to item 56 is 'Y',** attach an exhibit listing all members of the qualifying rural wireless partnership, including their FRN numbers.	( )**Y**es **N**o

General Certification Statements

1)	The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application.
2)	The Applicant certifies that grant of this application would not cause the Applicant to be in violation of any pertinent cross-ownership or attribution rules.* *If the Applicant has sought a waiver of any such rule in connection with this application, it may make this certification subject to the outcome of the waiver request.
3)	The Applicant certifies that all statements made in this application and in the exhibits, attachments, or documents incorporated by reference are material, are part of this application, and are true, complete, correct, and made in good faith.
4)	The Applicant certifies that neither the Applicant nor any other party to the application is subject to a denial of Federal benefits pursuant to § 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 862, because of a conviction for possession or distribution of a controlled substance. This certification does not apply to applications filed in services exempted under § 1.2002(c) of the rules, 47 CFR § 1.2002(c). *See* 47 CFR § 1.2002(b) for the definition of "party to the application" as used in this certification.
5)	The Applicant certifies that it either (1) has current required ownership data on file with the Commission, (2) is filing updated ownership data simultaneously with this application, or (3) is not required to file ownership data under the Commission's Rules.
6)	The Applicant certifies that the facilities, operations, and transmitters for which this authorization is hereby requested are either: (1) categorically excluded from routine environmental evaluation for RF exposure as set forth in 47 CFR § 1.1307(b); or, (2) have been found not to cause human exposure to levels of radiofrequency radiation in excess of the limits specified in 47 CFR §§ 1.1310 and 2.1093; or, (3) are the subject of one or more Environmental Assessments filed with the Commission.
7)	The Applicant certifies that it has reviewed the appropriate Commission Rules defining eligibility to hold the requested license(s), and is eligible to hold the requested license(s).
8)	The Applicant certifies that it is not in default on any payment for Commission licenses and that it is not delinquent on any non-tax debt owed to any federal agency.
9)	The Applicant certifies that the Applicant and all of the related individuals and entities required to be disclosed on this application and FCC Form 602 (FCC Ownership Disclosure Information for the Wireless Telecommunications Services) are not person(s) who have been, for reasons of national security, barred by any agency of the Federal Government from bidding on a contract, participating in an auction, or receiving a grant. This certification applies only to applications for licenses for spectrum that is required by Sections 6103, 6401-6403 of the Middle Class Tax Relief and Job Creation Act of 2012, codified at 47 U.S.C. §§ 309, 1413, 1451-1452, to be assigned by a system of competitive bidding under 47 U.S.C. § 309(j).

Pre-release copy

Signature

57)Typed or Printed Name of Party Authorized to Sign

First Name:	MI:	Last Name:	Suffix:
Dave		**Cundiff**	

58) Title:
Vice President - PO/M&P

Signature:	59) Date:
Dave Cundiff	**05/26/2017**

FAILURE TO SIGN THIS APPLICATION MAY RESULT IN DISMISSAL OF THE APPLICATION AND FORFEITURE OF ANY FEES PAID.

Upon grant of this license application, the Licensee may be subject to certain construction or coverage requirements. Failure to meet the construction or coverage requirements will result in termination of the license. Consult appropriate FCC regulations to determine the construction or coverage requirements that apply to the type of license requested in this application.

WILLFUL FALSE STATEMENTS MADE ON THIS FORM OR ANY ATTACHMENTS ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18, § 1001) AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. Code, Title 47, § 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, § 503).

Reference Copy

Attachment(s):

Type	Description	Date Entered
O	Consent Decree & Order	05/26/2017
O	SUBSTANTIAL SERVICE SHOWING	05/26/2017

SHEET INDEX

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

1. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN
2. TURN LEFT ONTO LEGGATT MCCALL CONN
3. CONTINUE ONTO BURR ST
4. TURN LEFT ONTO COCHITUATE RD
5. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 E/MASSPIKE W/SPRINGFIELD/BOSTON
6. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR INTERSTATE 90 E/INTERSTATE 95/MASSACHUSETTS TURNPIKE/BOSTON AND MERGE ONTO I-90 E/MASSACHUSETTS TURNPIKE
7. MERGE ONTO I-90 E/MASSACHUSETTS TURNPIKE (SIGNS FOR 90 E/I-95/BOSTON)
8. USE THE LEFT LANE TO TAKE EXIT 18 TOWARD CAMBRIDGE
9. MERGE ONTO CAMBRIDGE ST
10. TURN RIGHT ONTO MEMORIAL DR
11. TAKE THE EXIT TOWARD BROOKLINE ST
12. AT THE TRAFFIC CIRCLE, TAKE THE 3RD EXIT ONTO BROOKLINE ST
13. DESTINATION WILL BE ON THE RIGHT

PROJECT

LTE 3C/4C

SITE NAME

CAMBRIDGE 280 BROOKLINE STREET

CELL SITE ID

MAL02697

FA SITE NUMBER

10141353

PACE ID

MRCTB025446/MRCTB025533

SITE ADDRESS

280 BROOKLINE STREET
CAMBRIDGE, MA 02139

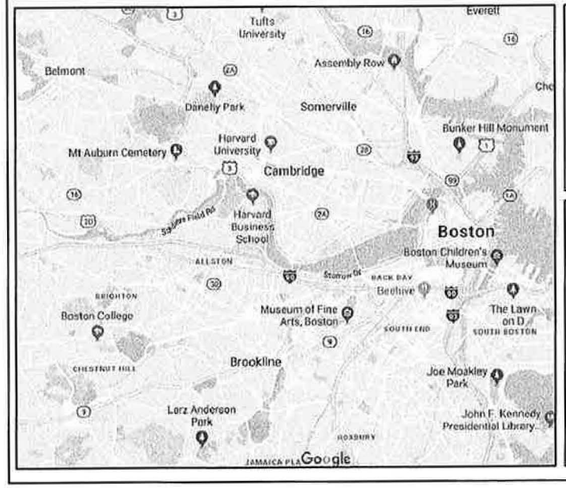
STRUCTURE TYPE

ROOFTOP

PROJECT SUMMARY

SITE NAME:	CAMBRIDGE 280 BROOKLINE STREET	
CELL SITE ID:	MAL02697	
FA SITE #:	10141353	
SITE ADDRESS:	280 BROOKLINE STREET CAMBRIDGE, MA 02139	
COUNTY:	MIDDLESEX	
SITE COORDINATES: LATITUDE:	42.3571640° N	(NAD 83)
LONGITUDE:	71.1079890° W	(NAD 83)
ELEVATION:	±18'	(AMSL)
RAD CENTER	±51'/±53'	(AGL)
LANDLORD:	CHICCARELLI REAL ESTATE, INC. 2 P.O. BOX 2215 ACTON, MA 01720	
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
CLIENT REPRESENTATIVE:	SMARTLINK, LLC 85 RANGEWAY RD., BUILDING 3, SUITE 102 NORTH BILLERICA, MA 01862	
CONTACT:	EDWARD WEISSMAN (917) 528-1857	
ENGINEER:	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205	
CONTACT:	ALEX WELLER (518) 690-0790	
BUILDING CODE:	MA BUILDING CODE UNIFORM BUILDING CODE BUILDING OFFICIALS & CODE ADMINISTRATORS UNIFORM MECHANICAL CODE UNIFORM PLUMBING CODE LOCAL BUILDING CODE CITY/COUNTY ORDINANCES	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

LOCATION MAP



PROJECT TEAM

smartlink

PROJECT MANAGER

INFINIGY

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

ENGINEER

SCOPE OF WORK (PER LTE RFDS, DATED 07/06/2017, V1.00):

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

ROOF TOP
- REMOVE (6) PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- INSTALL (3) RRUS-32 B66
- INSTALL (3) RRUS-32
- REMOVE (3) PCS UMTS RADIOS (V.I.F.)

GROUND
- UPGRADE DUS WITH 5216
- ADD (1) XMU

811 Know what's below. Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN MASSACHUSETTS, CALL DIG SAFE SYSTEM, INC.
TOLL FREE: 1-888-344-7233 OR www.digsafe.com
MASSACHUSETTS STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

INFINIGY
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

COMMONWEALTH OF MASSACHUSETTS
JOHN S. STEVENS
CIVIL
No. 49652
REGISTERED PROFESSIONAL ENGINEER
MAY 14 2018

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	ASW	05/18/18
1	ISSUED FOR PERMIT	ASW	02/05/18
0	ISSUED FOR REVIEW	MPS	01/03/18

Drawn: MPS Date: 01/03/18
Designed: ASW Date: 01/03/18
Checked: AJD Date: 01/03/18

Project Number: 499-006

Project Title:
CAMBRIDGE 280 BROOKLINE STREET
MAL02697
FA# 1014353
280 BROOKLINE STREET
CAMBRIDGE, MA 02139

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 05/18/18

CD

Drawing Title
TITLE PAGE

Drawing Number
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
- A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
- B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
- C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
- D. AND NFPA 101 (LIFE SAFETY CODE).
- E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
- F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:
A: WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B: COMPANY: AT&T CORPORATION
C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
D: CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
E: THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.7 NOTICE TO PROCEED:
A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
- A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
- B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
- C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
- D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
- E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
- F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
- C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
- D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
- E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.

B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.

C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.

E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.

F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.

G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
KW	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
OR	GROUND ROD
OR	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
G	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

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COMMONWEALTH OF MASSACHUSETTS
JOHN S. STEVENS
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MAY 18 2018
REGISTERED PROFESSIONAL ENGINEER

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Project Number: 499-006

Project Title:
CAMBRIDGE 280
BROOKLINE STREET
MAL02697
FA# 1014353
280 BROOKLINE STREET
CAMBRIDGE, MA 02139

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 05/18/18
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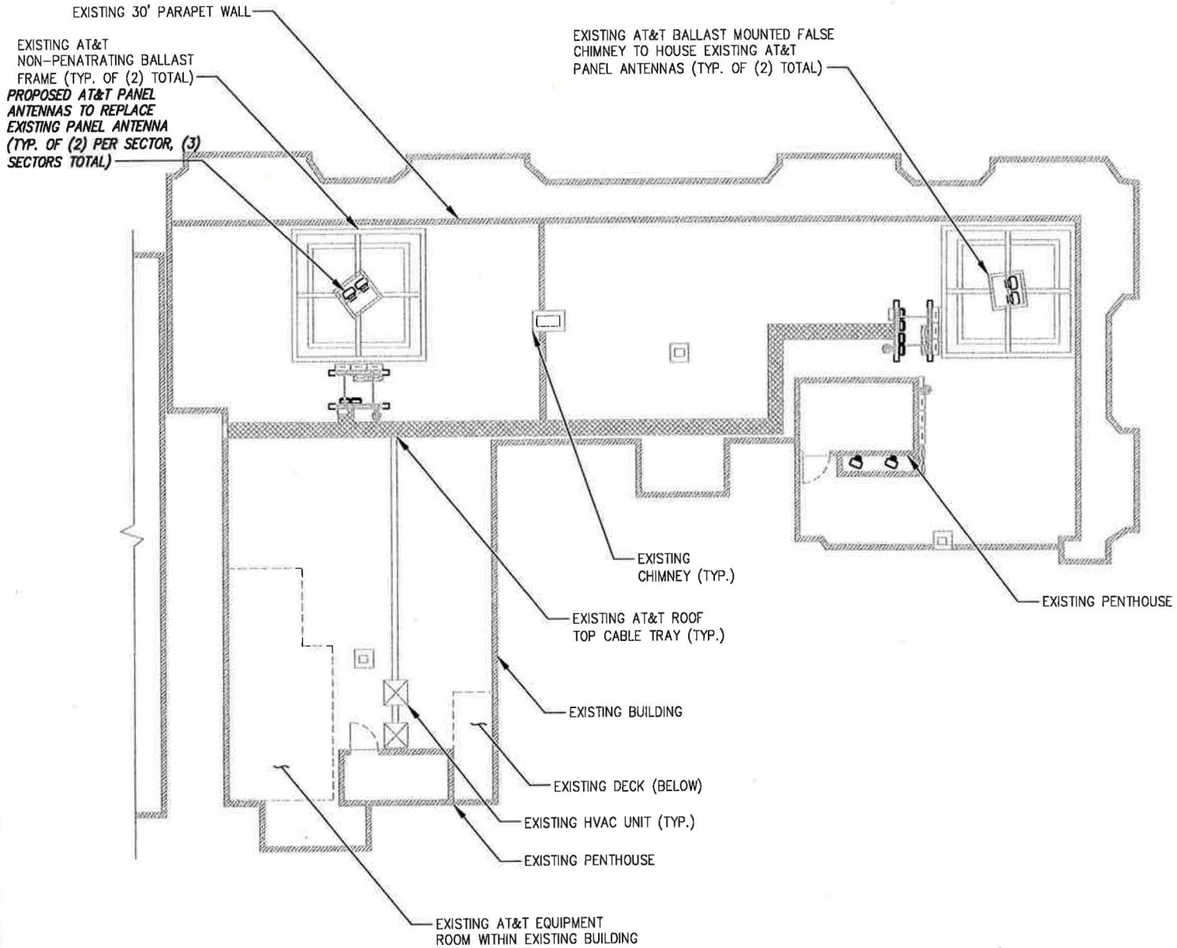
Drawing Title
GENERAL NOTES

Drawing Number
C1

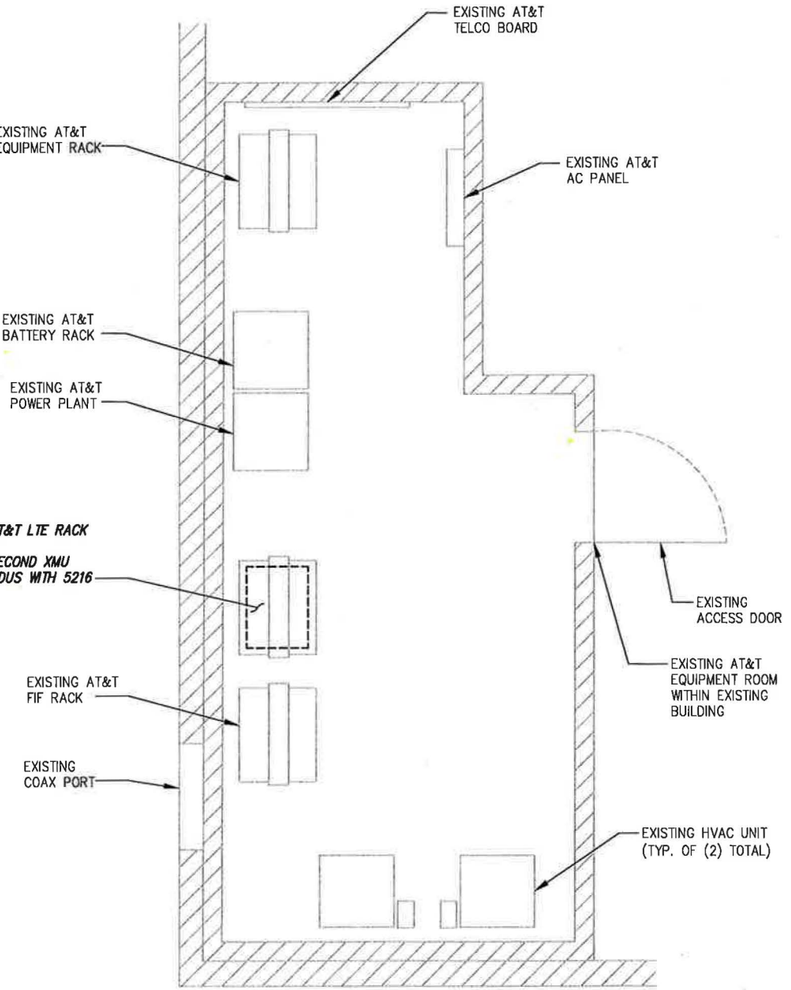


1 SITE PLAN
SCALE: AS NOTED

TRUE NORTH

GRAPHIC SCALE:
15' 7.5" 0 7.5" 15'
SCALE (11x17): 1" = 15'-0"
SCALE (22x34): 1" = 7'-6"

BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING ON 09/26/17 AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.



2 ENLARGED EQUIPMENT PLAN
SCALE: AS NOTED

TRUE NORTH

GRAPHIC SCALE:
4' 2' 0 2' 4'
SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"

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Drawing Scale:
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Date:
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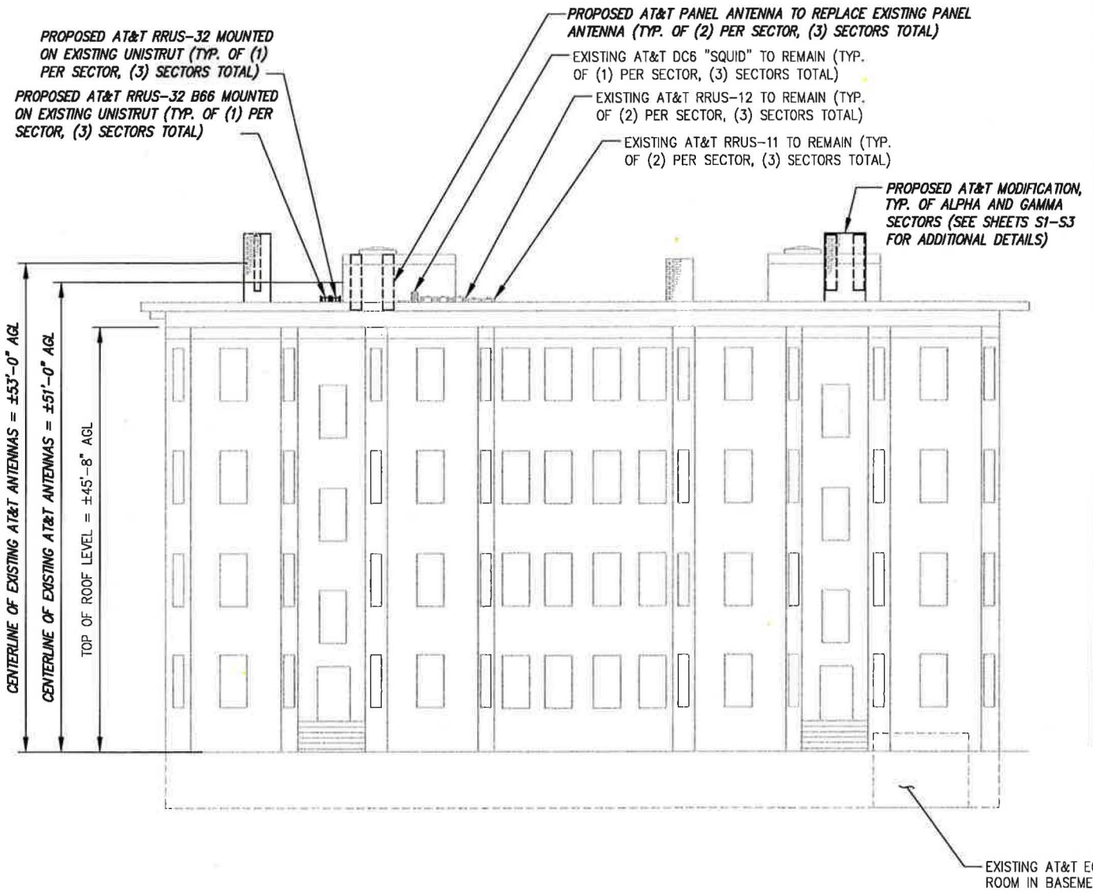
Drawing Title
OVERALL & ENLARGED SITE PLAN

Drawing Number
C2



1 ELEVATION VIEW
-- SCALE: AS NOTED

NOTE:
- FOR ADDITIONAL STRUCTURAL INFORMATION, SEE "MODIFICATION DESIGN REPORT", COMPLETED BY INFINIGY, DATED 2/2/18. SEE SHEETS S1-S3 FOR ADDITIONAL DETAILS.

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 07/06/17, V 1.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/ DIPLEXER	RRUS	AZIMUTH	ANTENNA ℄ HEIGHT	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	*(P) LTE 850/WCS*	*KMW EPBQ-654L8H6-B*	--	(1) (P) RRUS-32 B66 (1) (P) RRUS-32 (1) (E) RRUS-11	*30°*	±53'	(2) (E) FIBER CABLES (4) (E) DC CABLES	--	(6) (E) DC6 SQUID
	A-2	*(P) LTE 700/AWS*	*KMW EPBQ-654L8H6-B*	--	(1) (E) RRUS-11 (2) (E) RRUS-12	*30°*	±53'	SEE A-1 FOR FIBER INFORMATION	--	
	A-3	--	--	--	--	--	--	--	--	
	A-4	--	--	--	--	--	--	--	--	
BETA	B-1	*(P) LTE 850/WCS*	*KMW EPBQ-654L8H6-B*	--	(1) (P) RRUS-32 B66 (1) (P) RRUS-32 (1) (E) RRUS-11	*150°*	±51'	(2) (E) FIBER CABLES (4) (E) DC CABLES	--	
	B-2	*(P) LTE 700/AWS*	*KMW EPBQ-654L8H6-B*	--	(1) (E) RRUS-11 (2) (E) RRUS-12	*150°*	±51'	SEE B-1 FOR FIBER INFORMATION	--	
	B-3	--	--	--	--	--	--	--	--	
	B-4	--	--	--	--	--	--	--	--	
GAMMA	G-1	*(P) LTE 850/WCS*	*KMW EPBQ-654L8H6-B*	--	(1) (P) RRUS-32 B66 (1) (P) RRUS-32 (1) (E) RRUS-11	*270°*	±53'	(2) (E) FIBER CABLES (4) (E) DC CABLES	--	
	G-2	*(P) LTE 700/AWS*	*KMW EPBQ-654L8H6-B*	--	(1) (E) RRUS-11 (2) (E) RRUS-12	*270°*	±53'	SEE G-1 FOR FIBER INFORMATION	--	
	G-3	--	--	--	--	--	--	--	--	
	G-4	--	--	--	--	--	--	--	--	

2 AT&T ANTENNA SCHEDULE
-- NOT TO SCALE

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Project Title:
CAMBRIDGE 280
BROOKLINE STREET
MAL02697
FA# 1014353
280 BROOKLINE STREET
CAMBRIDGE, MA 02139

Prepared For: smartlink

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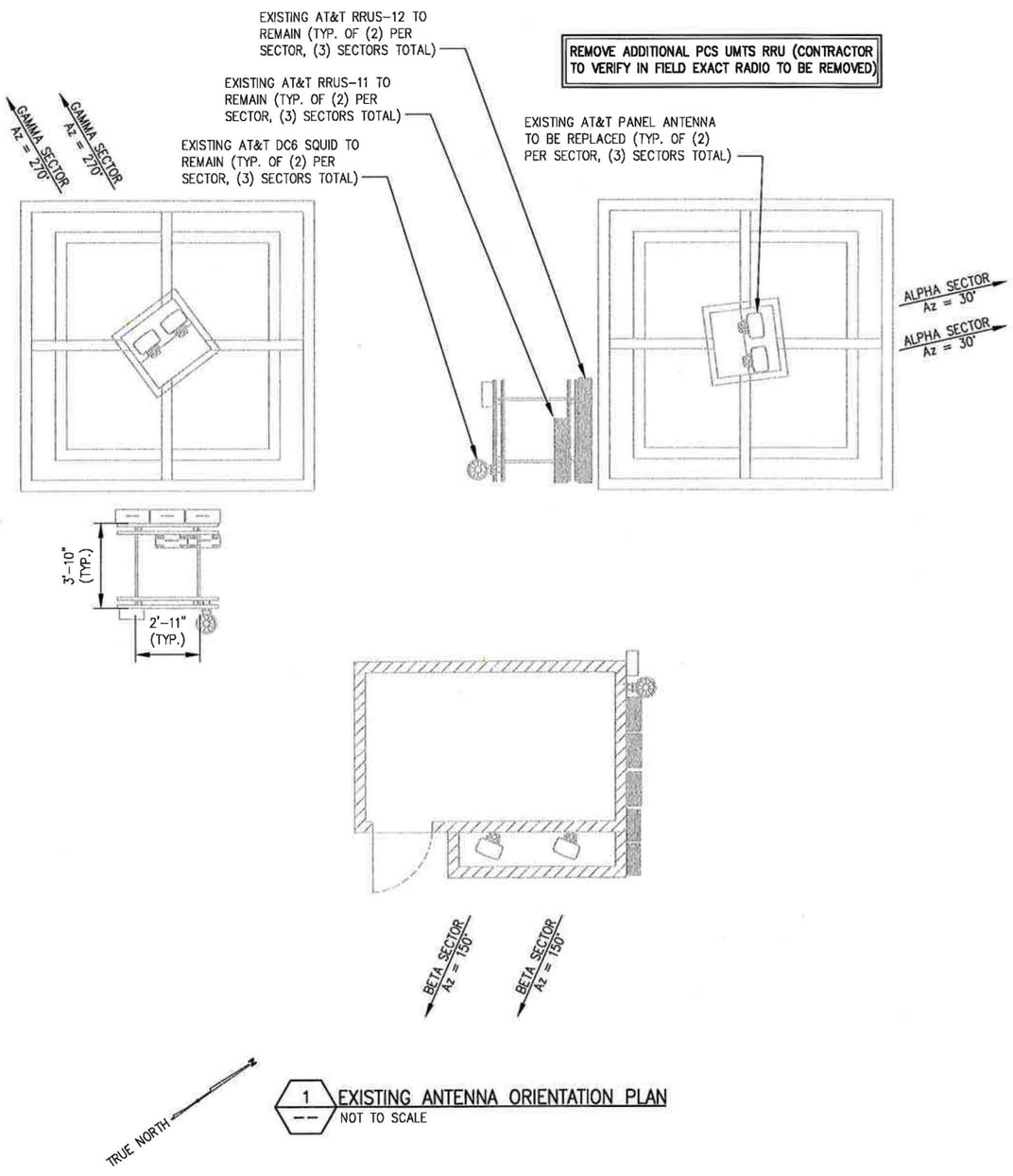
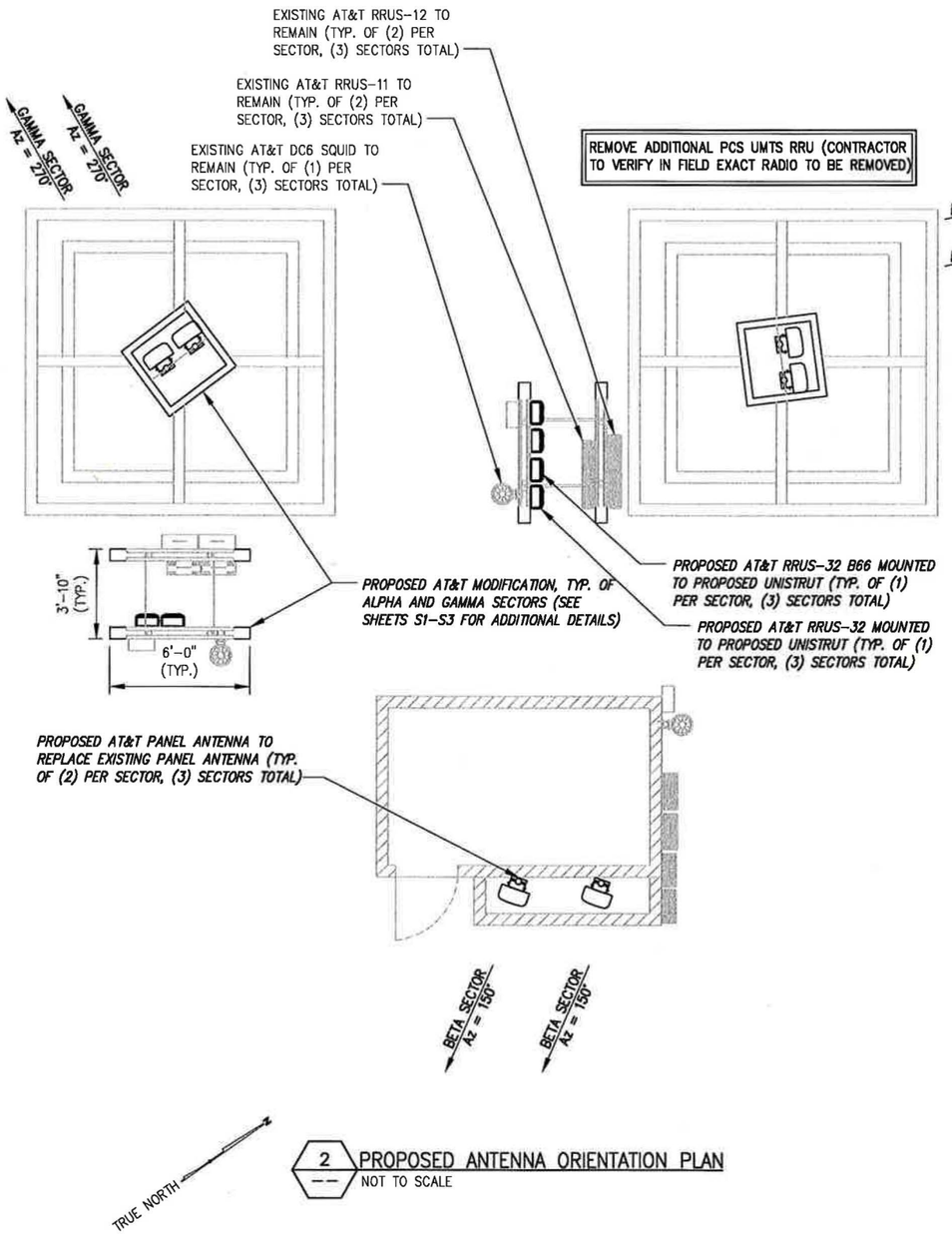
Drawing Title
ELEVATION VIEW

Drawing Number
C3



1 EXISTING ANTENNA ORIENTATION PLAN
NOT TO SCALE



2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE

NOTE:
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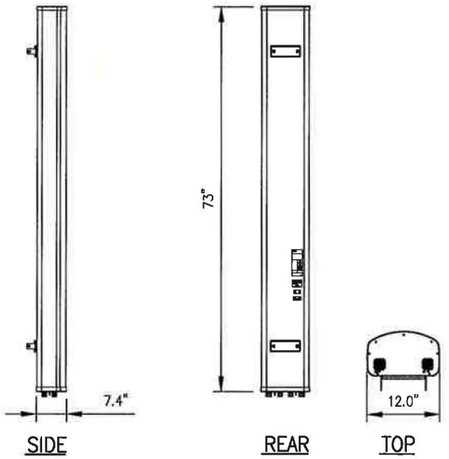
CD

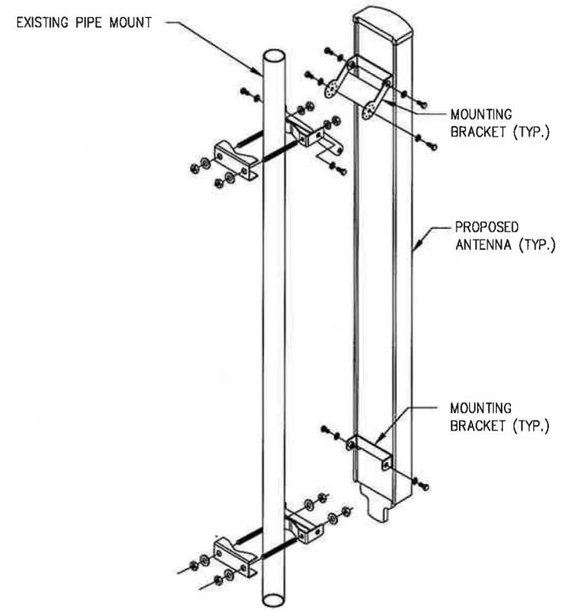
Drawing Title
ANTENNA ORIENTATION PLAN

Drawing Number
C4

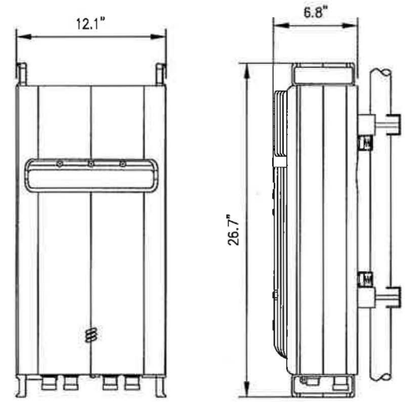


KMW MODEL NO.	EPBQ-654L8H6-B
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	(73.0"x12.0"x7.4")
WEIGHT, W/ PRE-MOUNTED BRACKETS:	51.5 LBS
CONNECTOR:	7-16 DIN FEMALE

1 ANTENNA DETAILS
NOT TO SCALE



2 ANTENNA MOUNTING DETAIL
NOT TO SCALE



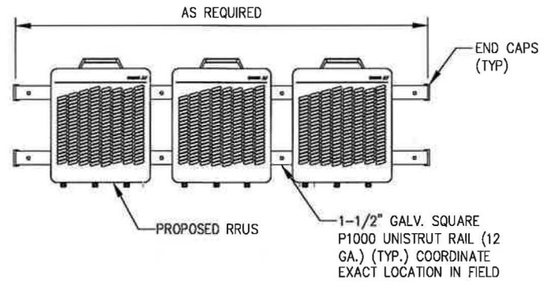
RRUS-32 SPECIFICATIONS

- HXWXD, (INCHES) : 26.7"X12.1"X6.8"
- WEIGHT (LBS) : 50.8
- COLOR : GRAY
- MOUNTING BRACKET: SXK1251127/1

3 ERICSSON RRUS-32 DETAIL
NOT TO SCALE

4 DETAIL NOT USED
NOT TO SCALE

5 DETAIL NOT USED
NOT TO SCALE



6 RRU MOUNTING DETAIL
NOT TO SCALE

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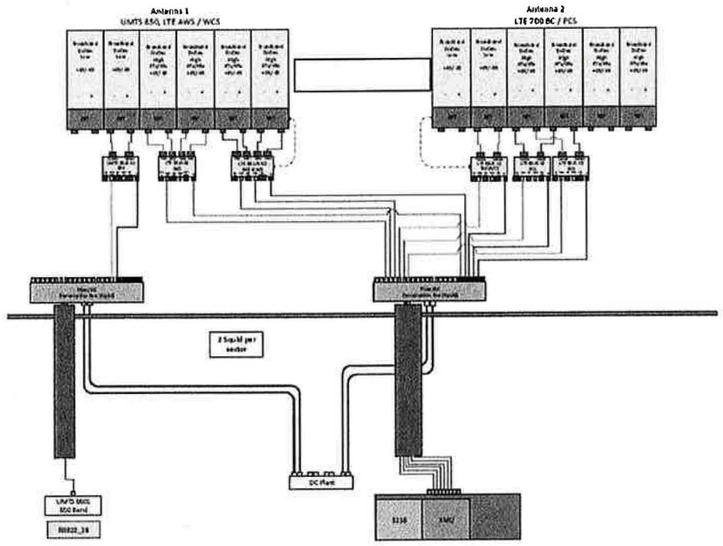
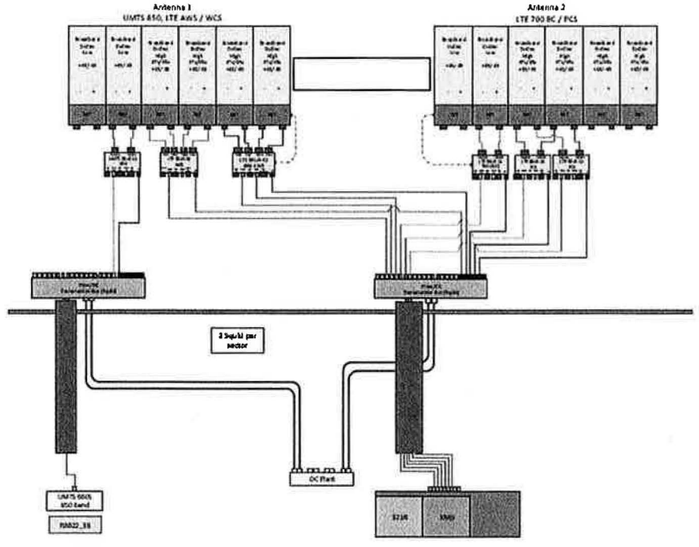
Drawing Title
EQUIPMENT DETAILS

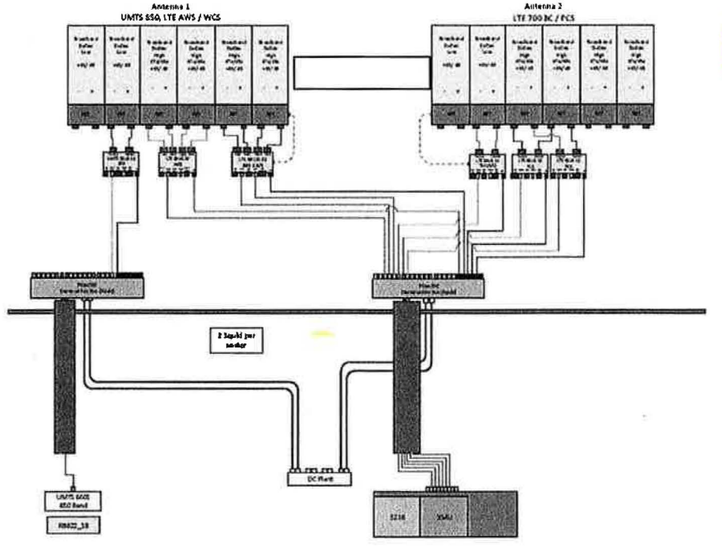
Drawing Number
C5



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
NOT TO SCALE

*BASED ON LTE RFDS,
DATED 07/06/2017, V1.00

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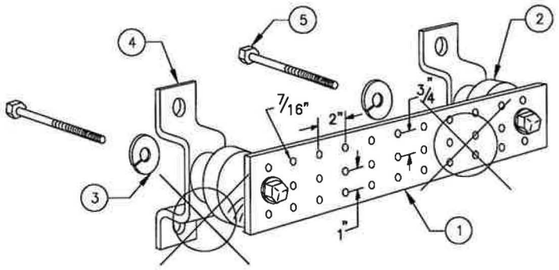
Drawing Title
PLUMBING DIAGRAM

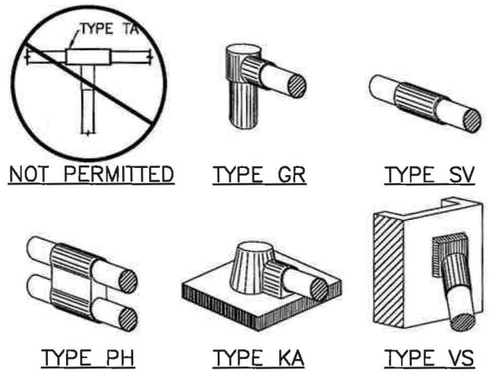
Drawing Number
C6



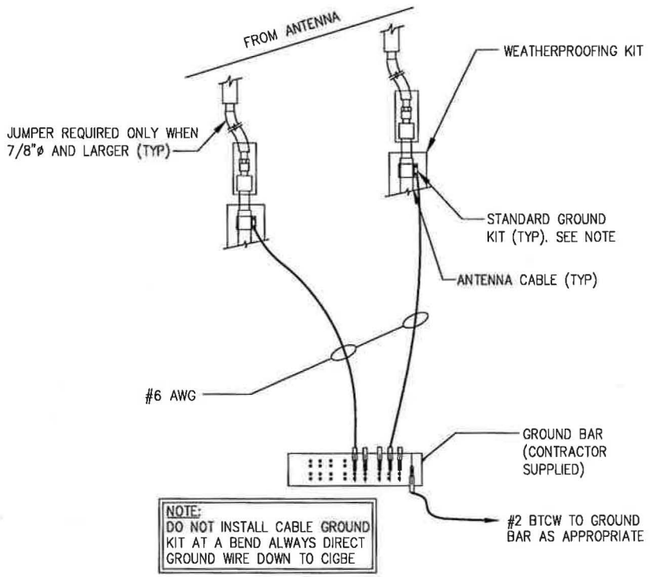
LEGEND

1 – SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2 – INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
3 – 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
4 – WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
5 – 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
6 – GROUND BAR SHALL BE SIZED TO ACCOMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
7 – GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
8 – GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
9 – HARDWARE DIAMETER SHALL BE MINIMUM 3/8"

1 GROUND BAR
NOT TO SCALE



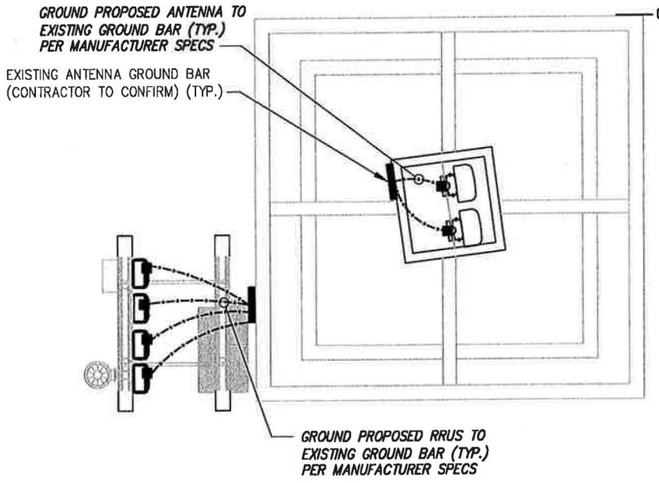
2 CADWELDS (TYPICAL)
NOT TO SCALE



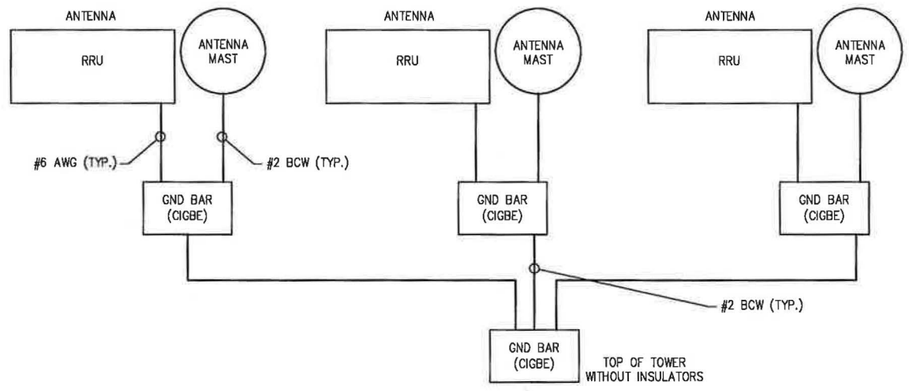
3 CONNECTION OF GROUND WIRES TO GROUNDING BARS @ ANTENNAS
NOT TO SCALE

GROUNDING SYMBOLS

■ COMPRESSION TYPE CONNECTION
● EXOTHERMIC WELD TYPE CONNECTION
G — #2/0 BTS COPPER CONDUCTOR BURIED GROUND CABLE



4 GROUNDING DETAIL
NOT TO SCALE



5 SCHEMATIC DIAGRAM GROUNDING SYSTEM
NOT TO SCALE

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Drawing Title
GROUNDING DETAILS

Drawing Number
C7

GENERAL NOTES:

1. THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE LATEST VERSION OF APPLICABLE LOCAL/STATE/COUNTY/CITY BUILDING CODES, AS WELL AS ANSI/TIA-222 STANDARD, AWWA-D100 STANDARD, NDS, NEC, MSJC, AND/OR THE LATEST VERSION OF THE INTERNATIONAL BUILDING CODE, UNLESS NOTED OTHERWISE IN THE CORRESPONDING STRUCTURAL REPORT.
2. ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
3. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN SIMILAR CONSTRUCTION.
4. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. IF OBSTRUCTIONS ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD PRIOR TO CONTINUING WORK.
5. ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND/OR CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE DURING CONSTRUCTION. TIA-1019-A-2011 IS AN APPROPRIATE REFERENCE FOR THOSE DESIGNS MEETING TIA STANDARDS. THE ENGINEER OF RECORD MAY PROVIDE FORMAL RIGGING PLANS AT THE REQUEST AND EXPENSE OF THE CONTRACTOR.
7. INSTALLATION SHALL NOT INTERFERE NOR DENY ADEQUATE ACCESS TO OR FROM ANY EXISTING OR PROPOSED OPERATIONAL AND SAFETY EQUIPMENT.
8. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

STEEL CONSTRUCTION NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
2. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES, AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS' RECOMMENDATIONS.
3. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
4. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. ALL STEEL MEMBERS AND CONNECTIONS SHALL MEET THE FOLLOWING GRADES:
   - ANGLES, CHANNELS, PLATES AND BARS TO BE A36. Fy=36 KSI, U.N.O.
   - W SHAPES TO BE A992. Fy=50 KSI, U.N.O.
   - RECTANGULAR HSS TO BE A500, GRADE B. FY=46 KSI, U.N.O.
   - ROUND HSS TO BE A500, GRADE B. FY=42 KSI, U.N.O.
   - STEEL PIPE TO BE A53, GRADE B. Fy=35 KSI, U.N.O.
   - BOLTS TO BE A325-X. Fu=120 KSI, U.N.O.
   - U-BOLTS AND LAG SCREWS TO BE A307 GR A. Fu=60 KSI, U.N.O.
6. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES, U.N.O.
7. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION.
8. ALL HILTI ANCHORS TO BE CARBON STEEL, U.N.O.
   - MECHANICAL ANCHORS: KWIK BOLT-TZ, U.N.O.
   - CMU BLOCK ANCHORS: ADHESIVE - HY120, U.N.O.
   - CONCRETE ANCHORS: ADHESIVE - HY150, U.N.O.
   - CONCRETE REBAR: ADHESIVE - RE500, U.N.O.
9. ALL STUDS TO BE NELSON CAPACITOR DISCHARGE 1/4"-20 LOW CARBON STEEL COPPER-FLASH AT 55 KSI ULT/50 KSI YIELD, U.N.O.
10. BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
11. MINIMUM EDGE DISTANCES SHALL CONFORM TO AISC TABLE J3.4.

CONCRETE CONSTRUCTION NOTES:

1. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.
2. EXISTING CONCRETE SURFACES THAT ARE TO BE IN CONTACT WITH NEW PROPOSED CONCRETE SHOULD BE WIRE BRUSHED CLEAN AND TREATED WITH APPROPRIATE MECHANICAL SCRATCH COAT AND REPAIR MATERIALS OR APPROPRIATE CHEMICAL METHODS SUCH AS THE APPLICATION OF A BONDING AGENT, EX. SAKRETE OR EQUIVALENT, TO ENSURE A QUALITY BOND BETWEEN EXISTING AND PROPOSED CONCRETE SURFACES.

FIBER REINFORCED POLYMER (FRP) NOTES:

1. FRP PLATES, SHAPES, BOLTS AND NUTS (STUD/NUT ASSEMBLIES) SHALL CONFORM TO ASTM D638, 695, 790. PLATES AND SHAPES TO BE FY = 5.35 KSI LW (SAFETY FACTOR OF 8), .945 KSI CW (SAFETY FACTOR OF 8) MIN.
2. IF FIELD FABRICATION IS REQUIRED, ALL CUT EDGES AND DRILLED HOLES TO BE SEALED USING VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
3. ALL FASTENERS TO BE 1/2" DIA FRP THREADED ROD WITH FIBER REINFORCED THERMOPLASTIC NUT, SPACED AT 12 INCHES ON CENTER MAXIMUM, U.N.O., FOR PANELS AND AS DESIGNED FOR STRUCTURAL MEMBERS.
4. THE COLOR AND SURFACE PATTERN OF EXPOSED FRP PANELS SHALL MATCH THE EXTERIOR OF THE EXISTING BUILDING, U.N.O.
5. STUD/NUT ASSEMBLIES SHOULD BE LUBRICATED FOR INSTALLATION
6. ENSURE BEARING SURFACES OF THE NUTS ARE PARALLEL TO THE SURFACES BEING FASTENED.
7. TORQUE BOLTS ACCORDING TO THE FOLLOWING TABLE:

INSTALLATION TORQUE TABLE

SIZE	ULTIMATE TORQUE STRENGTH	RECOMMENDED MAXIMUM INSTALLATION TORQUE
3/8-16 UNC	8 FT-LBS	4 FT-LBS
1/2-13 UNC	18 FT-LBS	8 FT-LBS
5/8-11 UNC	35 FT-LBS	16 FT-LBS
3/4-10 UNC	50 FT-LBS	24 FT-LBS
1-8 UNC	110 FT-LBS	50 FT-LBS

8. WHEN TIGHTENING FRP STUD/NUT ASSEMBLIES, WRENCHES MUST MAKE FULL CONTACT WITH ALL NUT EDGES. A STANDARD SIX POINT SOCKET IS RECOMMENDED.
9. STUD/NUT ASSEMBLIES SHOULD BE BONDED BY APPLYING BONDING AGENT TO ENTIRE NUT AND EXPOSED STUD.
10. ALL FRP MATERIALS TO BE PROVIDED BY FIBERGRATE COMPOSITE STRUCTURES, DALLAS TX, OR APPROVED EQUAL.
11. ALL FRP SHAPES TO BE DYNAFORM PULTRUDED STRUCTURAL SHAPES.
12. ALL FRP PLATES TO BE FIBERPLATE MOLDED FRP PLATE.
13. ALL FRP PANELS TO BE FIBERPLATE CLADDING PANEL.
14. EACH FRP PANEL TO BE IDENTIFIED WITH LARR#25536 AND FIBERGRATE COMPOSITE STRUCTURAL LABEL.
15. FRP MATERIAL TO BE CLASSIFIED AS CC1 OR BETTER, AND HAVE MAXIMUM FLAME SPREAD OF 50.
16. ALL DESIGN AND CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH LOS ANGELES RESEARCH REPORT RR25536, DATED FEBRUARY 1, 2016.
17. SPECIAL INSPECTIONS MUST BE PROVIDED FOR ALL FRP INSTALLMENTS. SEE SPECIAL INSPECTION SECTION, THIS SHEET.

RATIO OF EDGE DISTANCE TO FRP FASTENER DIAMETER

	RANGE	RECOMMENDED
EDGE DISTANCE - CL* BOLT TO END	2.0-4.0	3.0
EDGE DISTANCE - CL* BOLT TO SIDE	1.5-3.5	2.5
BOLT PITCH - CL* TO CL*	4.0-5.0	5.0

WOOD CONSTRUCTION NOTES:

1. ALL EXISTING WOOD SHAPES ARE ASSUMED TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN.
2. ALL PROPOSED WOOD SHAPES ARE TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN. U.N.O.
3. ALL EXISTING AND PROPOSED GLUED LAMINATED TIMBERS ARE TO BE 24F-1.8C DOUGLAS FIR BALANCED WITH A REFERENCE DESIGN BENDING VALUE OF 2400 PSI MIN. U.N.O.

MASONRY CONSTRUCTION NOTES:

1. ALL BRICK TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 100 PSI SHALL BE USED. FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 133 PSI.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
2. ALL CMU TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS, TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 64 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 158 PSI FOR FULLY GROUTED BLOCKS.
   - FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 84 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 163 PSI FOR FULLY GROUTED BLOCKS.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.

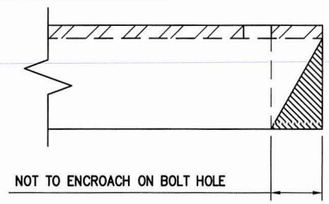
TOWER PLUMB & TENSION NOTES:

1. PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.
2. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
3. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS FOR LATTICED STRUCTURES.
4. THE TWIST BETWEEN ANY TWO ELEVATIONS THROUGHOUT THE HEIGHT OF A LATTICE STRUCTURE SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE LATTICE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.

SPECIAL INSPECTIONS NOTES:

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER AND APPROVED BY THE JURISDICTION, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH THE THE GOVERNING BUILDING CODE, APPLICABLE SECTION(S) AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
   a. STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELDS ONLY).
   b. HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 AND/OR A490 BOLTS) TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD.
   c. MECHANICAL AND EPOXIED ANCHORAGES.
   d. FIBER REINFORCED POLYMER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE FRP MATERIAL SPECIFIED ON THE APPROVED DESIGN DOCUMENTS IS BEING INSTALLED.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT ALL CUT EDGES AND DRILLED HOLES ARE PROPERLY SEALED USING A VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE STRUCTURE IS BUILT IN ACCORDANCE WITH THE APPROVED DESIGN DOCUMENTS.
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM WORK WITHOUT THE SPECIAL INSPECTIONS.

MAXIMUM ALLOWABLE ANGLE CLIP



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COMMONWEALTH OF MASSACHUSETTS
JOSEPH R. JOHNSTON
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FEB 02 2018

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No.	Submittal / Revision	App'd	Date
0	ISSUED FOR REVIEW	NRO	02/02/18

Drawn: DMB Date: 02/02/18
Designed: EB Date: 02/02/18
Checked: NRO Date: 02/02/18

Project Number: 499-006

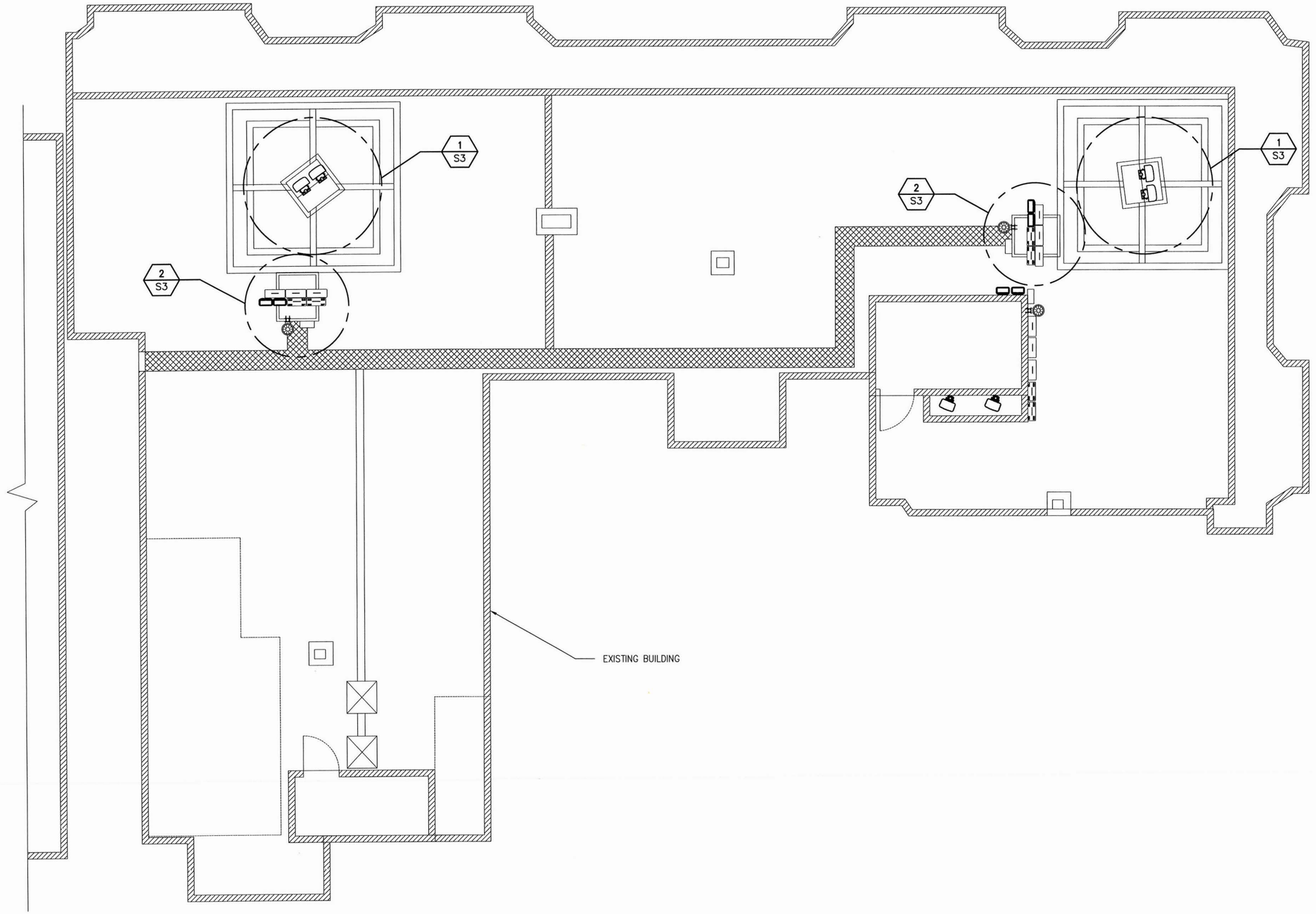
Project Title:
CAMBRIDGE 280
BROOKLINE STREET
MAL02697
FA# 1014353
280 BROOKLINE STREET
CAMBRIDGE, MA 02139

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/02/18
0

Drawing Title
GENERAL NOTES

Drawing Number
S1



1 SITE PLAN
SCALE: NOT TO SCALE

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Drawing Title
SITE PLAN

Drawing Number
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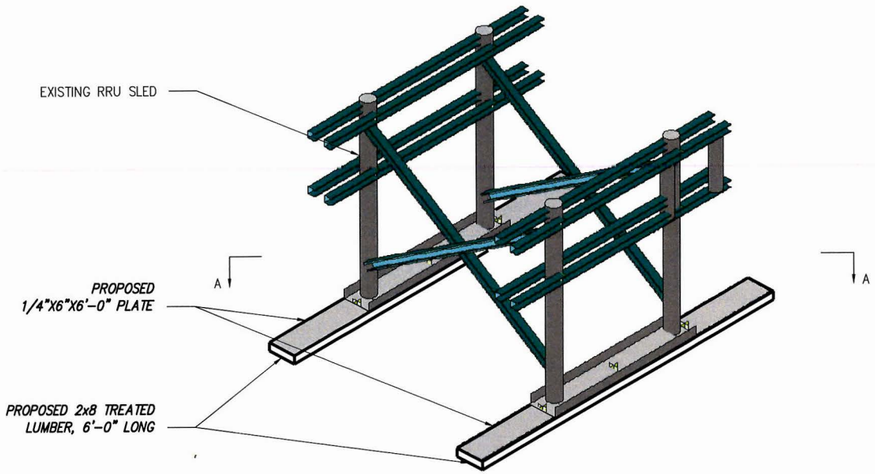

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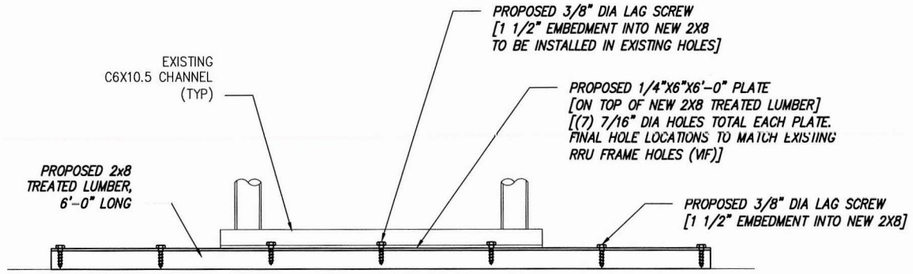

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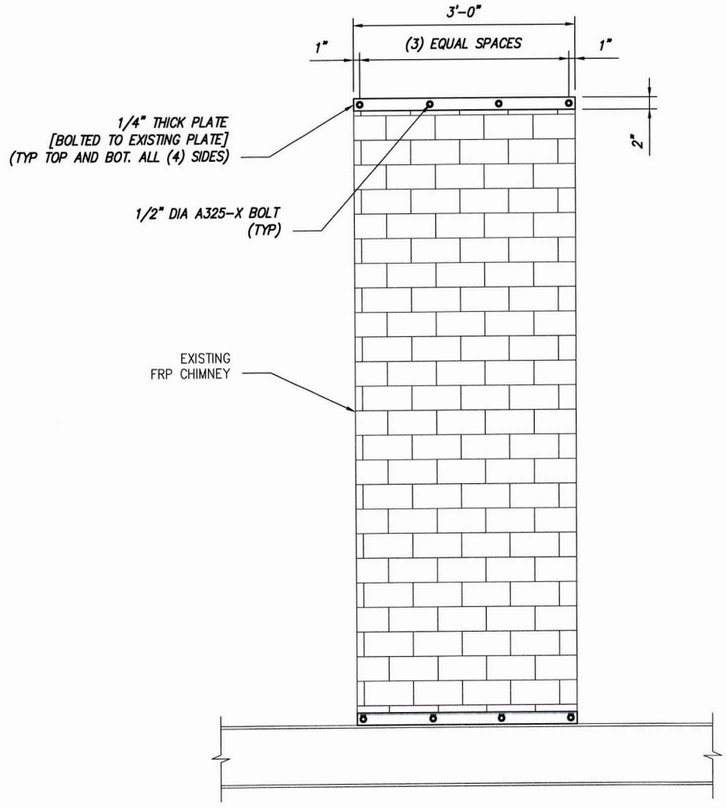

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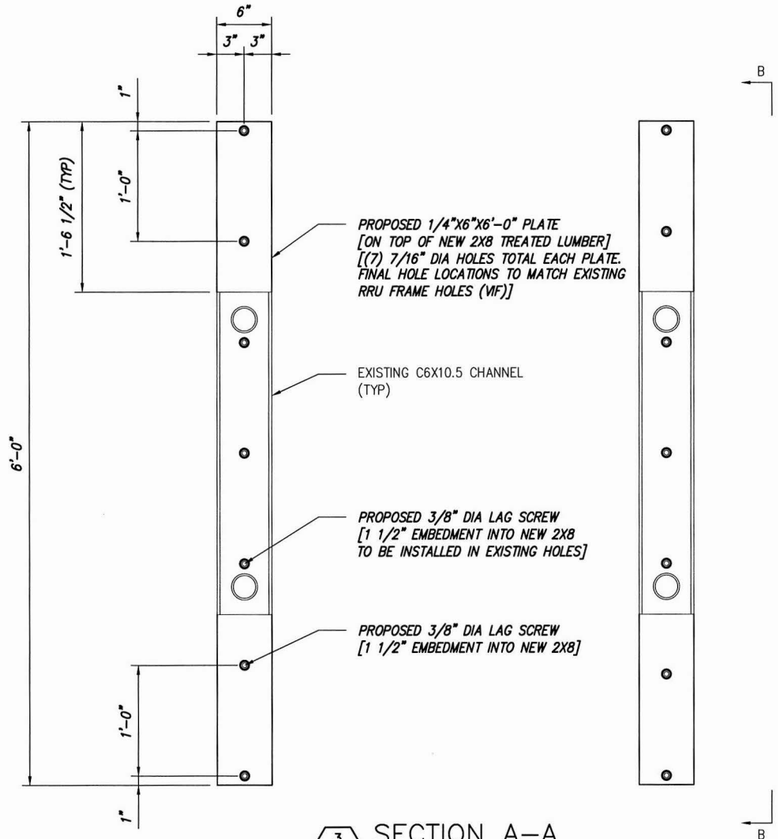

3 SECTION A-A
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CAMBRIDGE, MA 02139

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/02/18
0

Drawing Title
MODIFICATION DETAILS

Drawing Number
S3

KMW Communications - 6' Broadband Antenna with 12 ports

TESSCO SKU : 599514 **Mfg Part #:** EPBQ-654L8H6-B **Qty/UOM :** 1 EACH **UPC:** 729198596682

KMW 6' Multi-broadband (700/850/PCS/AWS/ WCS) 12-PORT (4LO+8HI) X-Pol., 65 Degree horizontal beamwidth.

To View Your Price

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Qty: 1

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Technical Specs | Options

Specific Frequency	698-894 MHz / 1695-2400 MHz
Gain dBi	14.5 dBi / 14.6 dBi / 17.2 dBi / 17.1 dBi / 17.5 dBi / 17.8 dBi
Minimum Front Back Ratio	27 dB
Horizontal Beamwidth	68 deg / 64 deg / 60 deg / 63 deg / 61 deg / 57 deg
Maximum VSWR	1.5:1
Maximum Power	400 W / 250 W
Variable Electrical Downtilt	0-12 deg / 0-10 deg
Connector Placement	Bottom
Maximum Rated Wind Velocity	150 mile/h

INFINIGY
THE SOLUTIONS ARE ENDLESS

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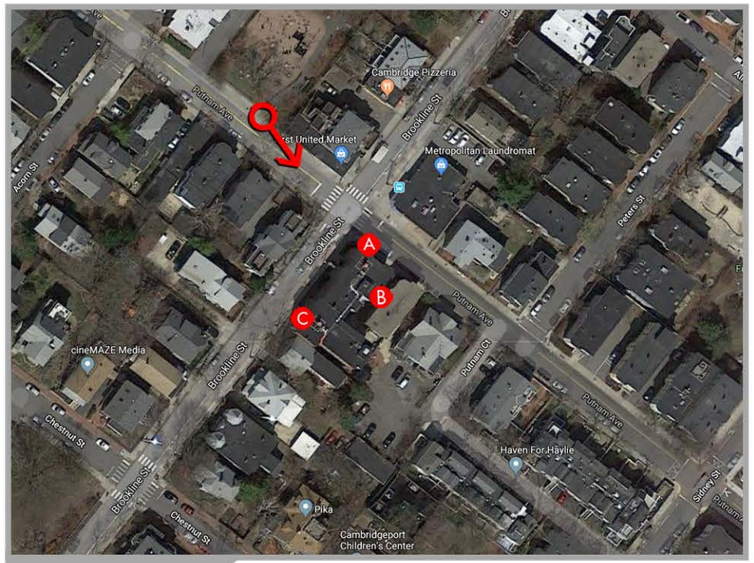

LOCATION

@2016 Google Maps

EXISTING

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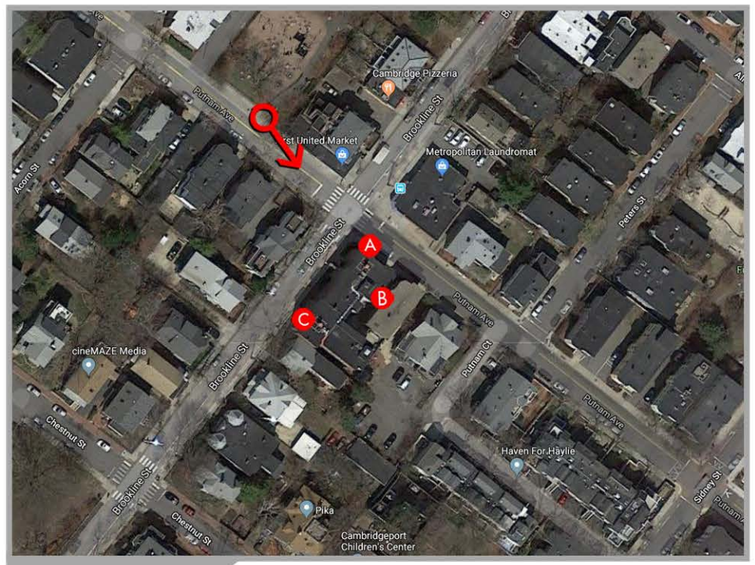

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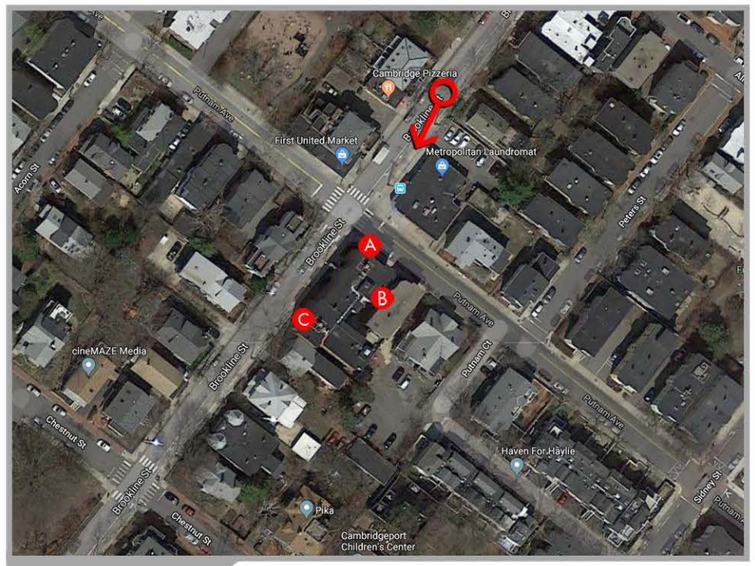

LOCATION

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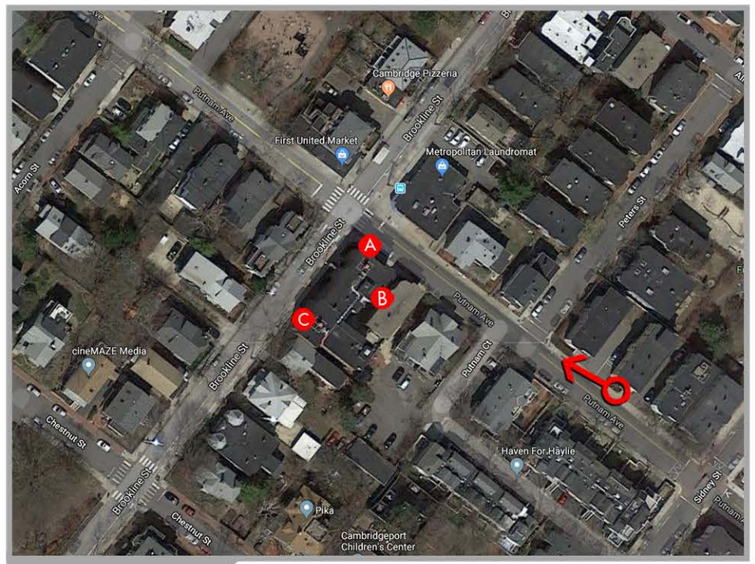

LOCATION

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EXISTING

PROPOSED

Rethink Possible

MAL02697 LTE AWS Plots

- Zoning Plots

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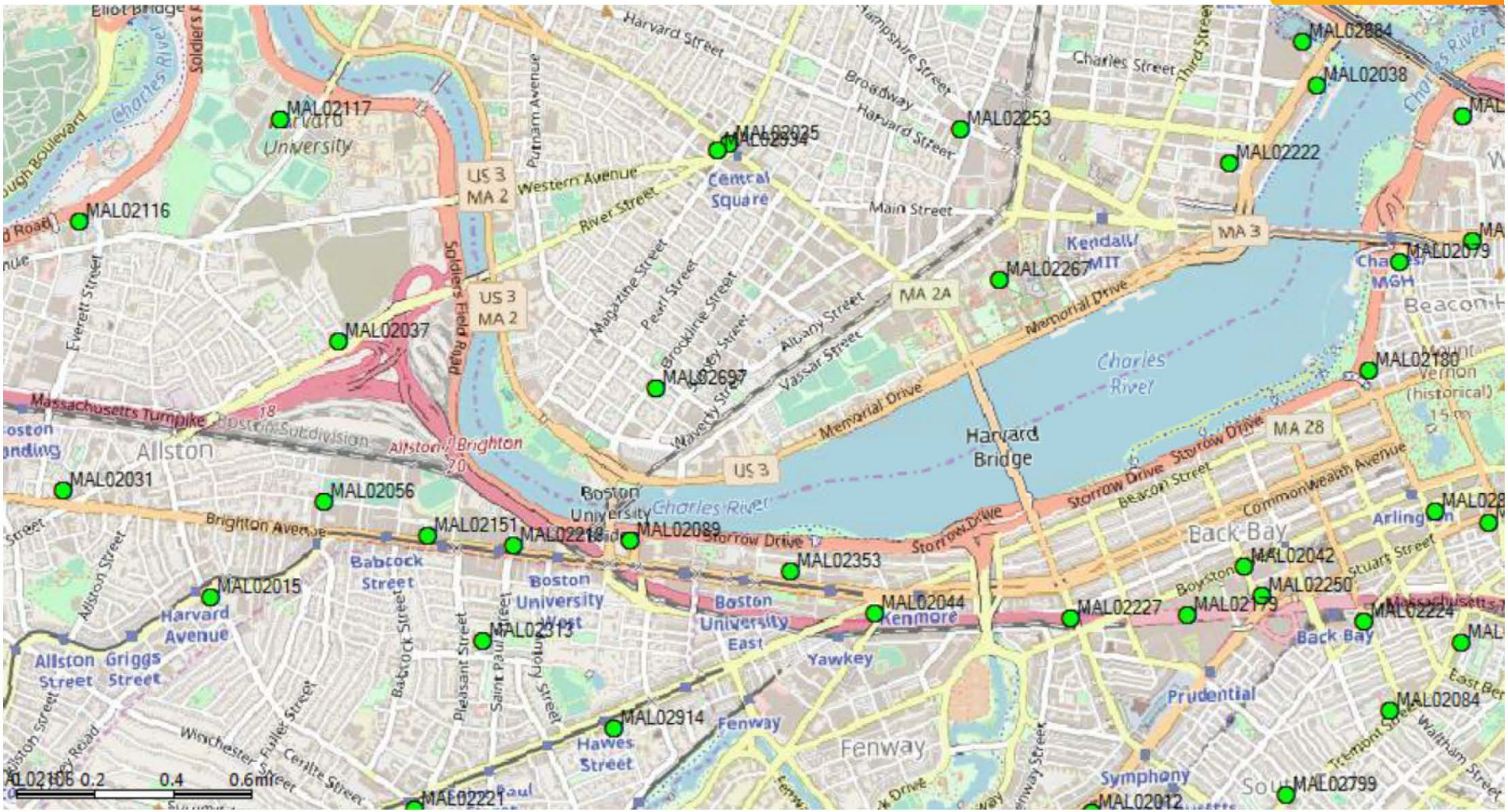
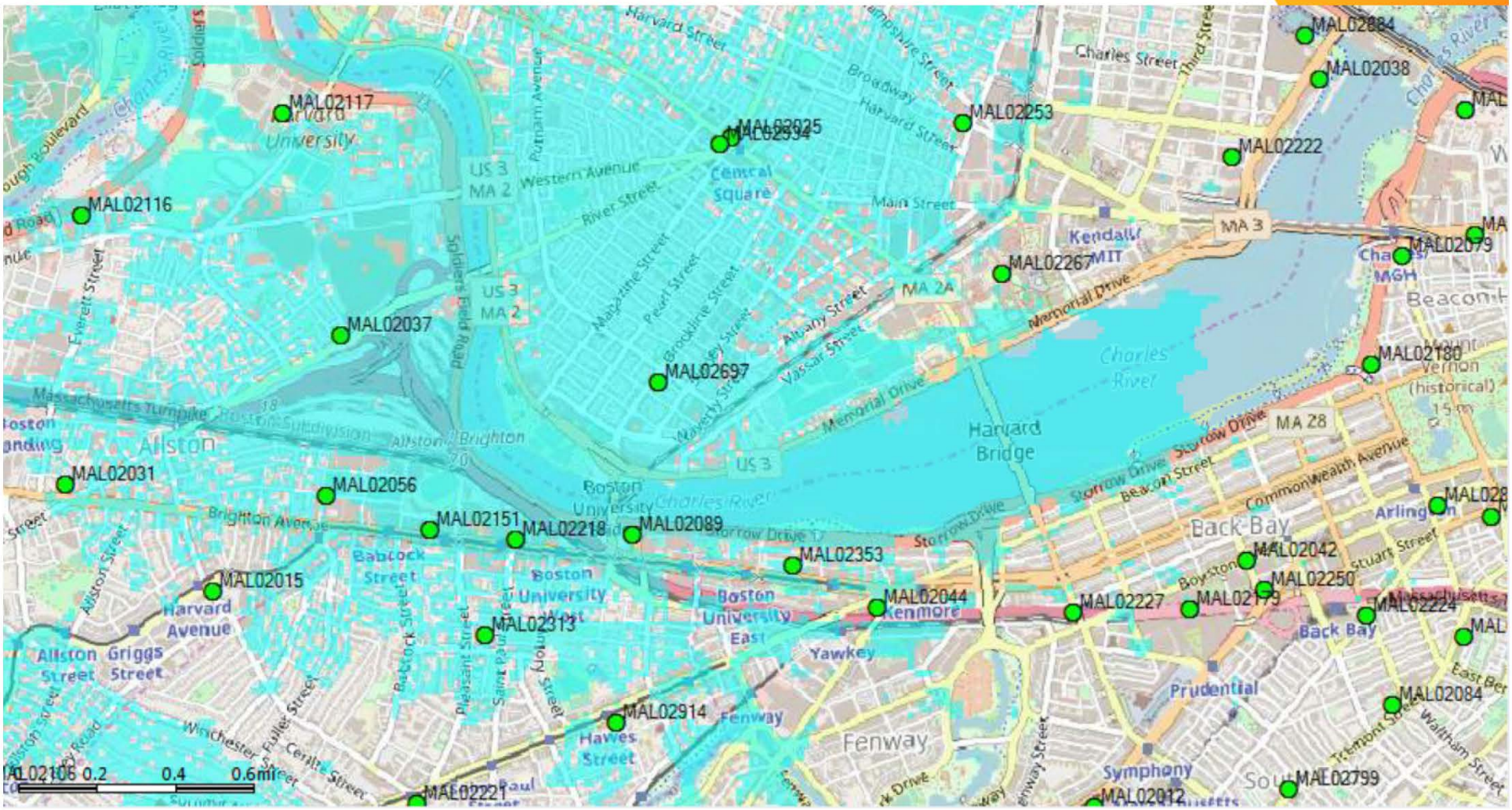
Current LTE AWS Band Coverage



Proposed New LTE AWS Band Coverage



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INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Modification Design Report

February 2, 2018

AT&T FA Number:	10141353
AT&T Site Name:	Cambridge 280 Brookline Street
Cell Site ID:	MAL02697
Pace Job #:	MRCTB025446; MRCTB05533
PTN #:	2101A0DB03; 2101A0DAY3
Infinigy Job Number	499-006
Client	Smartlink
Proposed Carrier	AT&T
Site Location	280 Brookeline Street, Cambridge, MA 02139 42° 21' 25.79" N NAD83 71° 06' 28.76" W NAD83
Structure Type	Rooftop
Structural Usage Ratio	**87.2%**
Overall Result	**Pass**

Upon reviewing the results of this analysis, it is our opinion that the modified structure meets the specified TIA code requirements. The antenna mounts are therefore deemed adequate to support the existing and proposed loading as listed in this report.

- **See modification design drawings appended in this report.**

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FEB 02 2018

Edilberto Barrera, E.I.T.
Structural Engineer

Contents

Introduction

Infinigy Engineering has been requested to perform a structural analysis on the existing modified antenna supporting structures. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The antenna mounts were analyzed using RISA 3D v. 16.0.1 software.

Supporting Documentation

Proposed Loading	AT&T RFDS, dated December 12, 2017
As-Built Drawings	Dewberry Project No. 50003936, dated June 24, 2015
Photos	Infinigy Site Walk, dated September 26, 2017

Analysis Code Requirements

Wind Speed	99 mph (3-Second Gust, Vasd)/128 mph (3-Second Gust, Vult)
Wind Speed w/ ice	40 mph (3-Second Gust) w/ 1" Ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2015 IBC / 2015 Massachusetts State Building Code, 9th Ed.
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the modified structure meets the specified TIA code requirements. The antenna mounts are therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

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ebarrera@infinigy.com | www.infinigy.com

Existing & Reserved Loading

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Sector
53.0	2	CCI HPA-65R-BUU-H6	Sleds	Alpha
	2	DC/Fiber Squid		
	2	Ericsson RRUS-11		
	2	Ericsson RRUS-12		
	2	CCI HPA-65R-BUU-H6	Pipe Mount/Sleds	Beta
	2	DC/Fiber Squid		
	2	Ericsson RRUS-11		
	2	Ericsson RRUS-12		
	2	CCI HPA-65R-BUU-H6	Sleds	Gamma
	2	DC/Fiber Squid		
	2	Ericsson RRUS-11		
	2	Ericsson RRUS-12		

To Be Removed Loading

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Sector
53.0	2	CCI HPA-65R-BUU-H6	Sled	Alpha
	2	CCI HPA-65R-BUU-H6	Pipe Mount	Beta
	2	CCI HPA-65R-BUU-H6	Sled	Gamma

Proposed Loading

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Sector
53.0	2	KMW EPBQ-654L8H6-B	Sleds	Alpha
	1	Ericsson RRUS-32 B66		
	1	Ericsson RRUS-32		
	2	KMW EPBQ-654L8H6-B	Pipe Mount/Sleds	Beta
	1	Ericsson RRUS-32 B66		
	1	Ericsson RRUS-32		
	2	KMW EPBQ-654L8H6-B	Sleds	Gamma
	1	Ericsson RRUS-32 B66		
	1	Ericsson RRUS-32		

Final Loading Configuration

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Sector
53.0	2	KMW EPBQ-654L8H6-B	Sleds	Alpha
	2	DC/Fiber Squid		
	2	Ericsson RRUS-11		
	2	Ericsson RRUS-12		
	1	Ericsson RRUS-32 B66		
	1	Ericsson RRUS-32		
	2	KMW EPBQ-654L8H6-B	Pipe Mount/Sleds	Beta
	2	DC/Fiber Squid		
	2	Ericsson RRUS-11		
	2	Ericsson RRUS-12		
	1	Ericsson RRUS-32 B66		
	1	Ericsson RRUS-32		
	2	KMW EPBQ-654L8H6-B	Sleds	Gamma
	2	DC/Fiber Squid		
	2	Ericsson RRUS-11		
	2	Ericsson RRUS-12		
	1	Ericsson RRUS-32 B66		
	1	Ericsson RRUS-32		

Structure Usages

Alpha/Gamma Sector

Panels:

Structural Members:	87.2%
Overturning:	34.8%
Roof Pressure:	42.6%
Sliding:	52.4%

Radios:

Structural Members:	16.9%
Overturning:	62.1%
Roof Pressure:	59.3%
Sliding:	80.9%

Beta Sector

Panels:

Structural Members:	21.4%

Radios:

Structural Members:	3.9%

Anchor Reactions

Beta Sector – Panel Framing

Reaction Data	Design Reactions	Analysis Reactions	Result
Shear (lbs.)	1593	777	49%
Axial (lbs.)	2325	1339	58%

***Assumed (1) 3/8"Ø Hilti HY70 w/ 3-3/8 embedment (Typ. 16" O.C.)**

-Anchor reactions are acceptable when compared to manufacturer's allowable design loads.

Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members, connections, anchors, and masonry to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the rooftop mounted equipment and/or antenna supporting structures to be proposed or modified as shown in the referenced construction drawings. Applicable building element adequacy to support these structures is also evaluated when the applied forces increase significantly based on engineering judgment.

Site Name:	MAL02697
Client:	Smartlink
Carrier:	AT&T
Engineer:	RJL
Date:	2/2/2018

INFINIGY
FROM ZERO TO INFINIGY
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INFINIGY WIND LOAD CALCULATOR 3.0.2

Alpha/Gamma - Panels

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Rooftop
Number of Sectors:	3
Structure Shape 1:	Flat

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	99	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	53.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
17.58	0.85	**29.89**

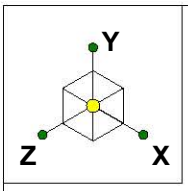
Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
2.87	0.85	**6.02**

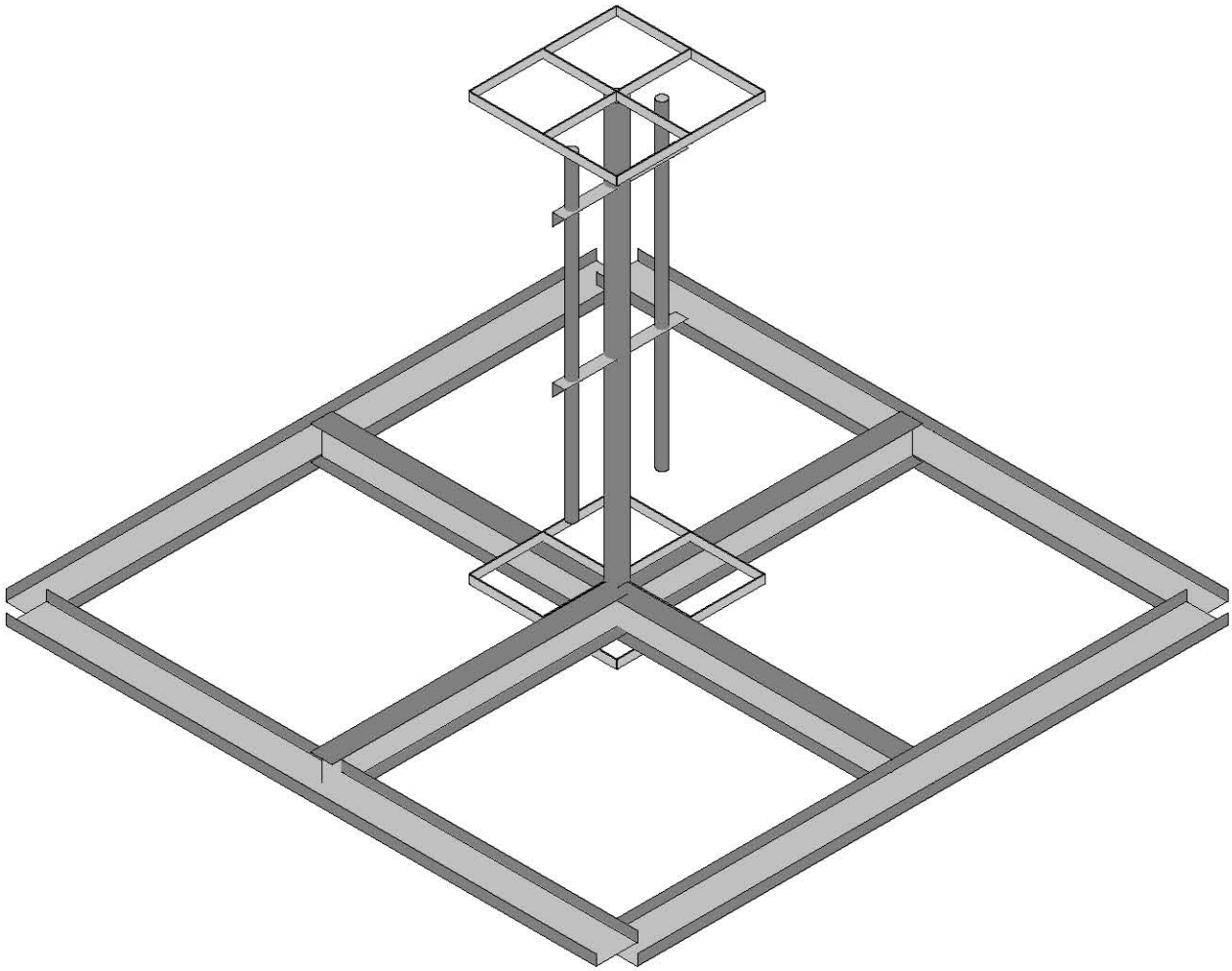
Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	40	mph (nominal 3-second gust)
Base Ice Thickness:	1.00	in

Input Appurtenance Information and Load Placements:

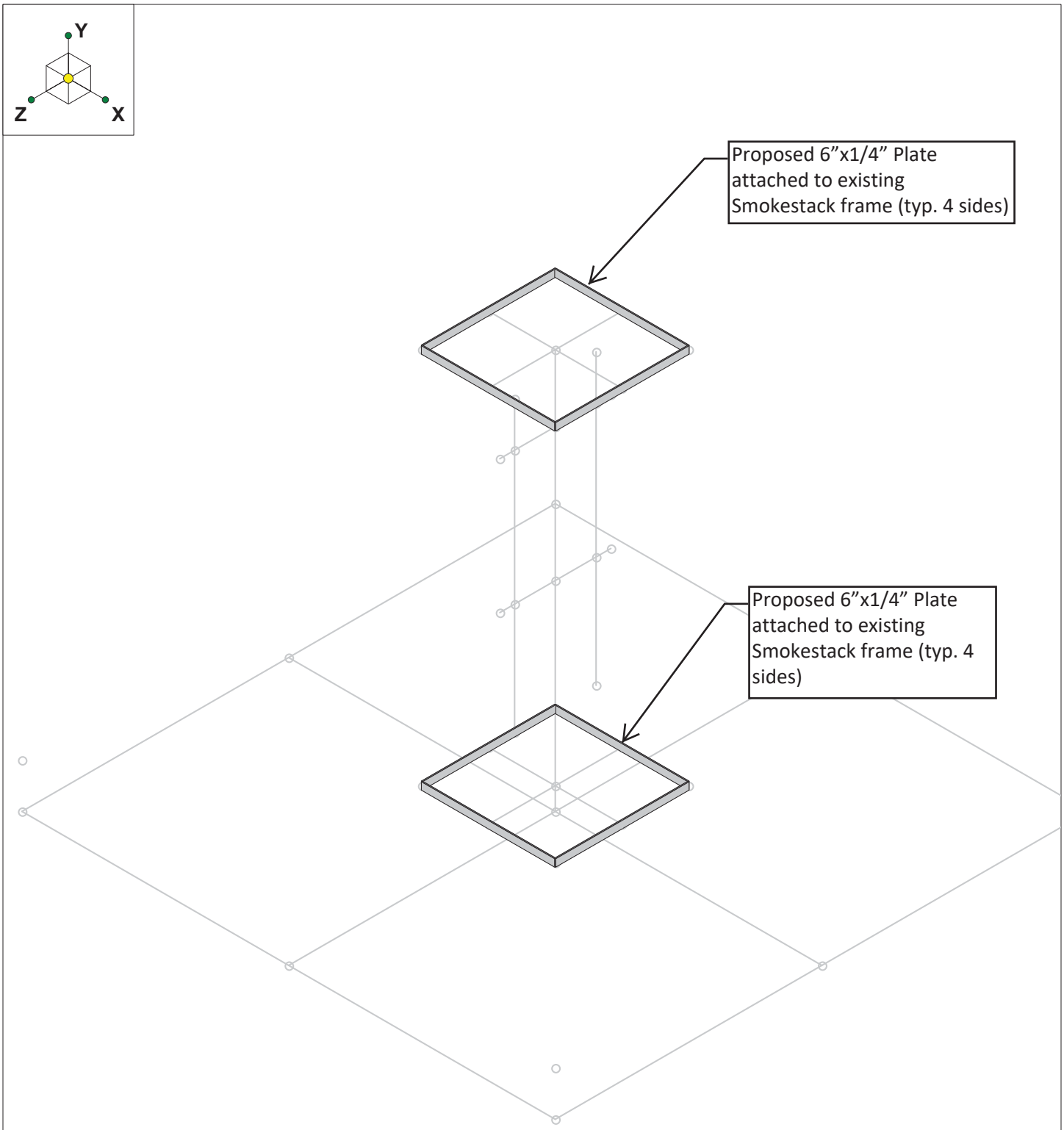
Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
EPBQ-654L8H6-B	53.0	1	1.00	Flat	Flat	17.58	8.27	123.56	83.83	93.76	113.63
EPBQ-654L8H6-B	53.0	1	1.00	Flat	Flat	17.58	8.27	123.56	83.83	93.76	113.63
FRP Panel (1 Side)	53.0	0	1.00	Flat	Flat	17.58	30.98	462.89	10.58	123.66	349.81





Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Existing Configuration
RJL		Jan 31, 2018 at 1:52 PM
499-006		Panel - Alpha & Gamma.r3d



Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Proposed Configuration
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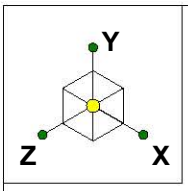
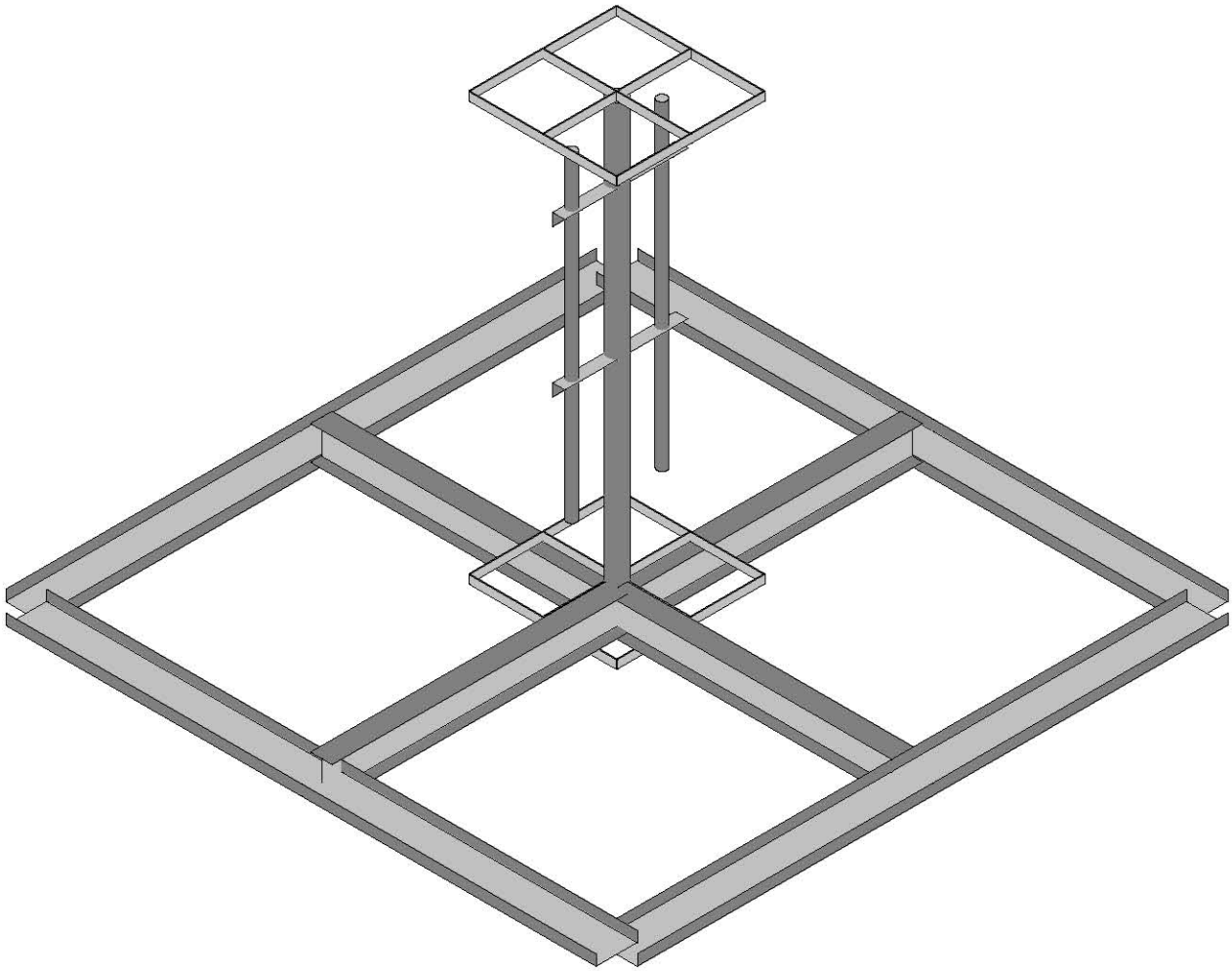
499-006		Panel - Alpha & Gamma.r3d





Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Final Configuration
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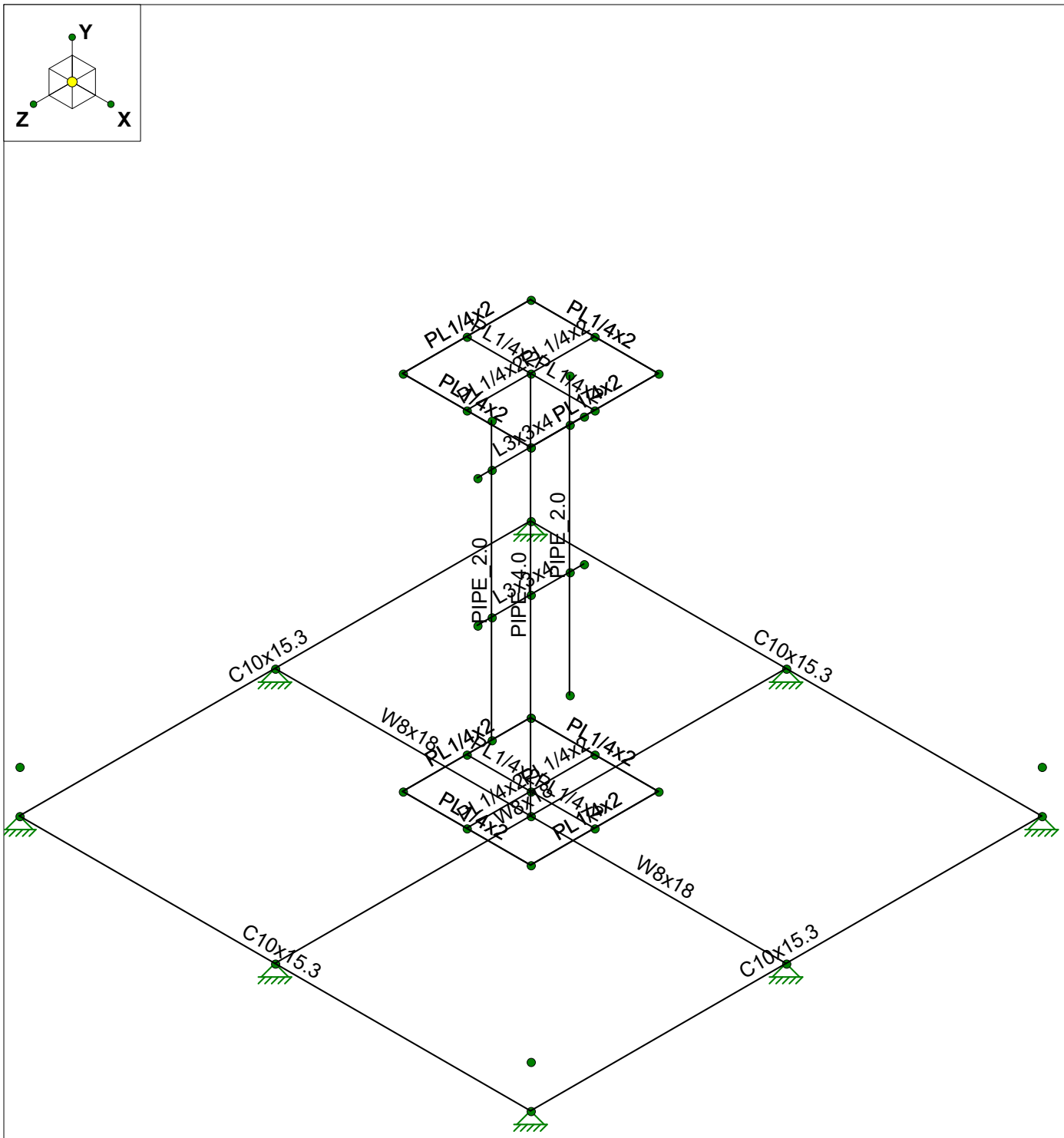
499-006		Panel - Alpha & Gamma.r3d



Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Member Shapes
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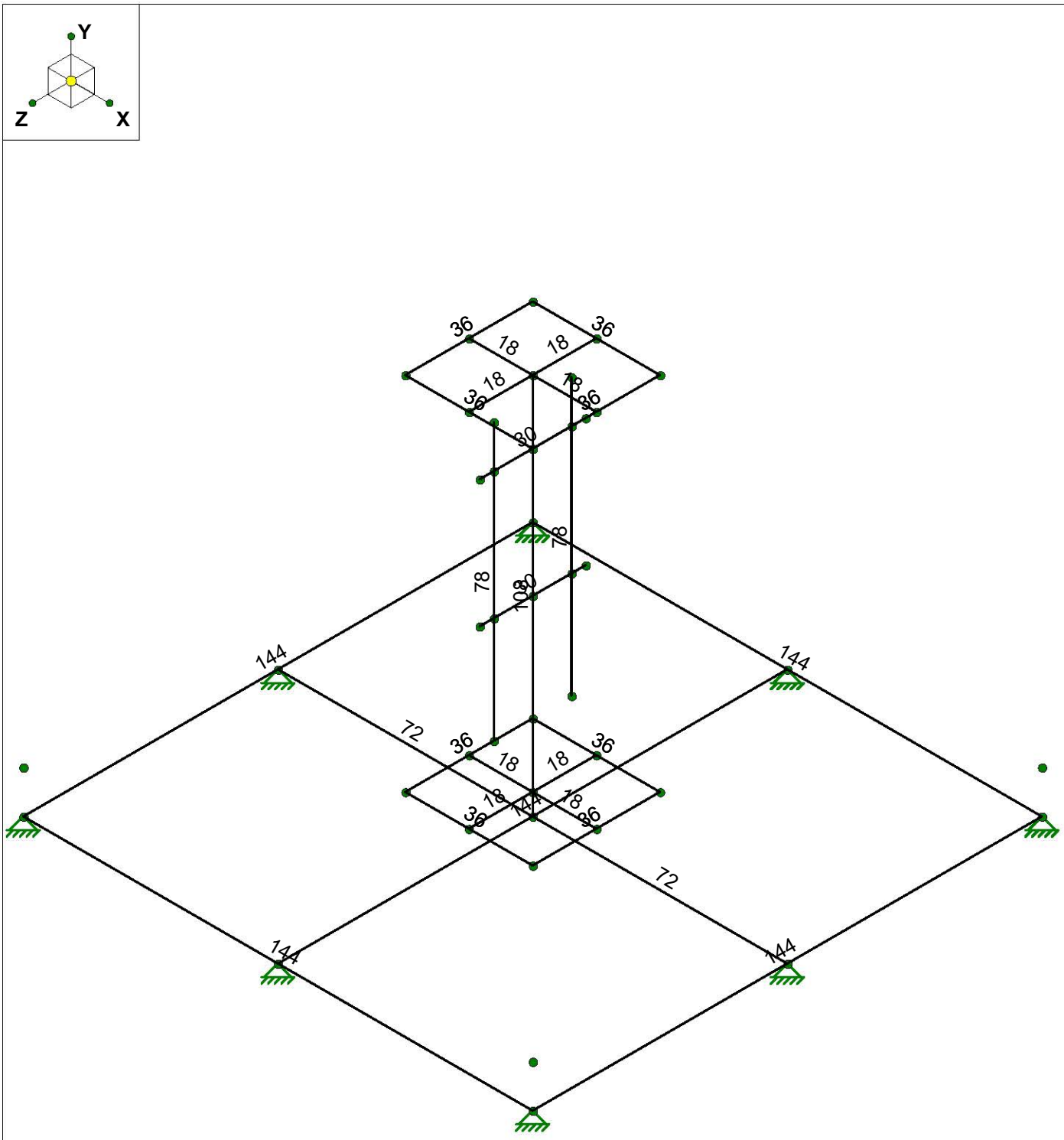
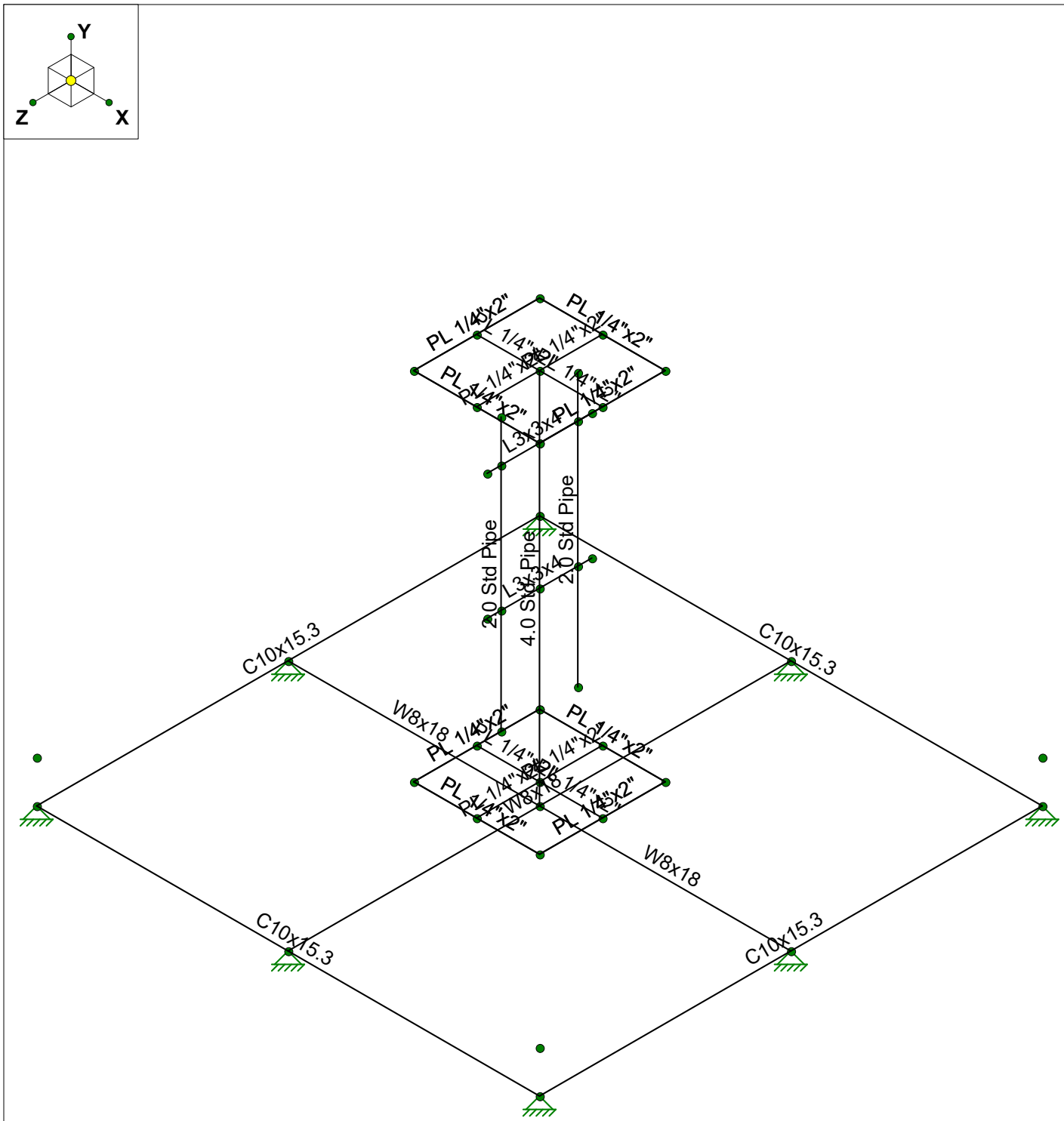
499-006		Panel - Alpha & Gamma.r3d



Member Length (in) Displayed
Envelope Only Solution

Infinigy Engineering, PLLC		Member Lengths
RJL	MAL02697	Jan 31, 2018 at 1:45 PM
499-006		Panel - Alpha & Gamma.r3d



Envelope Only Solution

Infinigy Engineering, PLLC		Section Set
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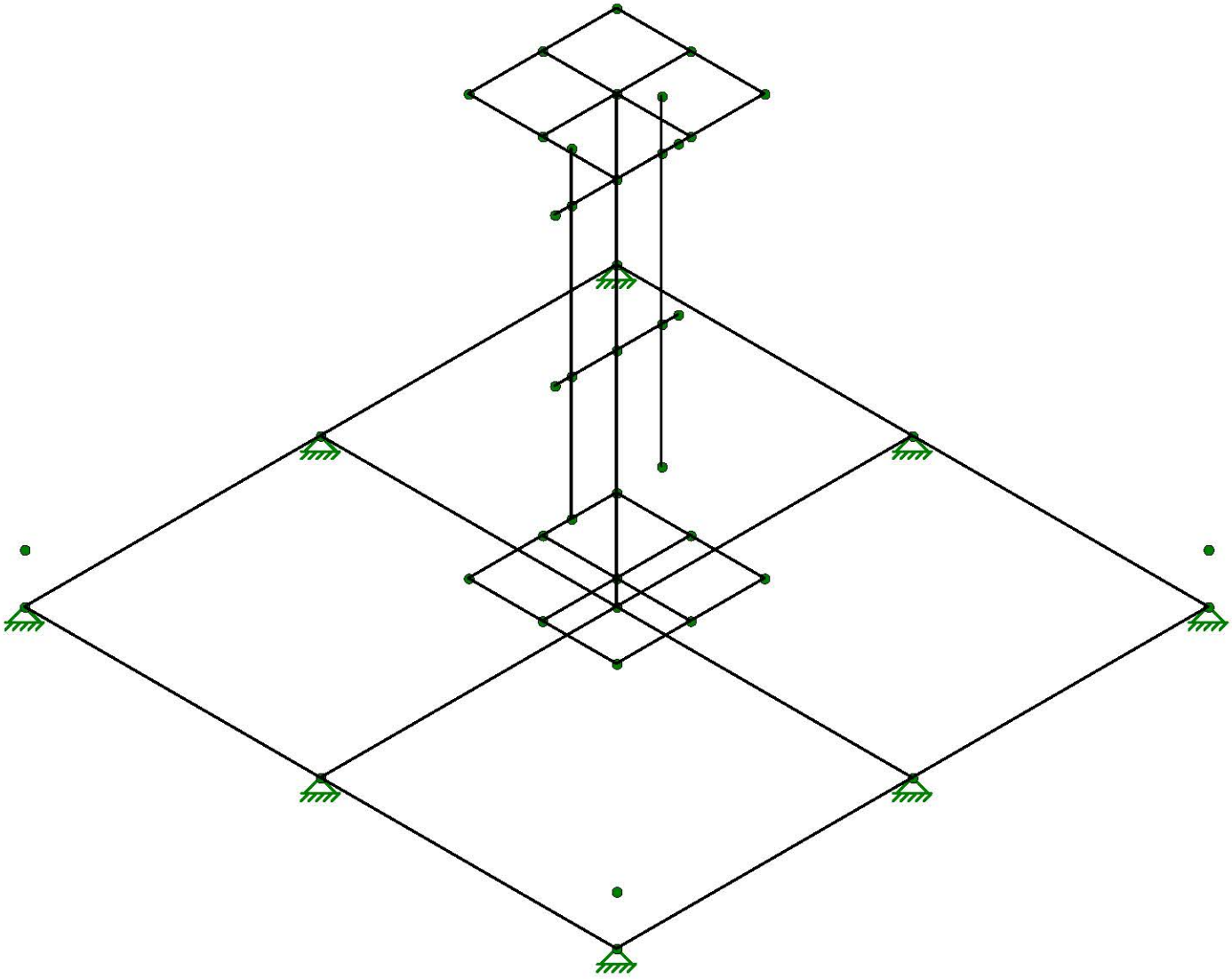
499-006		Panel - Alpha & Gamma.r3d



Envelope Only Solution

Infinigy Engineering, PLLC		Wireframe
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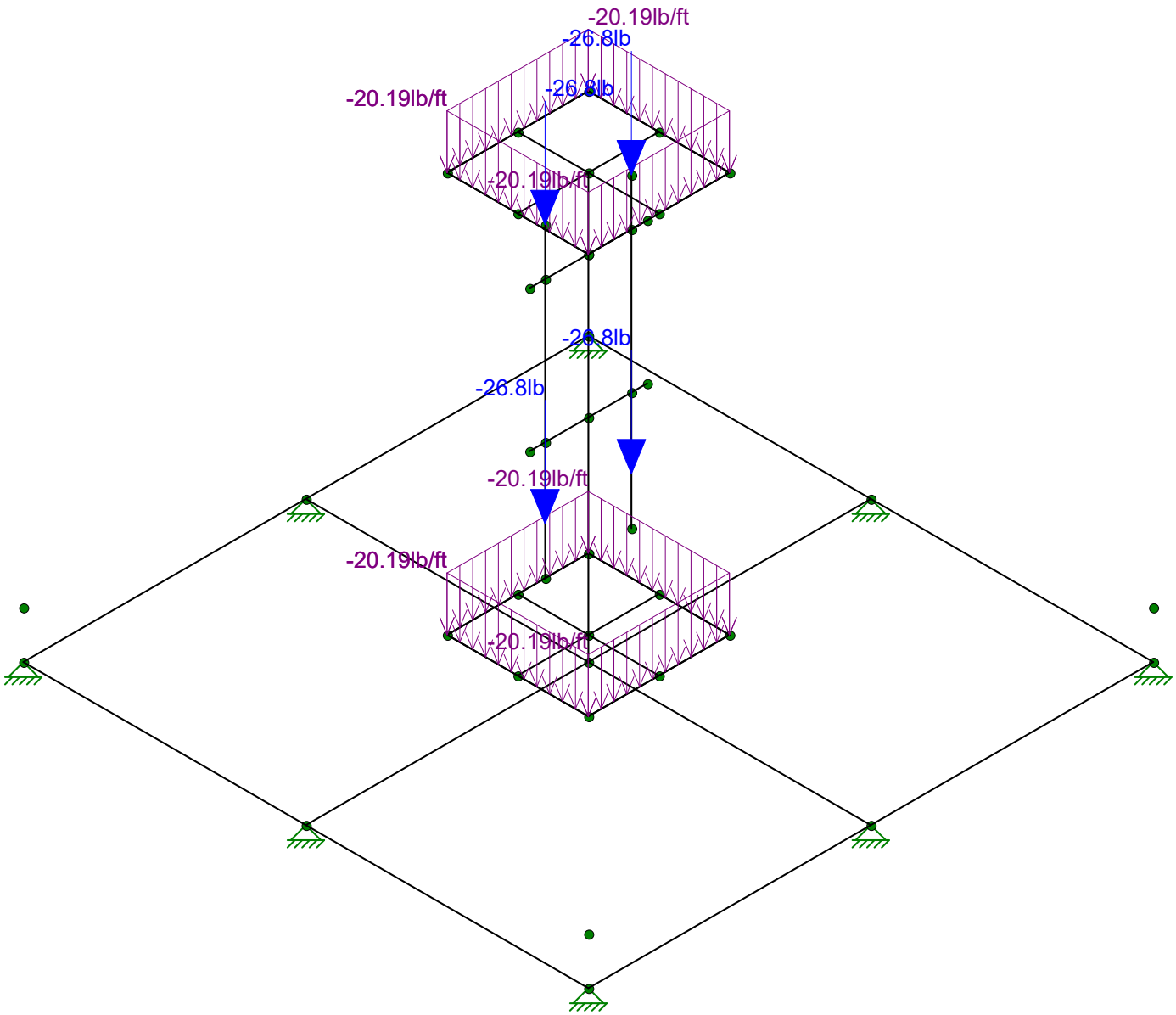
499-006		Panel - Alpha & Gamma.r3d



Loads: BLC 1, Self Weight
Envelope Only Solution

Infinigy Engineering, PLLC		Dead Load
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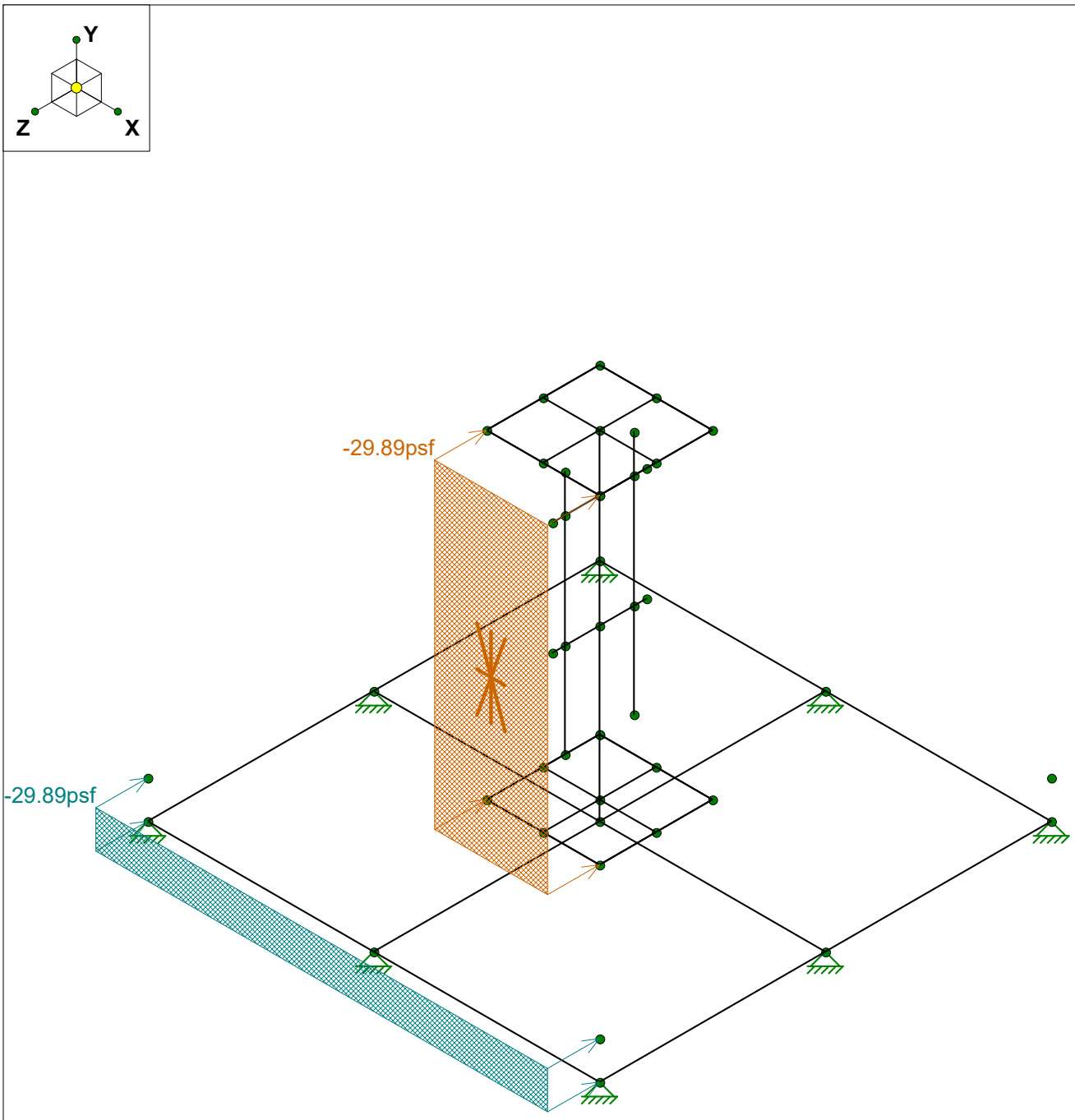
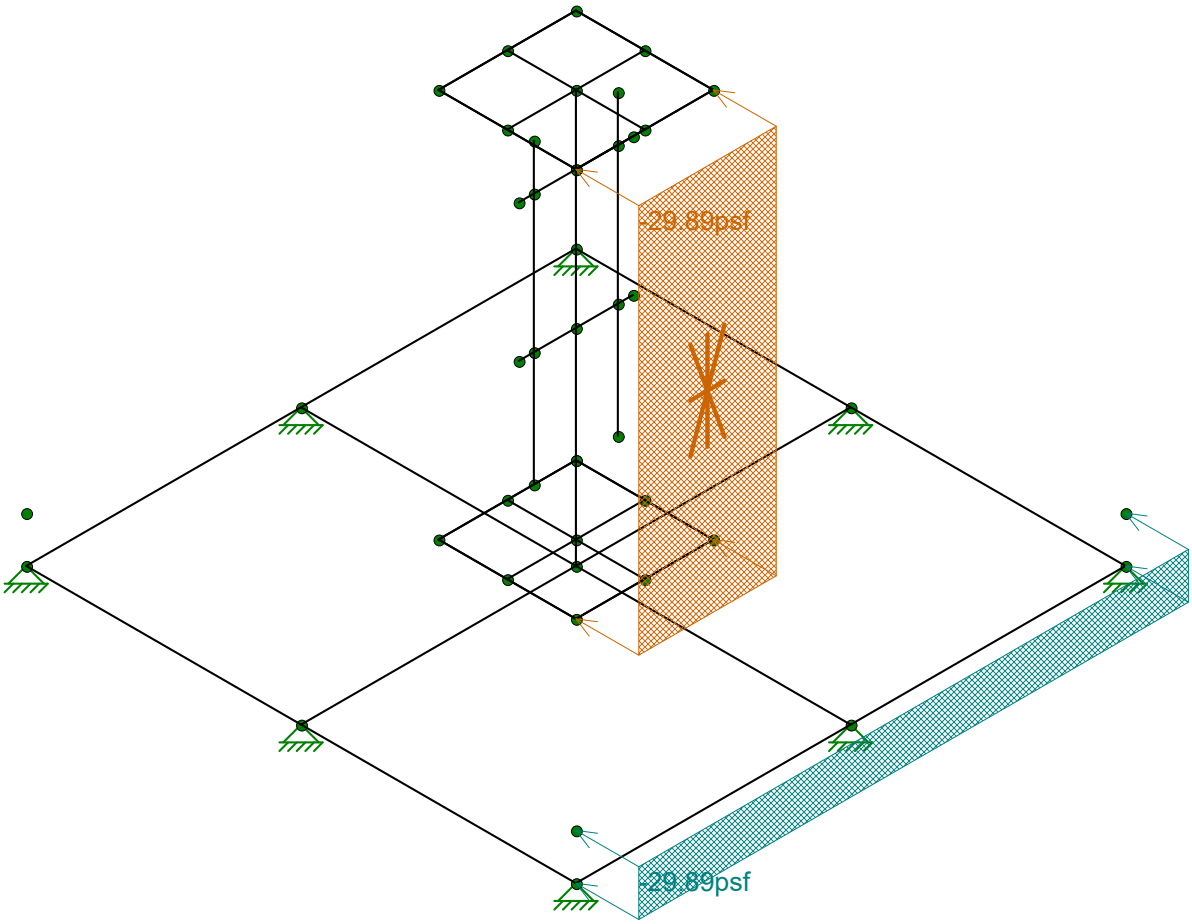
499-006		Panel - Alpha & Gamma.r3d



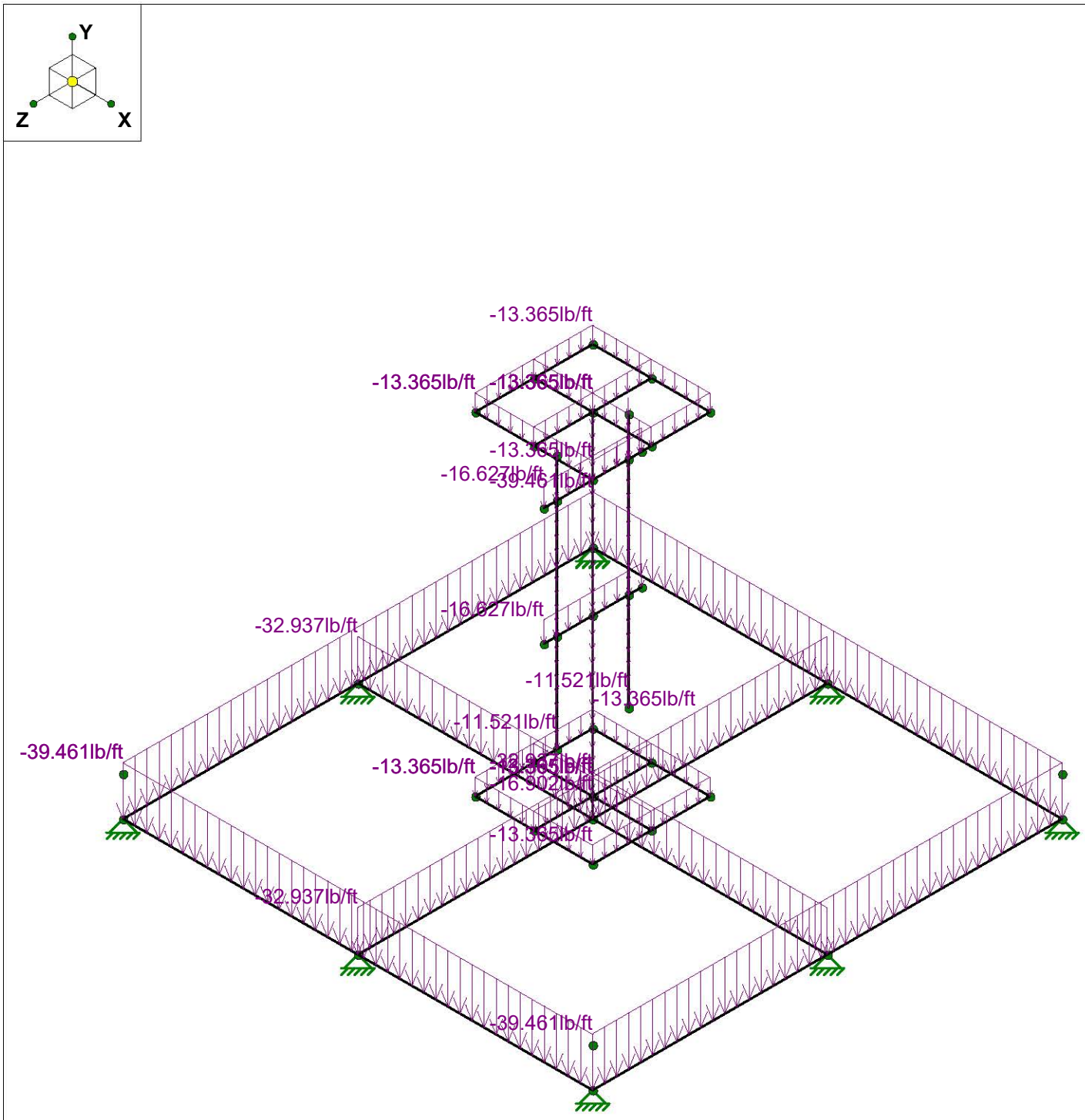
Loads: BLC 2, Wind Load AZI 000
Envelope Only Solution

Infinigy Engineering, PLLC		Wind Load
RJL	MAL02697	Jan 31, 2018 at 1:47 PM
499-006		Panel - Alpha & Gamma.r3d



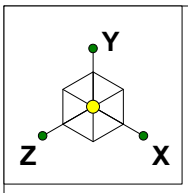
Loads: BLC 3, Wind Load AZI 090
Envelope Only Solution

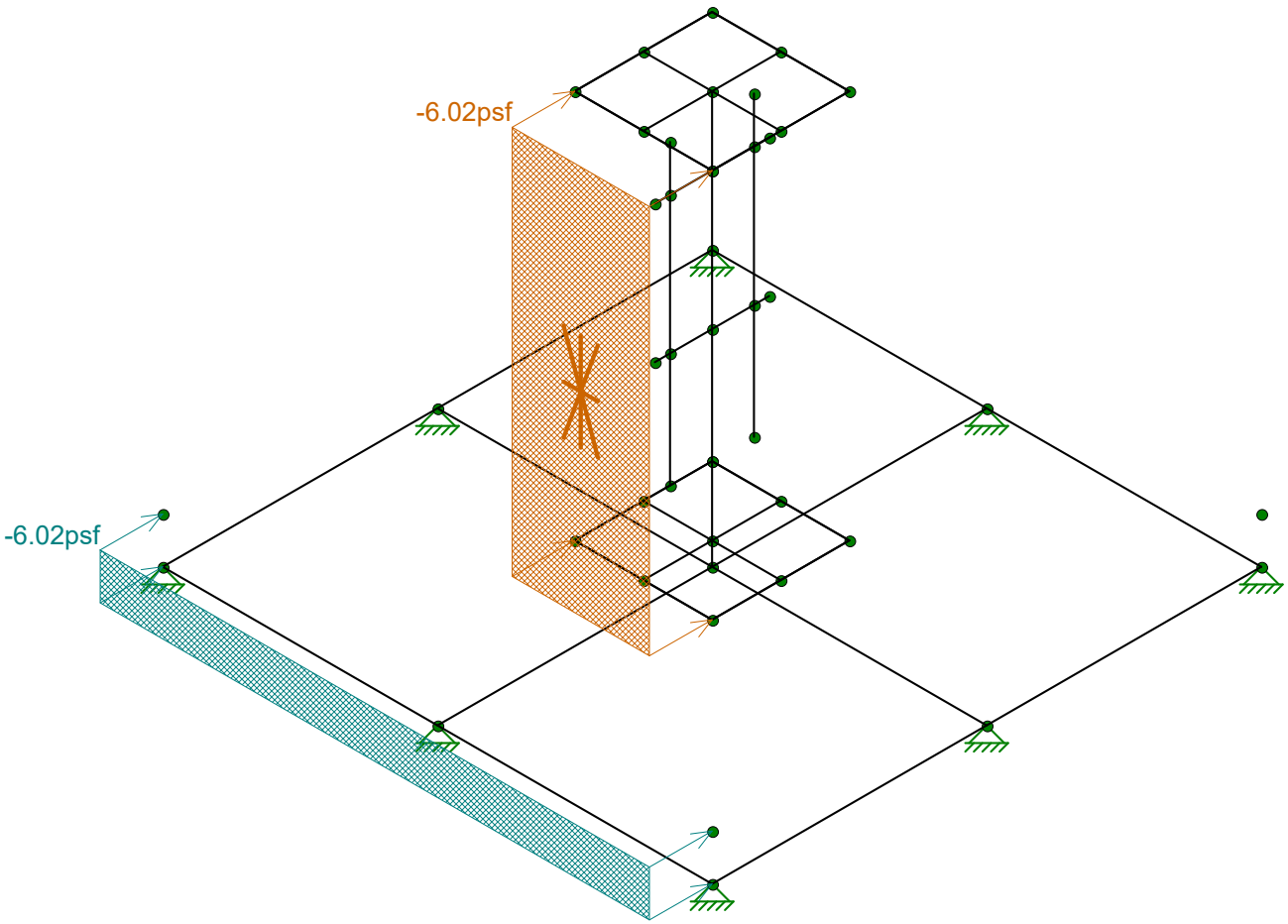
Infinigy Engineering, PLLC		Wind Load 90
RJL	MAL02697	Jan 31, 2018 at 1:48 PM
499-006		Panel - Alpha & Gamma.r3d



Loads: BLC 4, Ice Weight
Envelope Only Solution

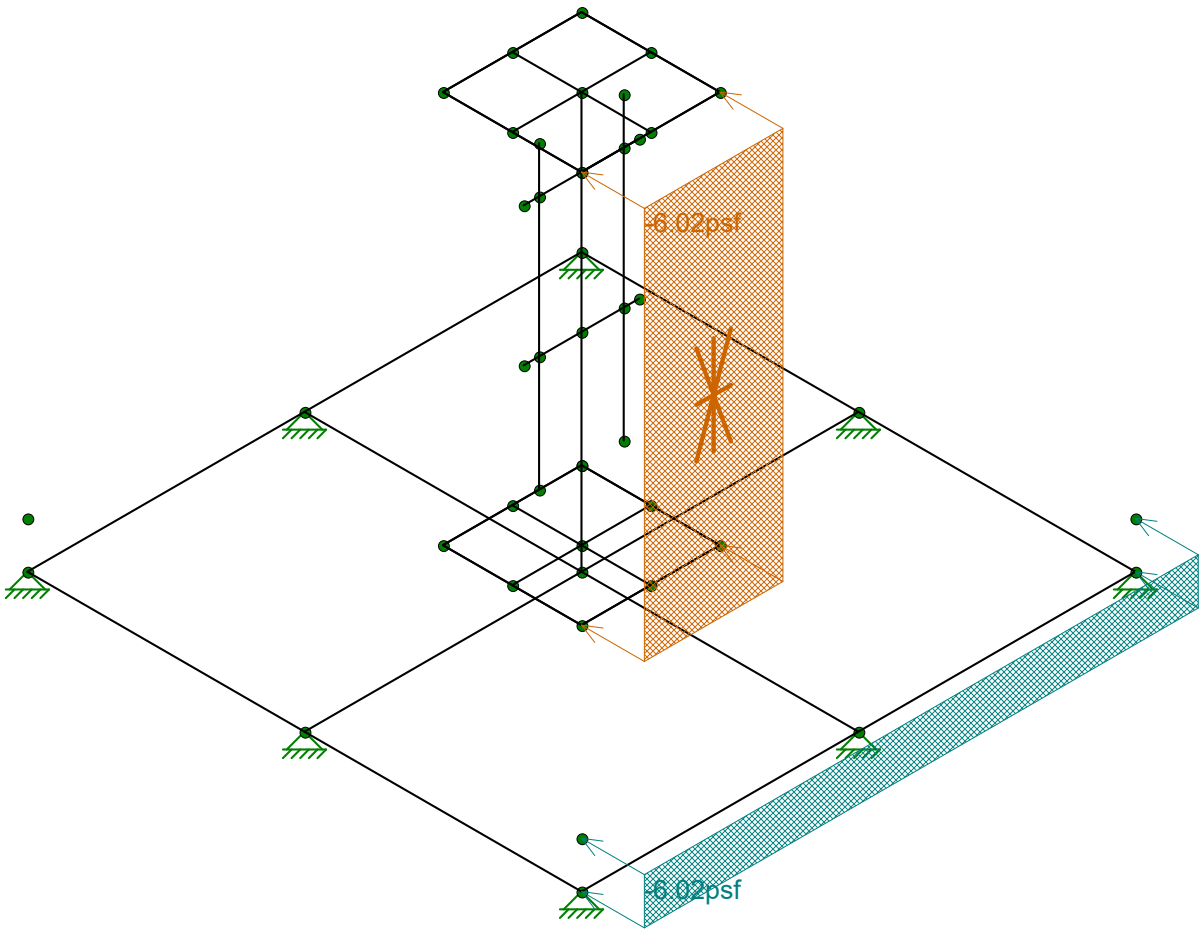
Infinigy Engineering, PLLC	MAL02697	Ice Weight
RJL		Jan 31, 2018 at 1:49 PM
499-006		Panel - Alpha & Gamma.r3d





Loads: BLC 5, Wind + Ice Load AZI 000
Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Wind + Ice
RJL		Jan 31, 2018 at 1:49 PM
499-006		Panel - Alpha & Gamma.r3d



Loads: BLC 6, Wind + Ice Load AZI 090
Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Wind + Ice 90
RJL		Jan 31, 2018 at 1:49 PM
499-006		Panel - Alpha & Gamma.r3d

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N3		270	C10x15.3	Beam	None	A36 Gr.36	Typical
2	M2	N2	N4		270	C10x15.3	Beam	None	A36 Gr.36	Typical
3	M3	N1	N2		270	C10x15.3	Beam	None	A36 Gr.36	Typical
4	M4	N3	N4		270	C10x15.3	Beam	None	A36 Gr.36	Typical
5	M5	N5	N6			W8x18	Beam	None	A36 Gr.36	Typical
6	M6	N7	N9			W8x18	Beam	None	A36 Gr.36	Typical
7	M7	N9	N8			W8x18	Beam	None	A36 Gr.36	Typical
8	M8	N9	N10			4.0 Std. Pipe	Beam	None	A53 Gr.B	Typical
9	M9	N10	N16			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
10	M10	N10	N12			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
11	M11	N10	N18			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
12	M12	N10	N14			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
13	M13	N24	N20			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
14	M14	N26	N22			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
15	M15	N24	N26			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
16	M16	N20	N22			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
17	M17	N11	N17			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
18	M18	N11	N13			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
19	M19	N11	N19			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
20	M20	N11	N15			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
21	M21	N25	N21			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
22	M22	N27	N23			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
23	M23	N25	N27			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
24	M24	N21	N23			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
25	M25	N33	N31		90	L3x3x4	Beam	None	A36 Gr.36	Typical
26	M26	N32	N30		90	L3x3x4	Beam	None	A36 Gr.36	Typical
27	M27	N41	N38			2.0 Std Pipe	Beam	None	A53 Gr.B	Typical
28	M28	N42	N39			2.0 Std Pipe	Beam	None	A53 Gr.B	Typical
29	M29	N24	N26			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
30	M30	N26	N22			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
31	M31	N22	N20			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
32	M32	N20	N24			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
33	M33	N25	N27			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
34	M34	N27	N23			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
35	M35	N23	N21			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical
36	M36	N21	N25			PL 1/4"x2"	Beam	None	A36 Gr.36	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	Hot Rolled Steel				
2	A36 Gr.36	C10x15.3	4	576	731.7
3	A36 Gr.36	L3x3x4	2	60	24.5
4	A36 Gr.36	PL1/4x2	24	720	102.1
5	A36 Gr.36	W8x18	3	288	429.6
6	A53 Gr.B	PIPE_2.0	2	156	45.1
7	A53 Gr.B	PIPE_4.0	1	108	90.7
8	Total HR Steel		36	1908	1423.7

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(M...	Surface...
1	Self Weight	DL		-1			4	8		
2	Wind Load AZI 000	WLZ							2	
3	Wind Load AZI 090	WLX							2	

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(M...	Surface...
4	Ice Weight	OL1						28		
5	Wind + Ice Load AZI 000	OL2							2	
6	Wind + Ice Load AZI 090	OL3							2	
7	Service Live 1	LL								
8	BLC 2 Transient Area Loa...	None						13		
9	BLC 3 Transient Area Loa...	None						12		
10	BLC 5 Transient Area Loa...	None						13		
11	BLC 6 Transient Area Loa...	None						12		

Load Combinations

	Description	S...	P...	S...	B...	Factor	BLC	Fac...	BLC	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
1	1.4D	Y...	Y		DL	1.4																		
2	1.2D + 1.6W AZI 000	Y...	Y		DL	1.2	WLZ	1.6																
3	1.2D + 1.6W AZI 030	Y...	Y		DL	1.2	WLZ	1.386	WLX	.8														
4	1.2D + 1.6W AZI 060	Y...	Y		DL	1.2	WLZ	.8	WLX	1....														
5	1.2D + 1.6W AZI 090	Y...	Y		DL	1.2			WLX	1.6														
6	1.2D + 1.6W AZI 120	Y...	Y		DL	1.2	WLZ	-.8	WLX	1....														
7	1.2D + 1.6W AZI 150	Y...	Y		DL	1.2	WLZ	-1.3...	WLX	.8														
8	1.2D + 1.6W AZI 180	Y...	Y		DL	1.2	WLZ	-1.6																
9	1.2D + 1.6W AZI 210	Y...	Y		DL	1.2	WLZ	-1.3...	WLX	-.8														
10	1.2D + 1.6W AZI 240	Y...	Y		DL	1.2	WLZ	-.8	WLX	-1...														
11	1.2D + 1.6W AZI 270	Y...	Y		DL	1.2			WLX	-1.6														
12	1.2D + 1.6W AZI 300	Y...	Y		DL	1.2	WLZ	.8	WLX	-1...														
13	1.2D + 1.6W AZI 330	Y...	Y		DL	1.2	WLZ	1.386	WLX	-.8														
14	0.9D + 1.6W AZI 000	Y...	Y		DL	.9	WLZ	1.6																
15	0.9D + 1.6W AZI 030	Y...	Y		DL	.9	WLZ	1.386	WLX	.8														
16	0.9D + 1.6W AZI 060	Y...	Y		DL	.9	WLZ	.8	WLX	1....														
17	0.9D + 1.6W AZI 090	Y...	Y		DL	.9			WLX	1.6														
18	0.9D + 1.6W AZI 120	Y...	Y		DL	.9	WLZ	-.8	WLX	1....														
19	0.9D + 1.6W AZI 150	Y...	Y		DL	.9	WLZ	-1.3...	WLX	.8														
20	0.9D + 1.6W AZI 180	Y...	Y		DL	.9	WLZ	-1.6																
21	0.9D + 1.6W AZI 210	Y...	Y		DL	.9	WLZ	-1.3...	WLX	-.8														
22	0.9D + 1.6W AZI 240	Y...	Y		DL	.9	WLZ	-.8	WLX	-1...														
23	0.9D + 1.6W AZI 270	Y...	Y		DL	.9			WLX	-1.6														
24	0.9D + 1.6W AZI 300	Y...	Y		DL	.9	WLZ	.8	WLX	-1...														
25	0.9D + 1.6W AZI 330	Y...	Y		DL	.9	WLZ	1.386	WLX	-.8														
26	1.2D + 1.0Di	Y...	Y		DL	1.2	OL1	1																
27	1.2D + 1.0Di + 1.0Wi AZI 000	Y...	Y		DL	1.2	OL1	1	OL2	1														
28	1.2D + 1.0Di + 1.0Wi AZI 030	Y...	Y		DL	1.2	OL1	1	OL2	.8...	...	.5												
29	1.2D + 1.0Di + 1.0Wi AZI 060	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	.8...												
30	1.2D + 1.0Di + 1.0Wi AZI 090	Y...	Y		DL	1.2	OL1	1			...	1												
31	1.2D + 1.0Di + 1.0Wi AZI 120	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	.8...												
32	1.2D + 1.0Di + 1.0Wi AZI 150	Y...	Y		DL	1.2	OL1	1	OL2	-....	...	.5												
33	1.2D + 1.0Di + 1.0Wi AZI 180	Y...	Y		DL	1.2	OL1	1	OL2	-1														
34	1.2D + 1.0Di + 1.0Wi AZI 210	Y...	Y		DL	1.2	OL1	1	OL2	-....	...	-.5												
35	1.2D + 1.0Di + 1.0Wi AZI 240	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	-....												
36	1.2D + 1.0Di + 1.0Wi AZI 270	Y...	Y		DL	1.2	OL1	1			...	-1												
37	1.2D + 1.0Di + 1.0Wi AZI 300	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	-....												
38	1.2D + 1.0Di + 1.0Wi AZI 330	Y...	Y		DL	1.2	OL1	1	OL2	.8...	...	-.5												
39	1.2D + 1.5L + 1.0WL (30 mph) AZI 000	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...														
40	1.2D + 1.5L + 1.0WL (30 mph) AZI 030	Y...	Y		DL	1.2	LL	1.5	WLZ	.08	...	.0...												
41	1.2D + 1.5L + 1.0WL (30 mph) AZI 060	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...	...	.08												
42	1.2D + 1.5L + 1.0WL (30 mph) AZI 090	Y...	Y		DL	1.2	LL	1.5			...	.0...												
43	1.2D + 1.5L + 1.0WL (30 mph) AZI 120	Y...	Y		DL	1.2	LL	1.5	WLZ	-....	...	.08												
44	1.2D + 1.5L + 1.0WL (30 mph) AZI 150	Y...	Y		DL	1.2	LL	1.5	WLZ	-.08	...	.0...												

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Factor	BLC	Fac...	BLC	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
45	1.2D + 1.5L + 1.0WL (30 mph) AZI 180	Y...	Y		DL	1.2	LL	1.5	WLZ	-....																
46	1.2D + 1.5L + 1.0WL (30 mph) AZI 210	Y...	Y		DL	1.2	LL	1.5	WLZ	-.08	...	-....														
47	1.2D + 1.5L + 1.0WL (30 mph) AZI 240	Y...	Y		DL	1.2	LL	1.5	WLZ	-....	...	-.08														
48	1.2D + 1.5L + 1.0WL (30 mph) AZI 270	Y...	Y		DL	1.2	LL	1.5			...	-....														
49	1.2D + 1.5L + 1.0WL (30 mph) AZI 300	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...	....	-.08														
50	1.2D + 1.5L + 1.0WL (30 mph) AZI 330	Y...	Y		DL	1.2	LL	1.5	WLZ	.08	...	-....														
51	1.0D	Y...	Y		DL	1																				

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	32.149	6	259.028	33	32.184	25	0	1	0	1	0	1
2		min	-32.152	24	60.76	14	-32.182	7	0	1	0	1	0	1
3	N7	max	839.303	5	1296.085	30	98.481	2	0	1	0	1	0	1
4		min	-839.303	23	-98.008	23	-98.453	8	0	1	0	1	0	1
5	N3	max	32.163	4	259.028	27	32.158	15	0	1	0	1	0	1
6		min	-32.163	22	60.763	20	-32.166	21	0	1	0	1	0	1
7	N6	max	98.461	5	1295.928	27	839.303	2	0	1	0	1	0	1
8		min	-98.461	23	-97.291	20	-839.303	8	0	1	0	1	0	1
9	N4	max	32.185	18	259.028	27	32.15	13	0	1	0	1	0	1
10		min	-32.182	12	60.763	20	-32.152	19	0	1	0	1	0	1
11	N8	max	839.303	5	1296.019	36	98.442	14	0	1	0	1	0	1
12		min	-839.303	23	-102.099	17	-98.469	20	0	1	0	1	0	1
13	N2	max	32.171	16	259.028	33	32.177	3	0	1	0	1	0	1
14		min	-32.171	10	60.76	14	-32.169	9	0	1	0	1	0	1
15	N5	max	98.461	17	1295.868	33	839.303	2	0	1	0	1	0	1
16		min	-98.461	11	-100.96	14	-839.303	8	0	1	0	1	0	1
17	Totals:	max	1994.978	5	5969.28	31	1994.978	2						
18		min	-1994.978	23	1813.874	24	-1994.978	8						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear C...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*...	phi*...	...	Eqn
1	M21	PL1/4x2	.872	18	8	.043	18	y	28	1074.358	16200	.084	.675	...	H1-1b
2	M24	PL1/4x2	.872	18	11	.043	18	y	29	1074.358	16200	.084	.675	...	H1-1b
3	M13	PL1/4x2	.797	18	8	.043	18	y	28	1074.358	16200	.084	.675	...	H1-1b
4	M16	PL1/4x2	.797	18	11	.043	18	y	29	1074.358	16200	.084	.675	...	H1-1b
5	M18	PL1/4x2	.597	0	8	.023	0	y	38	4297.433	16200	.084	.675	...	H1-1b
6	M19	PL1/4x2	.597	0	11	.023	0	y	31	4297.433	16200	.084	.675	...	H1-1b
7	M17	PL1/4x2	.597	0	11	.023	0	y	29	4297.433	16200	.084	.675	...	H1-1b
8	M20	PL1/4x2	.597	0	8	.023	0	y	28	4297.433	16200	.084	.675	...	H1-1b
9	M8	PIPE 4.0	.567	0	5	.049	0		6	71957.349	93240	10.631	10.631	...	H1-1b
10	M12	PL1/4x2	.508	0	8	.023	0	y	32	4297.433	16200	.084	.675	...	H1-1b
11	M10	PL1/4x2	.507	0	8	.023	0	y	34	4297.433	16200	.084	.675	...	H1-1b
12	M9	PL1/4x2	.507	0	11	.023	0	y	37	4297.433	16200	.084	.675	...	H1-1b
13	M11	PL1/4x2	.507	0	11	.023	0	y	35	4297.433	16200	.084	.675	...	H1-1b
14	M35	PL1/4x2	.451	18	12	.039	18	y	29	453.916	16200	.084	.675	...	H1-1b
15	M36	PL1/4x2	.451	18	7	.039	18	y	28	453.916	16200	.084	.675	...	H1-1b
16	M33	PL1/4x2	.414	18	4	.039	18	y	38	453.916	16200	.084	.675	...	H1-1b
17	M34	PL1/4x2	.414	18	3	.039	18	y	31	453.916	16200	.084	.675	...	H1-1b
18	M23	PL1/4x2	.397	18	4	.043	18	y	38	1074.358	16200	.084	.675	...	H1-1b
19	M22	PL1/4x2	.397	18	3	.043	18	y	31	1074.358	16200	.084	.675	...	H1-1b
20	M31	PL1/4x2	.378	18	12	.039	18	y	29	453.916	16200	.084	.675	...	H1-1b
21	M32	PL1/4x2	.378	18	7	.039	18	y	28	453.916	16200	.084	.675	...	H1-1b
22	M29	PL1/4x2	.343	18	4	.039	18	y	37	453.916	16200	.084	.675	...	H1-1b
23	M30	PL1/4x2	.343	18	3	.039	18	y	32	453.916	16200	.084	.675	...	H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear C...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*...	phi*...	...	Eqn
24	M25	L3x3x4	.337	15	2	.056	15	z	3	40623.822	46656	1.688	3.756	...	H2-1
25	M15	PL1/4x2	.327	18	4	.043	18	y	37	1074.358	16200	.084	.675	...	H1-1b
26	M14	PL1/4x2	.327	18	3	.043	18	y	32	1074.358	16200	.084	.675	...	H1-1b
27	M26	L3x3x4	.289	15	2	.050	15	z	3	40623.822	46656	1.688	3.756	...	H2-1
28	M5	W8x18	.111	72	8	.022	144	y	2	82916.804	1704...	12.582	45.9	...	H1-1b
29	M6	W8x18	.109	72	5	.022	0	y	5	142334.0...	1704...	12.582	45.9	...	H1-1b
30	M7	W8x18	.109	0	11	.022	72	y	11	142334.0...	1704...	12.582	45.9	...	H1-1b
31	M1	C10x15.3	.053	72	28	.008	72	z	30	24730.945	1451...	4.988	37.931	...	H1-1b
32	M2	C10x15.3	.053	72	38	.008	72	z	36	24730.945	1451...	4.988	37.931	...	H1-1b
33	M3	C10x15.3	.052	72	29	.008	72	z	33	24730.945	1451...	4.988	37.931	...	H1-1b
34	M4	C10x15.3	.052	72	31	.008	72	z	27	24730.945	1451...	4.988	37.931	...	H1-1b
35	M27	PIPE_2.0	.046	65.813	2	.027	30.063		2	19360.206	32130	1.872	1.872	...	H1-1b
36	M28	PIPE_2.0	.045	65.813	8	.026	30.063		8	19360.206	32130	1.872	1.872	...	H1-1b

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	4.0 Std. Pipe	PIPE_4.0	Beam	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
2	C10x15.3	C10x15.3	Beam	None	A36 Gr.36	Typical	4.48	2.27	67.3	.209
3	PL 1/4"x2"	PL1/4x2	Beam	None	A36 Gr.36	Typical	.5	.003	.167	.01
4	W8x18	W8x18	Beam	None	A36 Gr.36	Typical	5.26	7.97	61.9	.172
5	L3x3x4	L3x3x4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	.031
6	2.0 Std Pipe	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
1	M1						Yes			None
2	M2						Yes			None
3	M3						Yes			None
4	M4						Yes			None
5	M5						Yes			None
6	M6						Yes			None
7	M7						Yes			None
8	M8						Yes			None
9	M9						Yes			None
10	M10						Yes			None
11	M11						Yes			None
12	M12						Yes			None
13	M13						Yes			None
14	M14						Yes			None
15	M15						Yes			None
16	M16						Yes			None
17	M17						Yes			None
18	M18						Yes			None
19	M19						Yes			None
20	M20						Yes			None
21	M21						Yes			None
22	M22						Yes			None
23	M23						Yes			None
24	M24						Yes			None
25	M25						Yes			None
26	M26						Yes			None
27	M27						Yes			None
28	M28						Yes			None
29	M29						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
30	M30						Yes			None
31	M31						Yes			None
32	M32						Yes			None
33	M33						Yes			None
34	M34						Yes			None
35	M35						Yes			None
36	M36						Yes			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	C10x15.3	144			Lbyy						Lateral
2	M2	C10x15.3	144			Lbyy						Lateral
3	M3	C10x15.3	144			Lbyy						Lateral
4	M4	C10x15.3	144			Lbyy						Lateral
5	M5	W8x18	144			Lbyy						Lateral
6	M6	W8x18	72			Lbyy						Lateral
7	M7	W8x18	72			Lbyy						Lateral
8	M8	4.0 Std. Pipe	108			Lbyy						Lateral
9	M9	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
10	M10	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
11	M11	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
12	M12	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
13	M13	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
14	M14	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
15	M15	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
16	M16	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
17	M17	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
18	M18	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
19	M19	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
20	M20	PL 1/4"x2"	18			Lbyy			.65	.65		Lateral
21	M21	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
22	M22	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
23	M23	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
24	M24	PL 1/4"x2"	36			Lbyy			.65	.65		Lateral
25	M25	L3x3x4	30			Lbyy						Lateral
26	M26	L3x3x4	30			Lbyy						Lateral
27	M27	2.0 Std Pipe	78			Lbyy						Lateral
28	M28	2.0 Std Pipe	78			Lbyy						Lateral
29	M29	PL 1/4"x2"	36			Lbyy						Lateral
30	M30	PL 1/4"x2"	36			Lbyy						Lateral
31	M31	PL 1/4"x2"	36			Lbyy						Lateral
32	M32	PL 1/4"x2"	36			Lbyy						Lateral
33	M33	PL 1/4"x2"	36			Lbyy						Lateral
34	M34	PL 1/4"x2"	36			Lbyy						Lateral
35	M35	PL 1/4"x2"	36			Lbyy						Lateral
36	M36	PL 1/4"x2"	36			Lbyy						Lateral

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction			
2	N7	Reaction	Reaction	Reaction			
3	N3	Reaction	Reaction	Reaction			
4	N6	Reaction	Reaction	Reaction			
5	N4	Reaction	Reaction	Reaction			

Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
6	N8	Reaction	Reaction	Reaction			
7	N2	Reaction	Reaction	Reaction			
8	N5	Reaction	Reaction	Reaction			
9	N43						
10	N44						
11	N45						

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M27	Y	-26.8	12
2	M28	Y	-26.8	12
3	M27	Y	-26.8	78
4	M28	Y	-26.8	78

Member Distributed Loads (BLC 1 : Self Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M13	Y	-20.19	-20.19	0	%100
2	M14	Y	-20.19	-20.19	0	%100
3	M15	Y	-20.19	-20.19	0	%100
4	M16	Y	-20.19	-20.19	0	%100
5	M21	Y	-20.19	-20.19	0	%100
6	M22	Y	-20.19	-20.19	0	%100
7	M23	Y	-20.19	-20.19	0	%100
8	M24	Y	-20.19	-20.19	0	%100

Member Distributed Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	Y	-39.461	-39.461	0	%100
2	M2	Y	-39.461	-39.461	0	%100
3	M3	Y	-39.461	-39.461	0	%100
4	M4	Y	-39.461	-39.461	0	%100
5	M5	Y	-32.937	-32.937	0	%100
6	M6	Y	-32.937	-32.937	0	%100
7	M7	Y	-32.937	-32.937	0	%100
8	M8	Y	-16.902	-16.902	0	%100
9	M9	Y	-13.365	-13.365	0	%100
10	M10	Y	-13.365	-13.365	0	%100
11	M11	Y	-13.365	-13.365	0	%100
12	M12	Y	-13.365	-13.365	0	%100
13	M13	Y	-13.365	-13.365	0	%100
14	M14	Y	-13.365	-13.365	0	%100
15	M15	Y	-13.365	-13.365	0	%100
16	M16	Y	-13.365	-13.365	0	%100
17	M17	Y	-13.365	-13.365	0	%100
18	M18	Y	-13.365	-13.365	0	%100
19	M19	Y	-13.365	-13.365	0	%100
20	M20	Y	-13.365	-13.365	0	%100
21	M21	Y	-13.365	-13.365	0	%100
22	M22	Y	-13.365	-13.365	0	%100
23	M23	Y	-13.365	-13.365	0	%100
24	M24	Y	-13.365	-13.365	0	%100
25	M25	Y	-16.627	-16.627	0	%100
26	M26	Y	-16.627	-16.627	0	%100

Member Distributed Loads (BLC 4 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
27	M27	Y	-11.521	-11.521	0	%100
28	M28	Y	-11.521	-11.521	0	%100

Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M3	Z	-6.476	-6.476	0	144
2	M4	Z	-6.476	-6.476	0	144
3	M6	Z	-20.275	-20.275	0	72
4	M7	Z	-20.275	-20.275	0	72
5	M8	Z	-11.209	-11.209	0	12
6	M18	Z	-4.982	-4.982	0	18
7	M20	Z	-4.982	-4.982	0	18
8	M21	Z	-4.982	-4.982	0	36
9	M22	Z	-4.982	-4.982	0	36
10	M34	Z	-4.982	-4.982	0	36
11	M36	Z	-4.982	-4.982	0	36
12	M13	Z	-127.032	-127.032	0	36
13	M21	Z	-127.032	-127.032	0	36

Member Distributed Loads (BLC 9 : BLC 3 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	X	-6.476	-6.476	0	144
2	M2	X	-6.476	-6.476	0	144
3	M5	X	-20.275	-20.275	0	144
4	M8	X	-11.209	-11.209	0	12
5	M17	X	-4.982	-4.982	0	18
6	M19	X	-4.982	-4.982	0	18
7	M23	X	-4.982	-4.982	0	36
8	M24	X	-4.982	-4.982	0	36
9	M33	X	-4.982	-4.982	0	36
10	M35	X	-4.982	-4.982	0	36
11	M16	X	-127.032	-127.032	0	36
12	M24	X	-127.032	-127.032	0	36

Member Distributed Loads (BLC 10 : BLC 5 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M3	Z	-1.304	-1.304	0	144
2	M4	Z	-1.304	-1.304	0	144
3	M6	Z	-4.084	-4.084	0	72
4	M7	Z	-4.084	-4.084	0	72
5	M8	Z	-2.257	-2.257	0	12
6	M18	Z	-1.003	-1.003	0	18
7	M20	Z	-1.003	-1.003	0	18
8	M21	Z	-1.003	-1.003	0	36
9	M22	Z	-1.003	-1.003	0	36
10	M34	Z	-1.003	-1.003	0	36
11	M36	Z	-1.003	-1.003	0	36
12	M13	Z	-25.585	-25.585	0	36
13	M21	Z	-25.585	-25.585	0	36

Member Distributed Loads (BLC 11 : BLC 6 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	X	-1.304	-1.304	0	144
2	M2	X	-1.304	-1.304	0	144
3	M5	X	-4.084	-4.084	0	144

Member Distributed Loads (BLC 11 : BLC 6 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
4	M8	X	-2.257	-2.257	0	12
5	M17	X	-1.003	-1.003	0	18
6	M19	X	-1.003	-1.003	0	18
7	M23	X	-1.003	-1.003	0	36
8	M24	X	-1.003	-1.003	0	36
9	M33	X	-1.003	-1.003	0	36
10	M35	X	-1.003	-1.003	0	36
11	M16	X	-25.585	-25.585	0	36
12	M24	X	-25.585	-25.585	0	36

Member Area Loads (BLC 2 : Wind Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N24	N20	N21	N25	Z	Two Way	-29.89
2	N43	N44	N2	N1	Z	Open Structure	-29.89

Member Area Loads (BLC 3 : Wind Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N20	N22	N23	N21	X	Two Way	-29.89
2	N44	N45	N4	N2	X	Open Structure	-29.89

Member Area Loads (BLC 5 : Wind + Ice Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N24	N20	N21	N25	Z	Two Way	-6.02
2	N43	N44	N2	N1	Z	Open Structure	-6.02

Member Area Loads (BLC 6 : Wind + Ice Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N44	N45	N4	N2	X	Open Structure	-6.02
2	N20	N22	N23	N21	X	Two Way	-6.02

Site Name:	MAL02697
Client:	Smartlink
Carrier:	AT&T
Engineer:	RJL
Date:	2/2/2018

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

INFINIGY WIND LOAD CALCULATOR 3.0.2

Alpha/Gamma - Radios

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Rooftop
Number of Sectors:	3
Structure Shape 1:	Flat

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	99	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	53.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
17.58	0.85	**29.89**

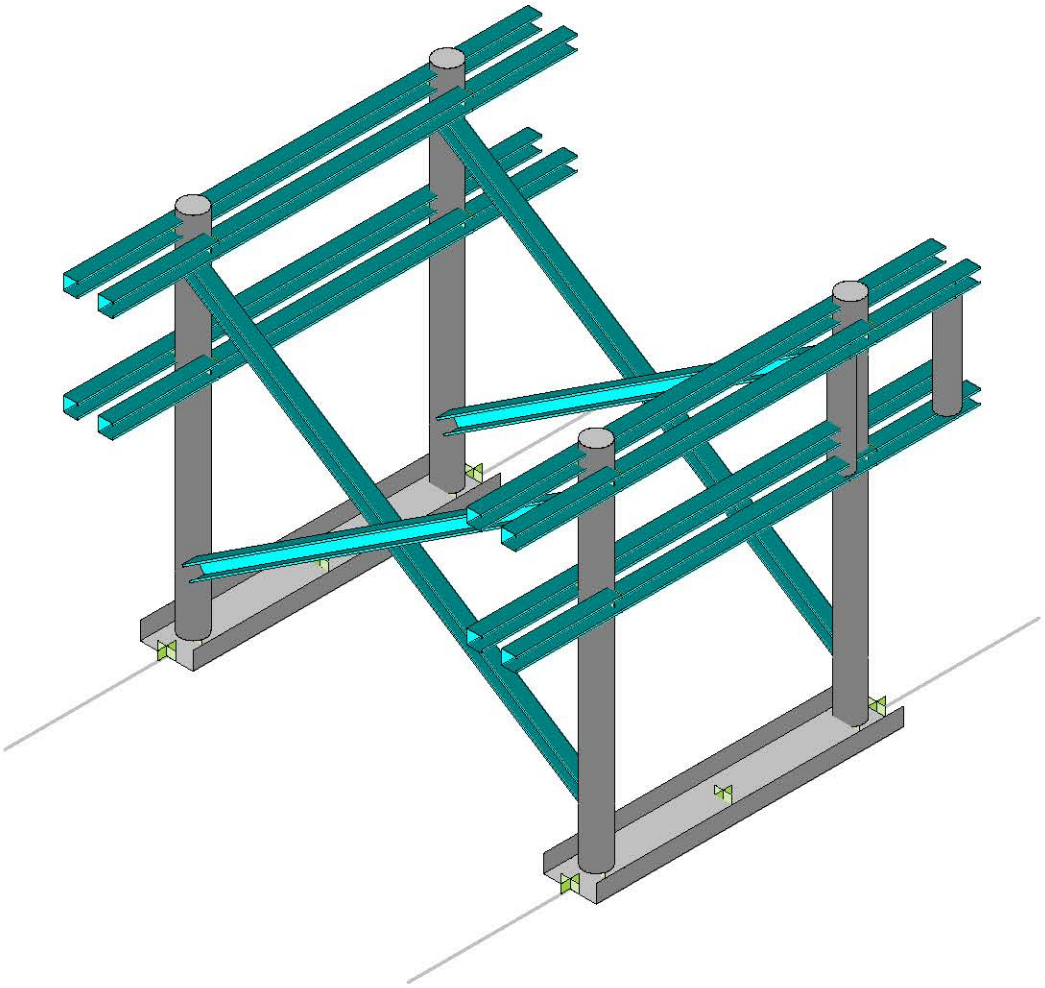
Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
2.87	0.85	**7.32**

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	40	mph (nominal 3-second gust)
Base Ice Thickness:	1.00	in

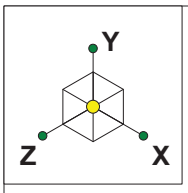
Input Appurtenance Information and Load Placements:

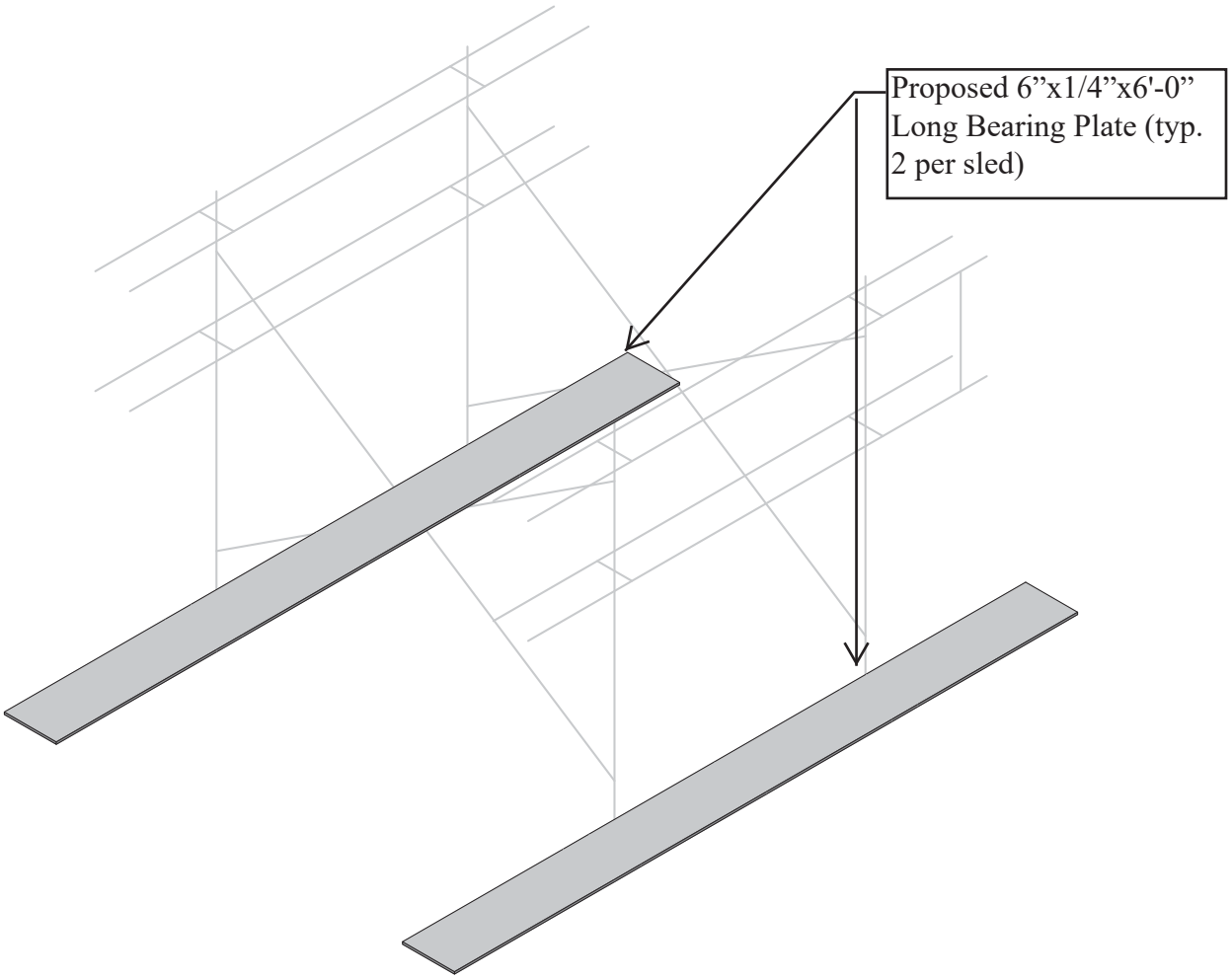
Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
Raycap DC6-48-60-18-8F	53.0	1	1.00	Round	Round	17.58	1.21	18.11	18.11	18.11	18.11
Ericsson RRUS 11	53.0	1	1.00	Flat	Flat	17.58	2.78	41.61	17.74	23.71	35.64
Ericsson RRUS 32 B66	53.0	1	1.00	Flat	Flat	17.58	2.74	40.98	24.93	28.94	36.97
Ericsson RRUS 32	53.0	1	1.00	Flat	Flat	17.58	2.74	40.98	24.93	28.94	36.97
Raycap DC6-48-60-18-8F	53.0	1	1.00	Round	Round	17.58	1.21	18.11	18.11	18.11	18.11
Ericsson RRUS 11	53.0	1	1.00	Flat	Flat	17.58	2.78	41.61	17.74	23.71	35.64
Ericsson RRUS 12	53.0	1	1.00	Flat	Flat	17.58	3.14	46.97	18.87	25.90	39.95
Ericsson RRUS 12	53.0	1	1.00	Flat	Flat	17.58	3.14	46.97	18.87	25.90	39.95



Envelope Only Solution

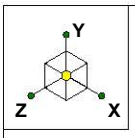
Infinigy Engineering, PLLC		Existing Configuration
RJL	MAL02697	Jan 31, 2018 at 1:55 PM
499-006		Radio - Alpha & Gamma.r3d

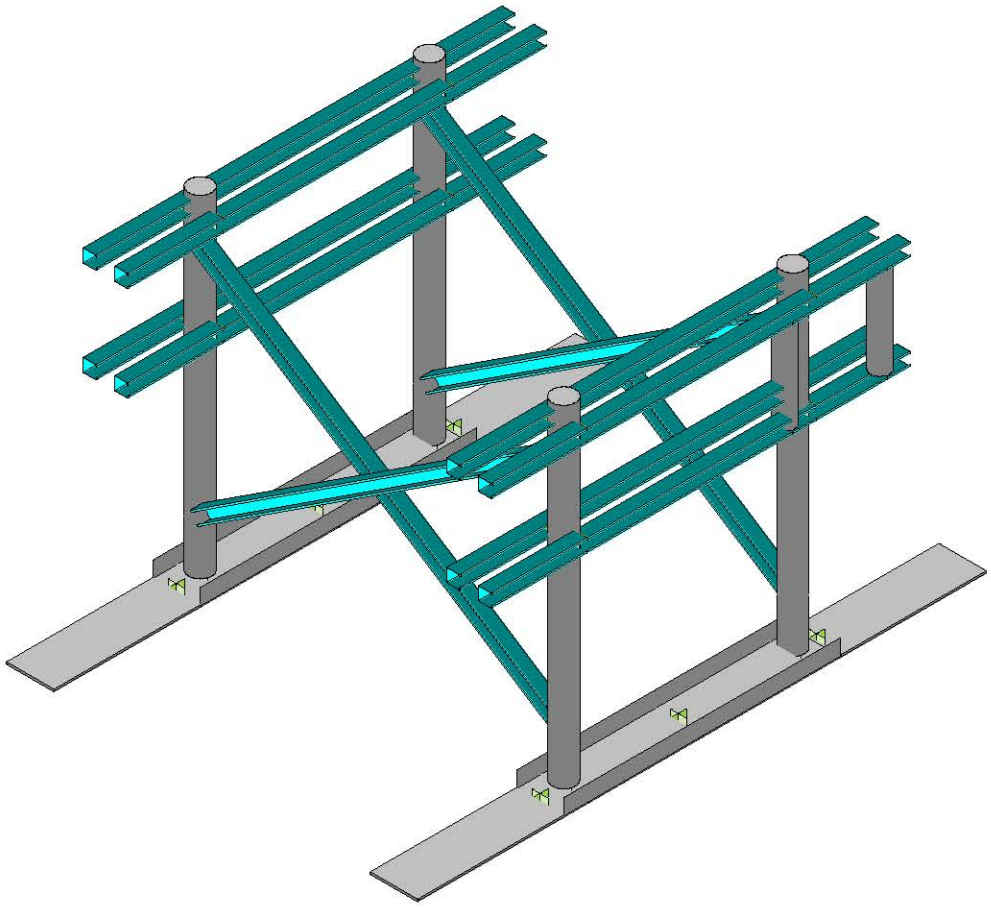




Envelope Only Solution

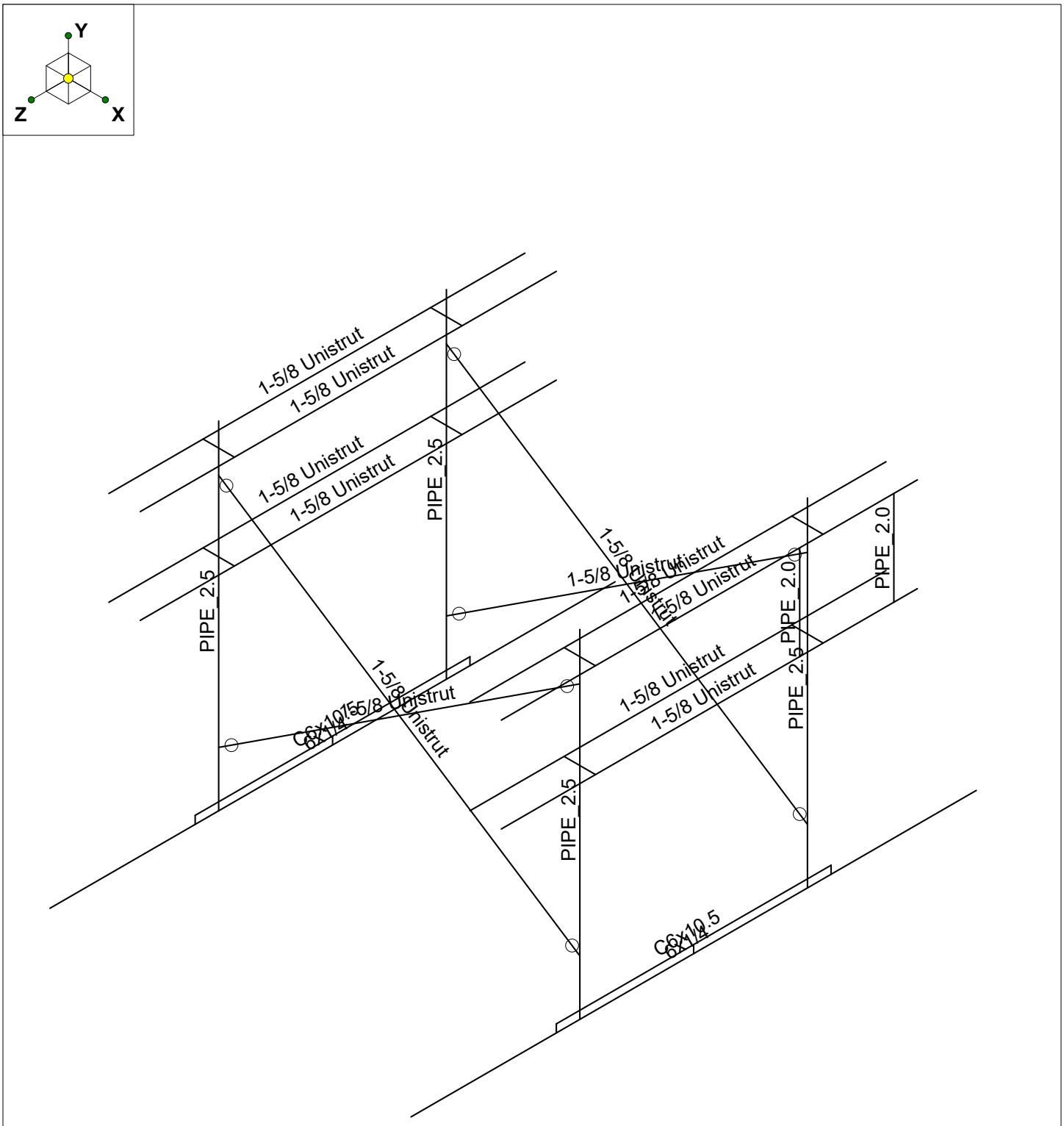
Infinigy Engineering, PLLC	MAL02697	Proposed Configuration
RJL		Jan 31, 2018 at 1:55 PM
499-006		Radio - Alpha & Gamma.r3d





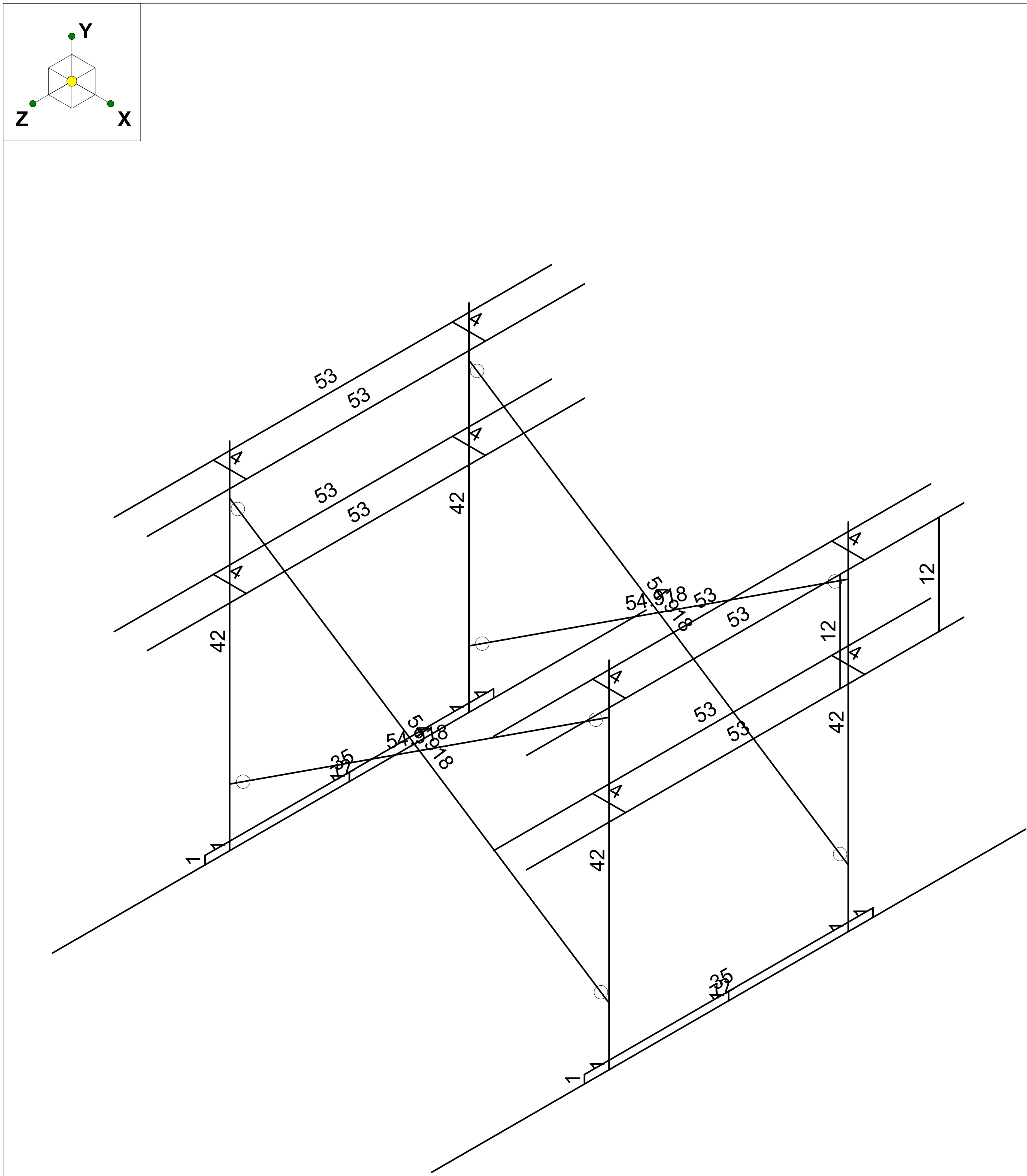
Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Final Configuration
RJL		Feb 2, 2018 at 11:38 AM
499-006		Radio - Alpha & Gamma.r3d



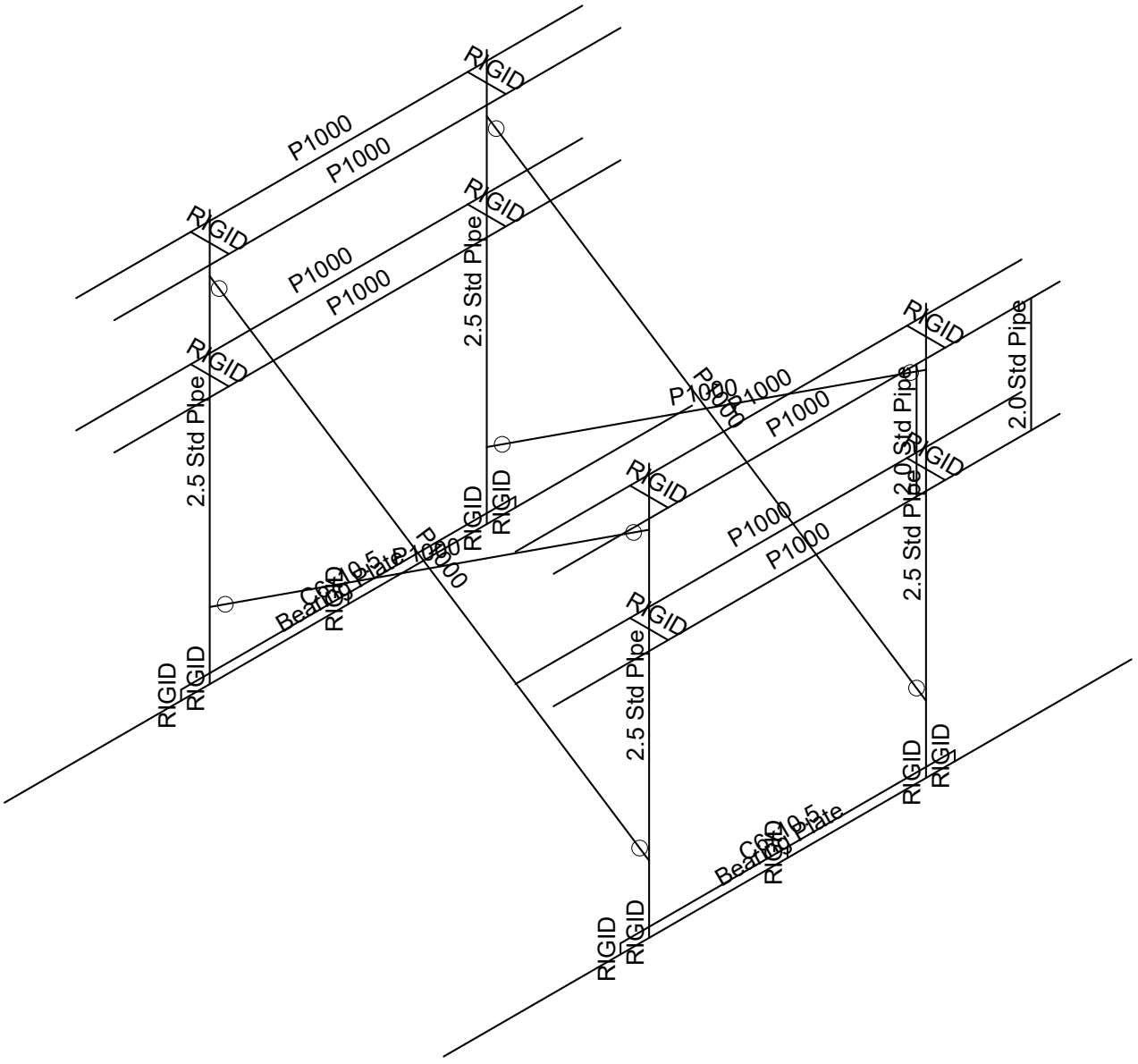
Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Member Shapes
RJL		Jan 31, 2018 at 1:58 PM
499-006		Radio - Alpha & Gamma.r3d



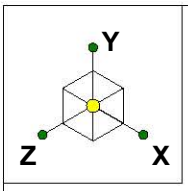
Member Length (in) Displayed
Envelope Only Solution

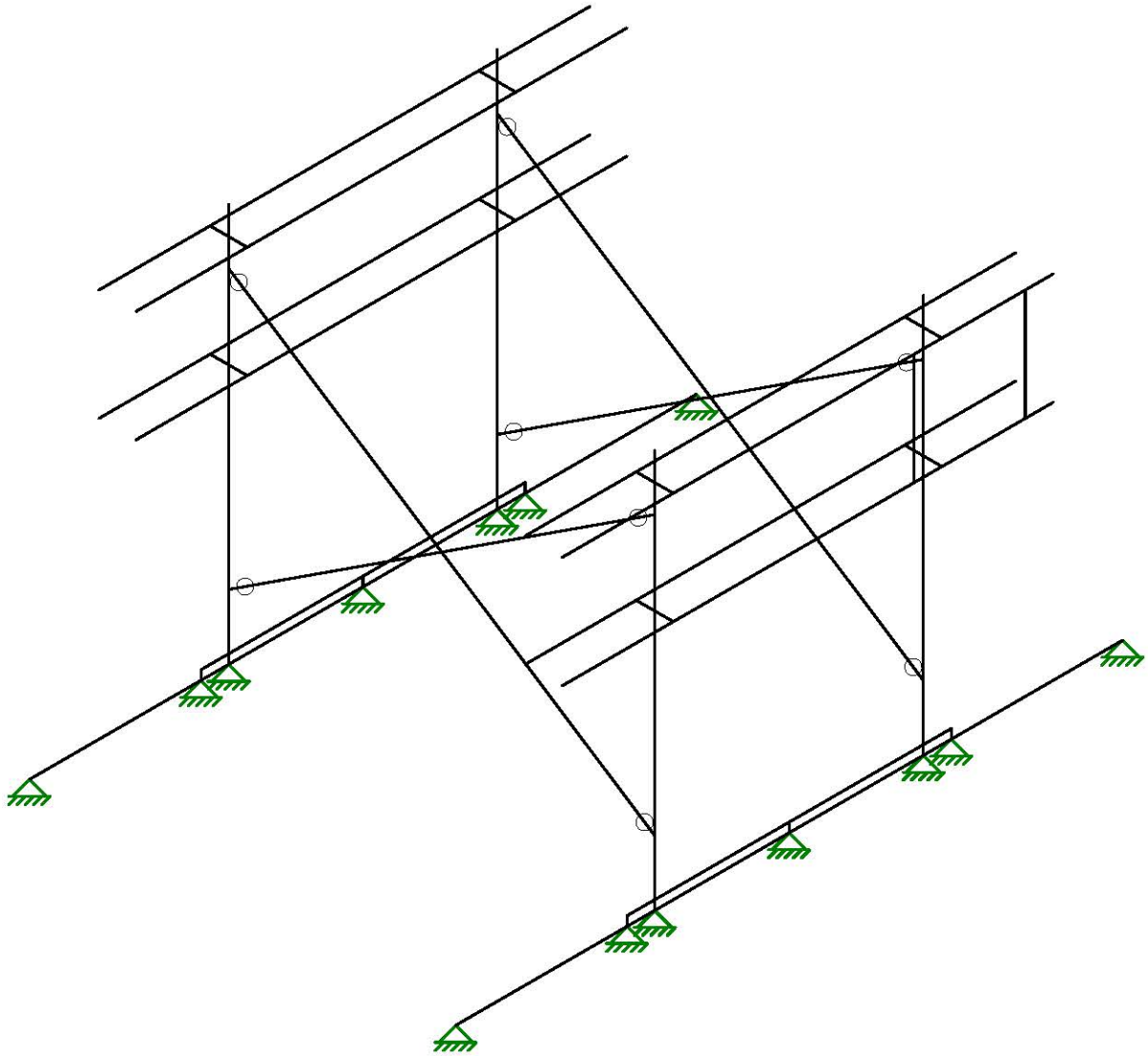
Infinigy Engineering, PLLC	MAL02697	Member Lengths
RJL		Jan 31, 2018 at 1:58 PM
499-006		Radio - Alpha & Gamma.r3d



Envelope Only Solution

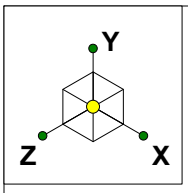
Infinigy Engineering, PLLC	MAL02697	Section Set
RJL		Jan 31, 2018 at 1:58 PM
499-006		Radio - Alpha & Gamma.r3d

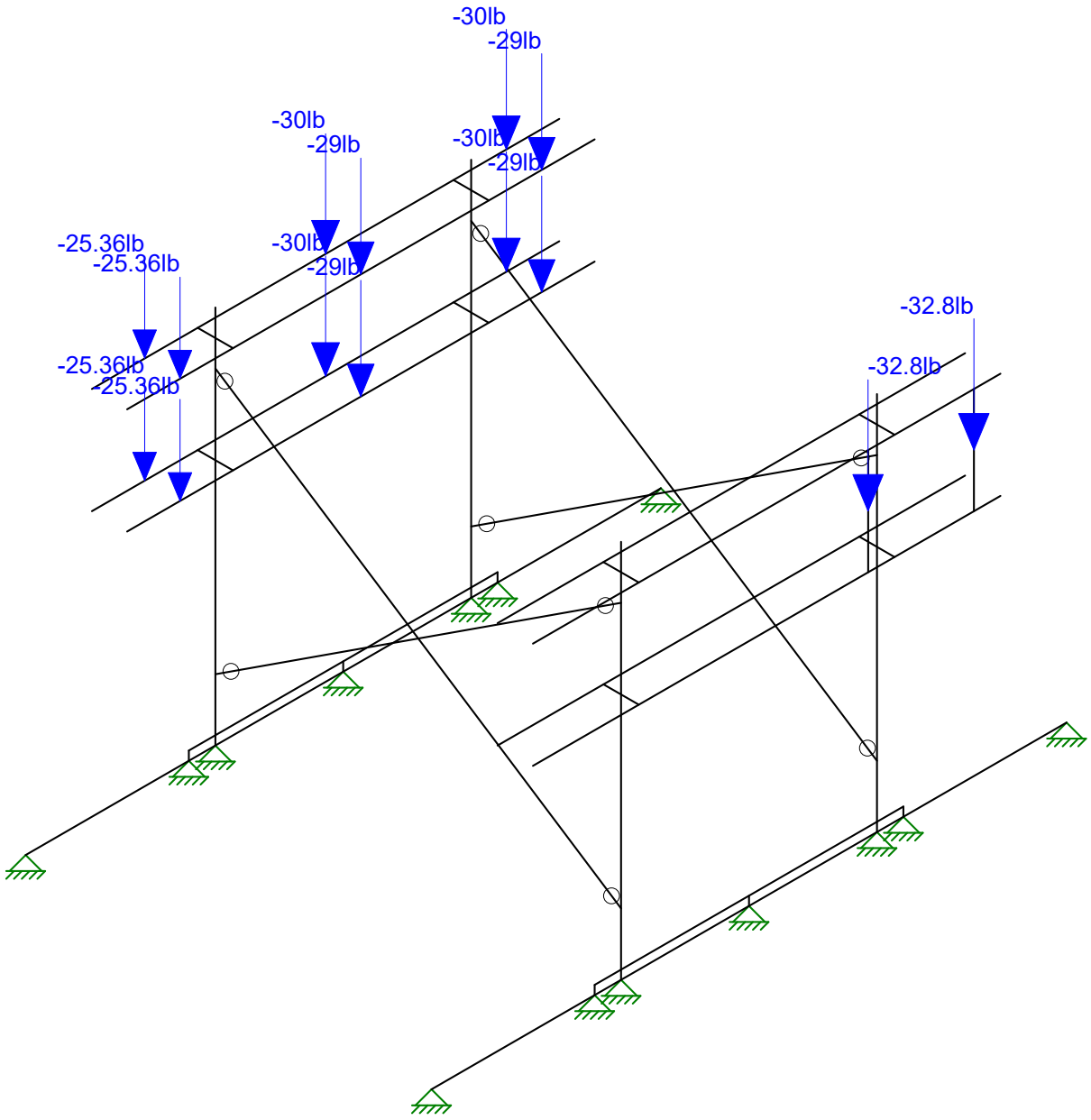




Envelope Only Solution

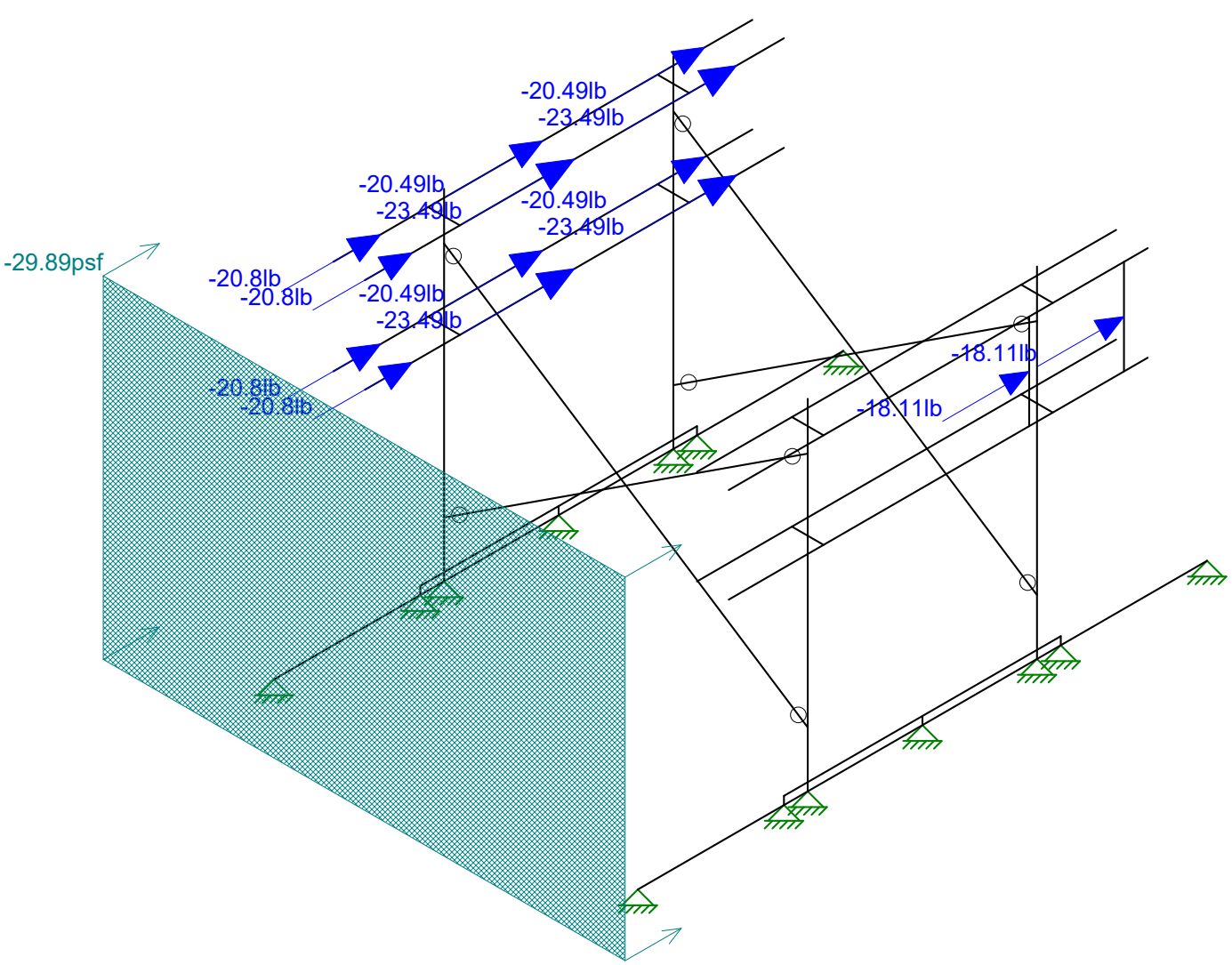
Infinigy Engineering, PLLC		Wireframe
RJL	MAL02697	Jan 31, 2018 at 1:59 PM
499-006		Radio - Alpha & Gamma.r3d





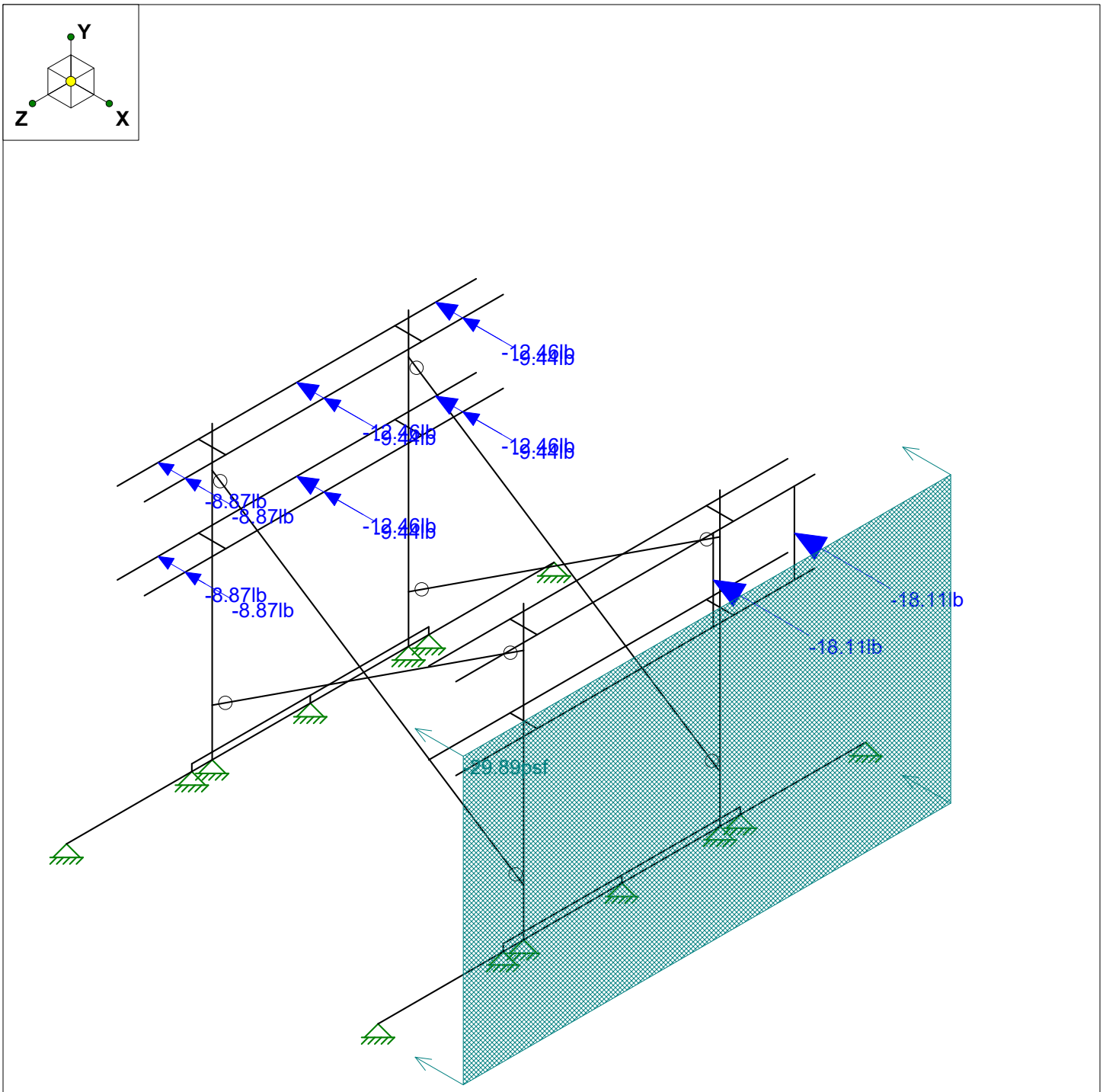
Loads: BLC 1, Self Weight
Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Dead Load
RJL		Jan 31, 2018 at 2:00 PM
499-006		Radio - Alpha & Gamma.r3d



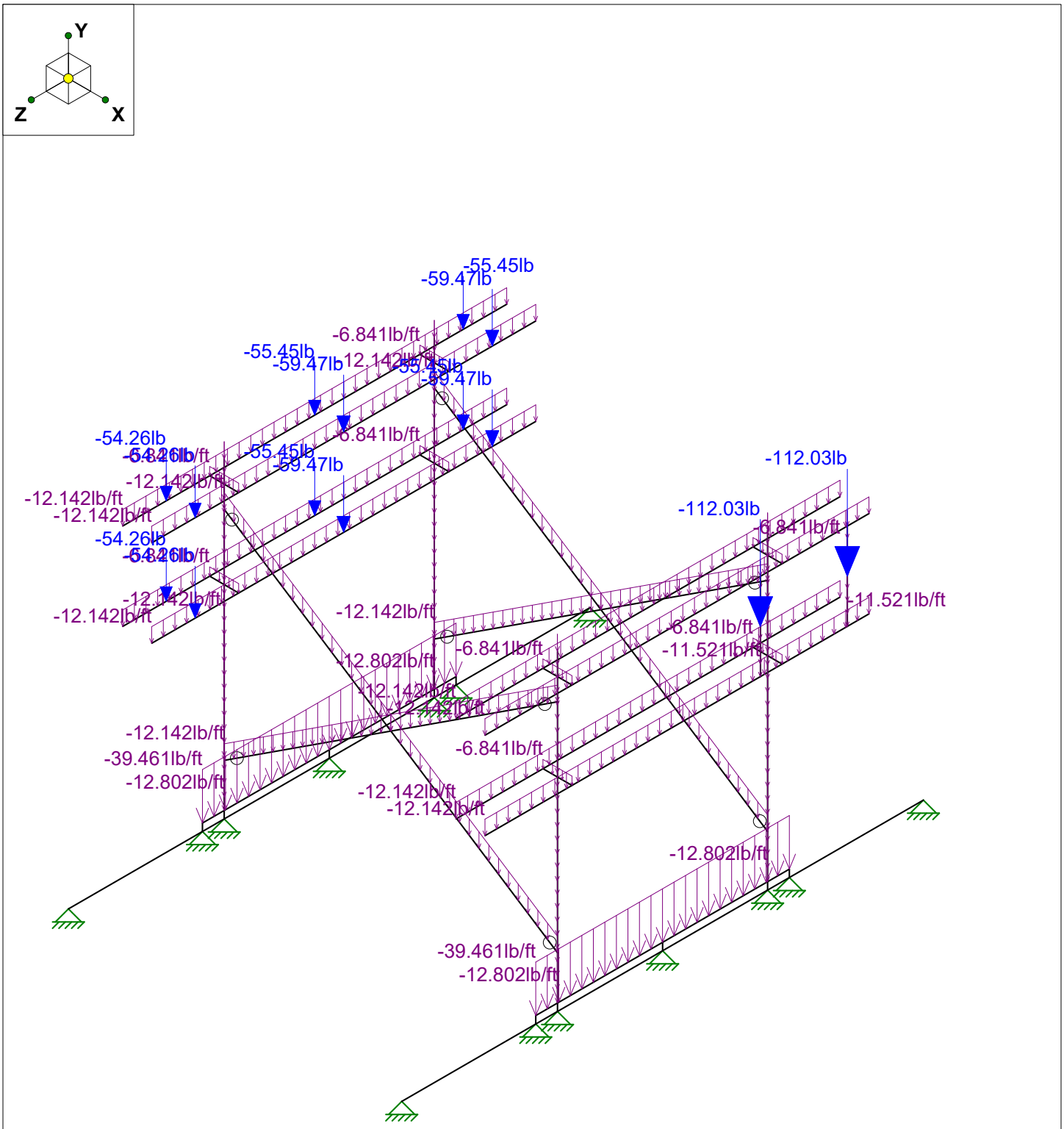
Loads: BLC 2, Wind Load AZI 000
Envelope Only Solution

Infinigy Engineering, PLLC		Wind Load
RJL	MAL02697	Jan 31, 2018 at 2:00 PM
499-006		Radio - Alpha & Gamma.r3d



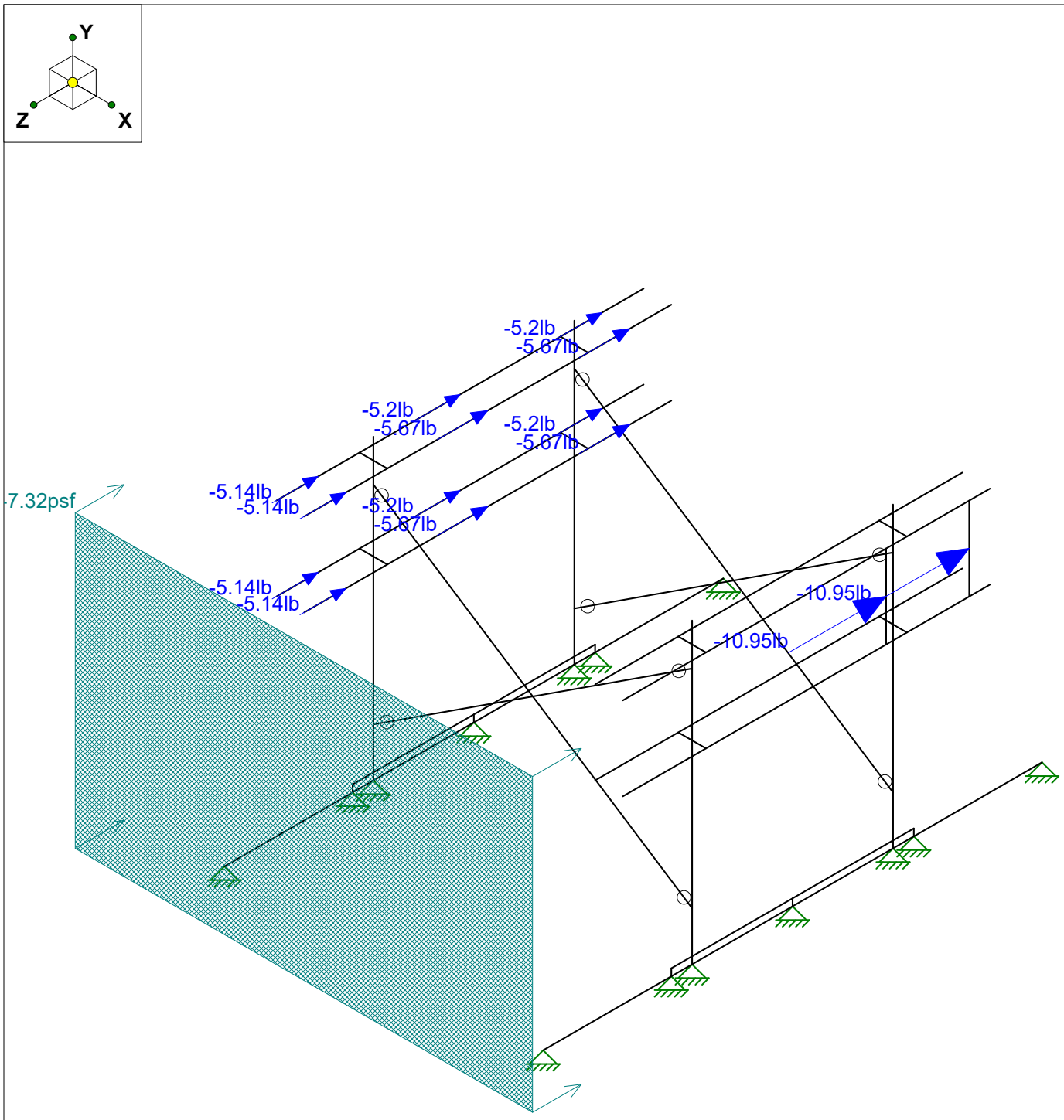
Loads: BLC 3, Wind Load AZI 090
Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Wind Load 90
RJL		Jan 31, 2018 at 2:00 PM
499-006		Radio - Alpha & Gamma.r3d



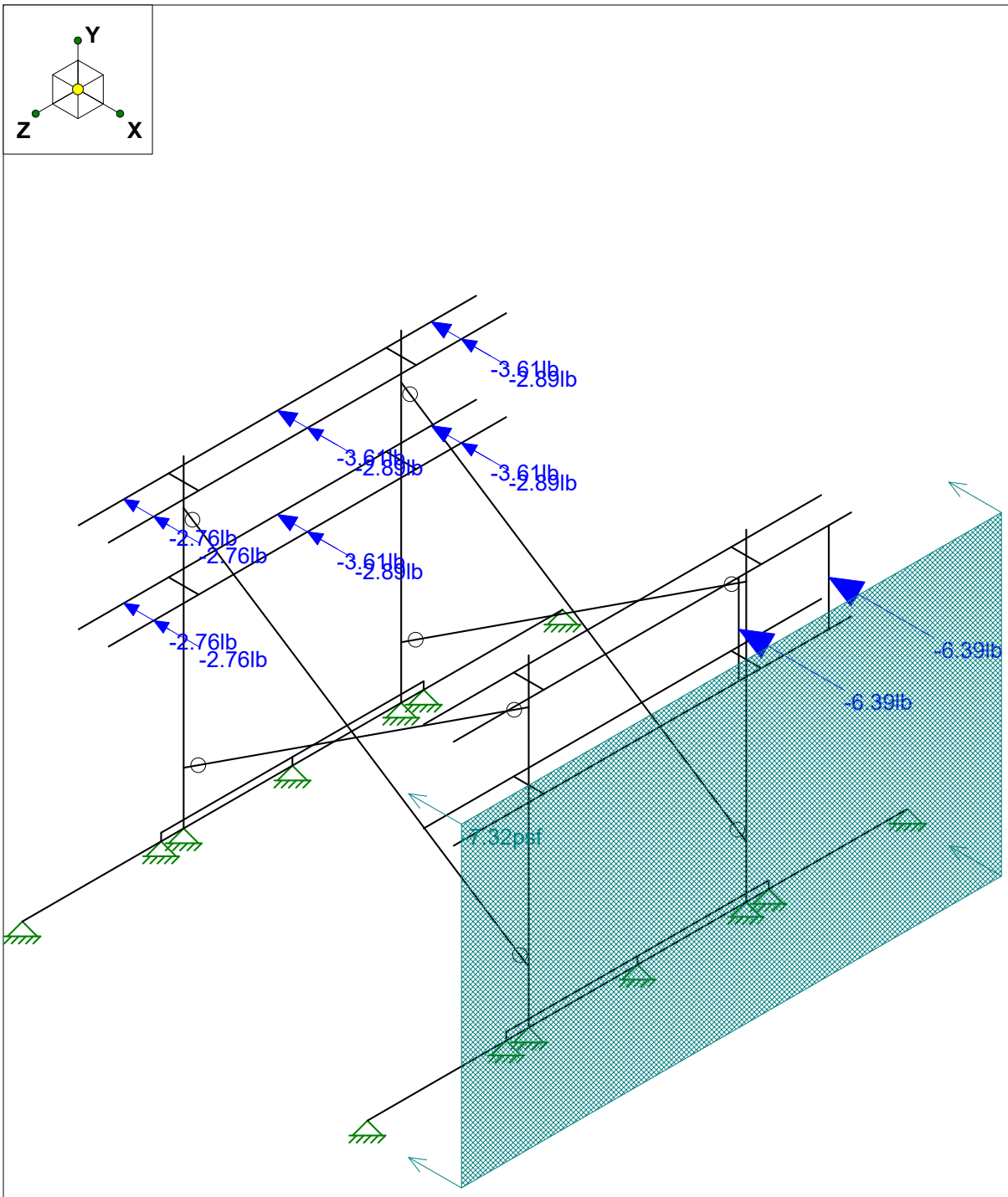
Loads: BLC 4, Ice Weight
Envelope Only Solution

Infinigy Engineering, PLLC	MAL02697	Ice Weight
RJL		Jan 31, 2018 at 2:01 PM
499-006		Radio - Alpha & Gamma.r3d



Loads: BLC 5, Wind + Ice Load AZI 000
Envelope Only Solution

Infinigy Engineering, PLLC		Wind + Ice
RJL	MAL02697	Jan 31, 2018 at 2:01 PM
499-006		Radio - Alpha & Gamma.r3d



Loads: BLC 6, Wind + Ice Load AZI 090
Envelope Only Solution

Infinigy Engineering, PLLC		Wind + Ice 90
RJL	MAL02697	Jan 31, 2018 at 2:02 PM
499-006		Radio - Alpha & Gamma.r3d

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N3		270	C6x10.5	Beam	None	A36 Gr.36	Typical
2	M2	N2	N4		270	C6x10.5	Beam	None	A36 Gr.36	Typical
3	M3	N5	N9			2.5 Std Pipe	Beam	None	A53 Gr.B	Typical
4	M4	N7	N11			2.5 Std Pipe	Beam	None	A53 Gr.B	Typical
5	M5	N6	N10			2.5 Std Pipe	Beam	None	A53 Gr.B	Typical
6	M6	N8	N12			2.5 Std Pipe	Beam	None	A53 Gr.B	Typical
7	M7	N13	N18			P1000	Beam	None	A653 SS ...	Typical
8	M8	N15	N20			P1000	Beam	None	A653 SS ...	Typical
9	M9	N17	N14			P1000	Beam	None	A653 SS ...	Typical
10	M10	N19	N16			P1000	Beam	None	A653 SS ...	Typical
11	M11	N33	N41			RIGID	None	None	RIGID	Typical
12	M12	N29	N37			RIGID	None	None	RIGID	Typical
13	M13	N35	N43			RIGID	None	None	RIGID	Typical
14	M14	N31	N39			RIGID	None	None	RIGID	Typical
15	M15	N34	N42			RIGID	None	None	RIGID	Typical
16	M16	N30	N38			RIGID	None	None	RIGID	Typical
17	M17	N36	N44			RIGID	None	None	RIGID	Typical
18	M18	N32	N40			RIGID	None	None	RIGID	Typical
19	M19	N47	N55			P1000	Beam	None	A653 SS ...	Typical
20	M20	N51	N59			P1000	Beam	None	A653 SS ...	Typical
21	M21	N45	N53			P1000	Beam	None	A653 SS ...	Typical
22	M22	N49	N57			P1000	Beam	None	A653 SS ...	Typical
23	M23	N48	N56			P1000	Beam	None	A653 SS ...	Typical
24	M24	N52	N60			P1000	Beam	None	A653 SS ...	Typical
25	M25	N46	N54			P1000	Beam	None	A653 SS ...	Typical
26	M26	N50	N58			P1000	Beam	None	A653 SS ...	Typical
27	M27	N62	N61			2.0 Std Pipe	Beam	None	A53 Gr.B	Typical
28	M28	N64	N63			2.0 Std Pipe	Beam	None	A53 Gr.B	Typical
29	M29	N81	N5			RIGID	None	None	RIGID	Typical
30	M30	N85	N71			RIGID	None	None	RIGID	Typical
31	M31	N77	N1			RIGID	None	None	RIGID	Typical
32	M32	N83	N7			RIGID	None	None	RIGID	Typical
33	M33	N79	N3			RIGID	None	None	RIGID	Typical
34	M34	N80	N4			RIGID	None	None	RIGID	Typical
35	M35	N84	N8			RIGID	None	None	RIGID	Typical
36	M36	N86	N72			RIGID	None	None	RIGID	Typical
37	M37	N82	N6			RIGID	None	None	RIGID	Typical
38	M38	N78	N2			RIGID	None	None	RIGID	Typical
39	M39	N87	N89		90	Bearing Plate	Beam	None	A36 Gr.36	Typical
40	M40	N88	N90		90	Bearing Plate	Beam	None	A36 Gr.36	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		18	42	0
3	Total General		18	42	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	6x1/4	2	144	61.3
7	A36 Gr.36	C6x10.5	2	70	60.9
8	A53 Gr.B	PIPE_2.0	2	24	6.9
9	A53 Gr.B	PIPE_2.5	4	168	76.7
10	Total HR Steel		10	406	205.8
11					

Material Takeoff (Continued)

	Material	Size	Pieces	Length[in]	Weight[LB]
12	Cold Formed Steel				
13	A653 SS Gr33	1-5/8 Unistrut	12	643.7	101.3
14	Total CF Steel		12	643.7	101.3

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(M...	Surface...
1	Self Weight	DL		-1			14			
2	Wind Load AZI 000	WLZ					14		1	
3	Wind Load AZI 090	WLX					14		1	
4	Ice Weight	OL1					14	28		
5	Wind + Ice Load AZI 000	OL2					14		1	
6	Wind + Ice Load AZI 090	OL3					14		1	
7	Service Live 1	LL								
8	BLC 2 Transient Area Loa...	None						18		
9	BLC 3 Transient Area Loa...	None						20		
10	BLC 5 Transient Area Loa...	None						18		
11	BLC 6 Transient Area Loa...	None						20		

Load Combinations

	Description	S...	P...	S...	B...	Factor	BLC	Fac...	BLC	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
1	1.4D	Y...	Y		DL	1.4																				
2	1.2D + 1.6W AZI 000	Y...	Y		DL	1.2	WLZ	1.6																		
3	1.2D + 1.6W AZI 030	Y...	Y		DL	1.2	WLZ	1.386	WLX	.8																
4	1.2D + 1.6W AZI 060	Y...	Y		DL	1.2	WLZ	.8	WLX	1....																
5	1.2D + 1.6W AZI 090	Y...	Y		DL	1.2			WLX	1.6																
6	1.2D + 1.6W AZI 120	Y...	Y		DL	1.2	WLZ	-.8	WLX	1....																
7	1.2D + 1.6W AZI 150	Y...	Y		DL	1.2	WLZ	-1.3...	WLX	.8																
8	1.2D + 1.6W AZI 180	Y...	Y		DL	1.2	WLZ	-1.6																		
9	1.2D + 1.6W AZI 210	Y...	Y		DL	1.2	WLZ	-1.3...	WLX	-.8																
10	1.2D + 1.6W AZI 240	Y...	Y		DL	1.2	WLZ	-.8	WLX	-1...																
11	1.2D + 1.6W AZI 270	Y...	Y		DL	1.2			WLX	-1.6																
12	1.2D + 1.6W AZI 300	Y...	Y		DL	1.2	WLZ	.8	WLX	-1...																
13	1.2D + 1.6W AZI 330	Y...	Y		DL	1.2	WLZ	1.386	WLX	-.8																
14	0.9D + 1.6W AZI 000	Y...	Y		DL	.9	WLZ	1.6																		
15	0.9D + 1.6W AZI 030	Y...	Y		DL	.9	WLZ	1.386	WLX	.8																
16	0.9D + 1.6W AZI 060	Y...	Y		DL	.9	WLZ	.8	WLX	1....																
17	0.9D + 1.6W AZI 090	Y...	Y		DL	.9			WLX	1.6																
18	0.9D + 1.6W AZI 120	Y...	Y		DL	.9	WLZ	-.8	WLX	1....																
19	0.9D + 1.6W AZI 150	Y...	Y		DL	.9	WLZ	-1.3...	WLX	.8																
20	0.9D + 1.6W AZI 180	Y...	Y		DL	.9	WLZ	-1.6																		
21	0.9D + 1.6W AZI 210	Y...	Y		DL	.9	WLZ	-1.3...	WLX	-.8																
22	0.9D + 1.6W AZI 240	Y...	Y		DL	.9	WLZ	-.8	WLX	-1...																
23	0.9D + 1.6W AZI 270	Y...	Y		DL	.9			WLX	-1.6																
24	0.9D + 1.6W AZI 300	Y...	Y		DL	.9	WLZ	.8	WLX	-1...																
25	0.9D + 1.6W AZI 330	Y...	Y		DL	.9	WLZ	1.386	WLX	-.8																
26	1.2D + 1.0Di	Y...	Y		DL	1.2	OL1	1																		
27	1.2D + 1.0Di + 1.0Wi AZI 000	Y...	Y		DL	1.2	OL1	1	OL2	1																
28	1.2D + 1.0Di + 1.0Wi AZI 030	Y...	Y		DL	1.2	OL1	1	OL2	.8...	...	.5														
29	1.2D + 1.0Di + 1.0Wi AZI 060	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	.8...														
30	1.2D + 1.0Di + 1.0Wi AZI 090	Y...	Y		DL	1.2	OL1	1			...	1														
31	1.2D + 1.0Di + 1.0Wi AZI 120	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	.8...														
32	1.2D + 1.0Di + 1.0Wi AZI 150	Y...	Y		DL	1.2	OL1	1	OL2	-....	...	.5														
33	1.2D + 1.0Di + 1.0Wi AZI 180	Y...	Y		DL	1.2	OL1	1	OL2	-1																
34	1.2D + 1.0Di + 1.0Wi AZI 210	Y...	Y		DL	1.2	OL1	1	OL2	-....	...	-.5														

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Factor	BLC	Fac...	BLC	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
35	1.2D + 1.0Di + 1.0Wi AZI 240	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	-....												
36	1.2D + 1.0Di + 1.0Wi AZI 270	Y...	Y		DL	1.2	OL1	1			...	-1												
37	1.2D + 1.0Di + 1.0Wi AZI 300	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	-....												
38	1.2D + 1.0Di + 1.0Wi AZI 330	Y...	Y		DL	1.2	OL1	1	OL2	.8...	....	-.5												
39	1.2D + 1.5L + 1.0WL (30 mph) AZI 000	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...														
40	1.2D + 1.5L + 1.0WL (30 mph) AZI 030	Y...	Y		DL	1.2	LL	1.5	WLZ	.08	...	.0...												
41	1.2D + 1.5L + 1.0WL (30 mph) AZI 060	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...	....	.08												
42	1.2D + 1.5L + 1.0WL (30 mph) AZI 090	Y...	Y		DL	1.2	LL	1.5			...	.0...												
43	1.2D + 1.5L + 1.0WL (30 mph) AZI 120	Y...	Y		DL	1.2	LL	1.5	WLZ	-....	...	.08												
44	1.2D + 1.5L + 1.0WL (30 mph) AZI 150	Y...	Y		DL	1.2	LL	1.5	WLZ	-.08	...	.0...												
45	1.2D + 1.5L + 1.0WL (30 mph) AZI 180	Y...	Y		DL	1.2	LL	1.5	WLZ	-....														
46	1.2D + 1.5L + 1.0WL (30 mph) AZI 210	Y...	Y		DL	1.2	LL	1.5	WLZ	-.08	...	-....												
47	1.2D + 1.5L + 1.0WL (30 mph) AZI 240	Y...	Y		DL	1.2	LL	1.5	WLZ	-....	...	-.08												
48	1.2D + 1.5L + 1.0WL (30 mph) AZI 270	Y...	Y		DL	1.2	LL	1.5			...	-....												
49	1.2D + 1.5L + 1.0WL (30 mph) AZI 300	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...	....	-.08												
50	1.2D + 1.5L + 1.0WL (30 mph) AZI 330	Y...	Y		DL	1.2	LL	1.5	WLZ	.08	...	-....												
51	1.0D	Y...	Y		DL	1																		

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N81	max	183.628	17	994.367	3	1538.916	20	0	1	0	1	0	1
2		min	-185.807	11	-535.409	21	-1588.155	2	0	1	0	1	0	1
3	N82	max	232.825	5	388.188	13	490.152	20	0	1	0	1	0	1
4		min	-225.051	23	-272.36	19	-542.212	2	0	1	0	1	0	1
5	N83	max	170.113	17	1047.432	7	1579.67	8	0	1	0	1	0	1
6		min	-175.446	11	-556.323	25	-1545.476	14	0	1	0	1	0	1
7	N84	max	194.191	17	753.232	34	525.171	8	0	1	0	1	0	1
8		min	-194.166	11	-244.758	16	-507.526	14	0	1	0	1	0	1
9	N85	max	4.464	17	73.878	33	1112.628	2	0	1	0	1	0	1
10		min	-4.464	23	17.623	23	-1107.852	20	0	1	0	1	0	1
11	N86	max	4.522	5	73.018	33	381.752	2	0	1	0	1	0	1
12		min	-4.442	23	17.203	15	-371.331	20	0	1	0	1	0	1
13	N87	max	1.772	11	4.131	1	0	2	0	1	0	1	0	1
14		min	-1.722	17	2.504	14	0	20	0	1	0	1	0	1
15	N88	max	1.412	23	4.131	1	0	2	0	1	0	1	0	1
16		min	-1.674	5	2.604	14	0	20	0	1	0	1	0	1
17	N80	max	27.178	5	384.12	2	426.976	14	0	1	0	1	0	1
18		min	-22.213	23	-361.991	20	-446.185	8	0	1	0	1	0	1
19	N78	max	28.353	23	370.593	8	457.792	2	0	1	0	1	0	1
20		min	-33.643	5	-368.961	14	-414.556	20	0	1	0	1	0	1
21	N90	max	1.34	5	4.133	1	0	14	0	1	0	1	0	1
22		min	-1.094	23	2.605	20	0	8	0	1	0	1	0	1
23	N89	max	1.399	17	4.132	1	0	14	0	1	0	1	0	1
24		min	-1.45	11	2.505	20	0	8	0	1	0	1	0	1
25	N79	max	28.385	17	1101.156	2	1268.479	14	0	1	0	1	0	1
26		min	-29.41	11	-1089.513	20	-1300.592	8	0	1	0	1	0	1
27	N77	max	35.636	11	1095.976	8	1306.527	2	0	1	0	1	0	1
28		min	-34.609	17	-1093.29	14	-1263.908	20	0	1	0	1	0	1
29	Totals:	max	775.317	17	2854.973	37	770.753	2						
30		min	-775.317	11	639.152	19	-770.753	20						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear C...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*...	phi*...	...	Eqn
1	M4	PIPE_2.5	.108	0	2	.019	0		8	45877.464	50715	3.596	3.596	...	H1-1b
2	M3	PIPE_2.5	.108	0	8	.019	0		2	45877.464	50715	3.596	3.596	...	H1-1b
3	M1	C6x10.5	.072	32.083	14	.040	2.917	z	2	79013.894	99468	2.428	16.686	...	H1-1b
4	M6	PIPE_2.5	.038	0	2	.016	0		5	45877.464	50715	3.596	3.596	...	H1-1b
5	M5	PIPE_2.5	.035	0	2	.014	0		5	45877.464	50715	3.596	3.596	...	H1-1b
6	M2	C6x10.5	.025	2.917	2	.014	2.917	z	2	79013.894	99468	2.428	16.686	...	H1-1b
7	M27	PIPE_2.0	.019	0	33	.007	12		27	31747.067	32130	1.872	1.872	...	H1-1b
8	M28	PIPE_2.0	.015	0	2	.007	0		2	31747.067	32130	1.872	1.872	1	H1-1b
9	M39	6x1/4	.011	51	8	.002	18.75	y	11	340.459	48600	.253	1.346	...	H1-1b
10	M40	6x1/4	.008	36	4	.002	18.75	y	5	340.459	48600	.253	1.337	...	H1-1b

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

	Memb...	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	...	...	phi*P...	phi*T...	phi*...	phi*...	Cb	Cm...	Cm...	Eqn
1	M19	1-5/8 Unistrut	.169	40.854	2	.046	41.406	y	33	7500....	1648...	.427	.67	1.5...	.6	.85	C3.3..
2	M20	1-5/8 Unistrut	.168	40.854	2	.047	41.406	y	33	7500....	1648...	.427	.67	1.5...	.6	.85	C3.3..
3	M21	1-5/8 Unistrut	.119	40.854	2	.046	41.406	y	33	7500....	1648...	.427	.67	1.6...	.6	.85	C3.3..
4	M22	1-5/8 Unistrut	.119	40.854	2	.047	41.406	y	33	7500....	1648...	.427	.67	1.6...	.6	.85	C3.3..
5	M24	1-5/8 Unistrut	.077	41.406	33	.063	40.854	y	27	7500....	1648...	.427	.67	3.2...	.6	.85	C3.3..
6	M26	1-5/8 Unistrut	.065	41.406	27	.041	41.406	y	27	7500....	1648...	.427	.67	3.0...	.6	.85	C3.3..
7	M10	1-5/8 Unistrut	.059	28.031	13	.012	0	y	30	7286....	1648...	.403	.67	1.1...	1	1	C5.2..
8	M8	1-5/8 Unistrut	.057	26.887	3	.012	0	y	36	7286....	1648...	.403	.67	1.1...	1	1	C5.2..
9	M9	1-5/8 Unistrut	.056	28.031	13	.012	0	y	30	7286....	1648...	.403	.67	1.1...	1	1	C5.2..
10	M7	1-5/8 Unistrut	.053	26.887	28	.012	0	y	36	7286....	1648...	.403	.67	1.1...	1	1	C5.2..
11	M23	1-5/8 Unistrut	.050	40.854	2	.013	40.854	y	27	7500....	1648...	.427	.67	1.5...	.6	.85	C5.2..
12	M25	1-5/8 Unistrut	.040	40.854	3	.013	40.854	y	27	7500....	1648...	.427	.67	1.6...	.85	.85	C5.1..

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	C6x10.5	C6x10.5	Beam	None	A36 Gr.36	Typical	3.07	.86	15.1	.128
2	2.5 Std Pipe	PIPE_2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	2.0 Std Pipe	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
4	Bearing Plate	6x1/4	Beam	None	A36 Gr.36	Typical	1.5	.008	4.5	.03

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	P1000	1-5/8 Unistrut	Beam	None	A653 SS Gr33	Typical	.555	.185	.236	.003

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N5						
2	N71						
3	N7						
4	N6						
5	N72						
6	N8						
7	N81	Reaction	Reaction	Reaction			
8	N82	Reaction	Reaction	Reaction			
9	N83	Reaction	Reaction	Reaction			
10	N84	Reaction	Reaction	Reaction			
11	N85	Reaction	Reaction	Reaction			

Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
12	N86	Reaction	Reaction	Reaction			
13	N87	Reaction	Reaction	Reaction			
14	N88	Reaction	Reaction	Reaction			
15	N80	Reaction	Reaction	Reaction			
16	N78	Reaction	Reaction	Reaction			
17	N90	Reaction	Reaction	Reaction			
18	N89	Reaction	Reaction	Reaction			
19	N79	Reaction	Reaction	Reaction			
20	N77	Reaction	Reaction	Reaction			

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
1	M1						Yes			None
2	M2						Yes			None
3	M3						Yes			None
4	M4						Yes			None
5	M5						Yes			None
6	M6						Yes			None
7	M7	BenPIN	BenPIN				Yes			None
8	M8	BenPIN	BenPIN				Yes			None
9	M9	BenPIN	BenPIN				Yes			None
10	M10	BenPIN	BenPIN				Yes			None
11	M11						Yes			None
12	M12						Yes			None
13	M13						Yes			None
14	M14						Yes			None
15	M15						Yes			None
16	M16						Yes			None
17	M17						Yes			None
18	M18						Yes			None
19	M19						Yes			None
20	M20						Yes			None
21	M21						Yes			None
22	M22						Yes			None
23	M23						Yes			None
24	M24						Yes			None
25	M25						Yes			None
26	M26						Yes			None
27	M27						Yes			None
28	M28						Yes			None
29	M29						Yes			None
30	M30						Yes			None
31	M31						Yes			None
32	M32						Yes			None
33	M33						Yes			None
34	M34						Yes			None
35	M35						Yes			None
36	M36						Yes			None
37	M37						Yes			None
38	M38						Yes			None
39	M39						Yes			None
40	M40						Yes			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	C6x10.5	35			Lbyy						Lateral
2	M2	C6x10.5	35			Lbyy						Lateral
3	M3	2.5 Std Pipe	42			Lbyy						Lateral
4	M4	2.5 Std Pipe	42			Lbyy						Lateral
5	M5	2.5 Std Pipe	42			Lbyy						Lateral
6	M6	2.5 Std Pipe	42			Lbyy						Lateral
7	M27	2.0 Std Pipe	12			Lbyy						Lateral
8	M28	2.0 Std Pipe	12			Lbyy						Lateral
9	M39	Bearing Plate	72			Lbyy						Lateral
10	M40	Bearing Plate	72			Lbyy						Lateral

Cold Formed Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...	Cm-...	Cb	R	a[in]	y sw...	z sw...
1	M7	P1000	54.918			Lbyy											
2	M8	P1000	54.918			Lbyy											
3	M9	P1000	54.918			Lbyy											
4	M10	P1000	54.918			Lbyy											
5	M19	P1000	53			Lbyy											
6	M20	P1000	53			Lbyy											
7	M21	P1000	53			Lbyy											
8	M22	P1000	53			Lbyy											
9	M23	P1000	53			Lbyy											
10	M24	P1000	53			Lbyy											
11	M25	P1000	53			Lbyy											
12	M26	P1000	53			Lbyy											

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M28	Y	-32.8	6
2	M21	Y	-25.36	6
3	M21	Y	-30	26.5
4	M21	Y	-30	47
5	M27	Y	-32.8	6
6	M22	Y	-25.36	6
7	M22	Y	-29	26.5
8	M22	Y	-29	47
9	M19	Y	-25.36	6
10	M19	Y	-30	26.5
11	M19	Y	-30	47
12	M20	Y	-25.36	6
13	M20	Y	-29	26.5
14	M20	Y	-29	47

Member Point Loads (BLC 2 : Wind Load AZI 000)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M28	Z	-18.11	6
2	M21	Z	-20.8	6
3	M21	Z	-20.49	26.5
4	M21	Z	-20.49	47
5	M27	Z	-18.11	6
6	M22	Z	-20.8	6
7	M22	Z	-23.49	26.5

Member Point Loads (BLC 2 : Wind Load AZI 000) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
8	M22	Z	-23.49	47
9	M19	Z	-20.8	6
10	M19	Z	-20.49	26.5
11	M19	Z	-20.49	47
12	M20	Z	-20.8	6
13	M20	Z	-23.49	26.5
14	M20	Z	-23.49	47

Member Point Loads (BLC 3 : Wind Load AZI 090)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M28	X	-18.11	6
2	M21	X	-8.87	6
3	M21	X	-12.46	26.5
4	M21	X	-12.46	47
5	M27	X	-18.11	6
6	M22	X	-8.87	6
7	M22	X	-9.44	26.5
8	M22	X	-9.44	47
9	M19	X	-8.87	6
10	M19	X	-12.46	26.5
11	M19	X	-12.46	47
12	M20	X	-8.87	6
13	M20	X	-9.44	26.5
14	M20	X	-9.44	47

Member Point Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M28	Y	-112.03	6
2	M21	Y	-54.26	6
3	M21	Y	-55.45	26.5
4	M21	Y	-55.45	47
5	M27	Y	-112.03	6
6	M22	Y	-54.26	6
7	M22	Y	-59.47	26.5
8	M22	Y	-59.47	47
9	M19	Y	-54.26	6
10	M19	Y	-55.45	26.5
11	M19	Y	-55.45	47
12	M20	Y	-54.26	6
13	M20	Y	-59.47	26.5
14	M20	Y	-59.47	47

Member Point Loads (BLC 5 : Wind + Ice Load AZI 000)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M28	Z	-10.95	6
2	M21	Z	-5.14	6
3	M21	Z	-5.2	26.5
4	M21	Z	-5.2	47
5	M27	Z	-10.95	6
6	M22	Z	-5.14	6
7	M22	Z	-5.67	26.5
8	M22	Z	-5.67	47
9	M19	Z	-5.14	6
10	M19	Z	-5.2	26.5
11	M19	Z	-5.2	47

Member Point Loads (BLC 5 : Wind + Ice Load AZI 000) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
12	M20	Z	-5.14	6
13	M20	Z	-5.67	26.5
14	M20	Z	-5.67	47

Member Point Loads (BLC 6 : Wind + Ice Load AZI 090)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M28	X	-6.39	6
2	M21	X	-2.76	6
3	M21	X	-3.61	26.5
4	M21	X	-3.61	47
5	M27	X	-6.39	6
6	M22	X	-2.76	6
7	M22	X	-2.89	26.5
8	M22	X	-2.89	47
9	M19	X	-2.76	6
10	M19	X	-3.61	26.5
11	M19	X	-3.61	47
12	M20	X	-2.76	6
13	M20	X	-2.89	26.5
14	M20	X	-2.89	47

Member Distributed Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	Y	-39.461	-39.461	0	%100
2	M2	Y	-39.461	-39.461	0	%100
3	M3	Y	-12.802	-12.802	0	%100
4	M4	Y	-12.802	-12.802	0	%100
5	M5	Y	-12.802	-12.802	0	%100
6	M6	Y	-12.802	-12.802	0	%100
7	M7	Y	-12.142	-12.142	0	%100
8	M8	Y	-12.142	-12.142	0	%100
9	M9	Y	-12.142	-12.142	0	%100
10	M10	Y	-12.142	-12.142	0	%100
11	M11	Y	-6.841	-6.841	0	%100
12	M12	Y	-6.841	-6.841	0	%100
13	M13	Y	-6.841	-6.841	0	%100
14	M14	Y	-6.841	-6.841	0	%100
15	M15	Y	-6.841	-6.841	0	%100
16	M16	Y	-6.841	-6.841	0	%100
17	M17	Y	-6.841	-6.841	0	%100
18	M18	Y	-6.841	-6.841	0	%100
19	M19	Y	-12.142	-12.142	0	%100
20	M20	Y	-12.142	-12.142	0	%100
21	M21	Y	-12.142	-12.142	0	%100
22	M22	Y	-12.142	-12.142	0	%100
23	M23	Y	-12.142	-12.142	0	%100
24	M24	Y	-12.142	-12.142	0	%100
25	M25	Y	-12.142	-12.142	0	%100
26	M26	Y	-12.142	-12.142	0	%100
27	M27	Y	-11.521	-11.521	0	%100
28	M28	Y	-11.521	-11.521	0	%100

Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads)

Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...

Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M3	Z	-7.174	-7.174	0	42
2	M4	Z	-7.174	-7.174	0	42
3	M5	Z	-7.174	-7.174	0	42
4	M6	Z	-7.174	-7.174	0	42
5	M7	Z	-4.048	-4.048	0	54.918
6	M8	Z	-4.048	-4.048	0	54.918
7	M9	Z	-4.048	-4.048	0	54.918
8	M10	Z	-4.048	-4.048	0	54.918
9	M11	Z	0	0	0	4
10	M12	Z	0	0	0	4
11	M13	Z	0	0	0	4
12	M14	Z	0	0	0	4
13	M15	Z	0	0	0	4
14	M16	Z	0	0	0	4
15	M17	Z	0	0	0	4
16	M18	Z	0	0	0	4
17	M27	Z	-5.928	-5.928	0	12
18	M28	Z	-5.928	-5.928	0	12

Member Distributed Loads (BLC 9 : BLC 3 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	X	-5.056	-5.056	0	35
2	M2	X	-5.056	-5.056	0	35
3	M3	X	-7.174	-7.174	0	42
4	M4	X	-7.174	-7.174	0	42
5	M5	X	-7.174	-7.174	0	42
6	M6	X	-7.174	-7.174	0	42
7	M7	X	-2.211	-2.211	0	54.918
8	M8	X	-2.211	-2.211	0	54.918
9	M9	X	-2.211	-2.211	0	54.918
10	M10	X	-2.211	-2.211	0	54.918
11	M19	X	-4.048	-4.048	0	53
12	M20	X	-4.048	-4.048	0	53
13	M21	X	-4.048	-4.048	0	53
14	M22	X	-4.048	-4.048	0	53
15	M23	X	-4.048	-4.048	0	53
16	M24	X	-4.048	-4.048	0	53
17	M25	X	-4.048	-4.048	0	53
18	M26	X	-4.048	-4.048	0	53
19	M27	X	-5.928	-5.928	0	12
20	M28	X	-5.928	-5.928	0	12

Member Distributed Loads (BLC 10 : BLC 5 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M3	Z	-1.757	-1.757	0	42
2	M4	Z	-1.757	-1.757	0	42
3	M5	Z	-1.757	-1.757	0	42
4	M6	Z	-1.757	-1.757	0	42
5	M7	Z	-.991	-.991	0	54.918
6	M8	Z	-.991	-.991	0	54.918
7	M9	Z	-.991	-.991	0	54.918
8	M10	Z	-.991	-.991	0	54.918
9	M11	Z	0	0	0	4
10	M12	Z	0	0	0	4
11	M13	Z	0	0	0	4
12	M14	Z	0	0	0	4

Member Distributed Loads (BLC 10 : BLC 5 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
13	M15	Z	0	0	0	4
14	M16	Z	0	0	0	4
15	M17	Z	0	0	0	4
16	M18	Z	0	0	0	4
17	M27	Z	-1.452	-1.452	0	12
18	M28	Z	-1.452	-1.452	0	12

Member Distributed Loads (BLC 11 : BLC 6 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	X	-1.238	-1.238	0	35
2	M2	X	-1.238	-1.238	0	35
3	M3	X	-1.757	-1.757	0	42
4	M4	X	-1.757	-1.757	0	42
5	M5	X	-1.757	-1.757	0	42
6	M6	X	-1.757	-1.757	0	42
7	M7	X	-.541	-.541	0	54.918
8	M8	X	-.541	-.541	0	54.918
9	M9	X	-.541	-.541	0	54.918
10	M10	X	-.541	-.541	0	54.918
11	M19	X	-.991	-.991	0	53
12	M20	X	-.991	-.991	0	53
13	M21	X	-.991	-.991	0	53
14	M22	X	-.991	-.991	0	53
15	M23	X	-.991	-.991	0	53
16	M24	X	-.991	-.991	0	53
17	M25	X	-.991	-.991	0	53
18	M26	X	-.991	-.991	0	53
19	M27	X	-1.452	-1.452	0	12
20	M28	X	-1.452	-1.452	0	12

Member Area Loads (BLC 2 : Wind Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N66	N68	N67	N65	Z	Open Structure	-29.89

Member Area Loads (BLC 3 : Wind Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N68	N70	N69	N67	X	Open Structure	-29.89

Member Area Loads (BLC 5 : Wind + Ice Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N66	N68	N67	N65	Z	Open Structure	-7.32

Member Area Loads (BLC 6 : Wind + Ice Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N68	N70	N69	N67	X	Open Structure	-7.32

Site Name:	MAL02697
Client:	Smartlink
Carrier:	AT&T
Engineer:	RJL
Date:	2/2/2018

INFINIGY
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the solutions are endless

INFINIGY WIND LOAD CALCULATOR 3.0.2

Beta - Panels

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Rooftop
Number of Sectors:	3
Structure Shape 1:	Flat

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	99	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	53.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
17.58	0.85	**29.89**

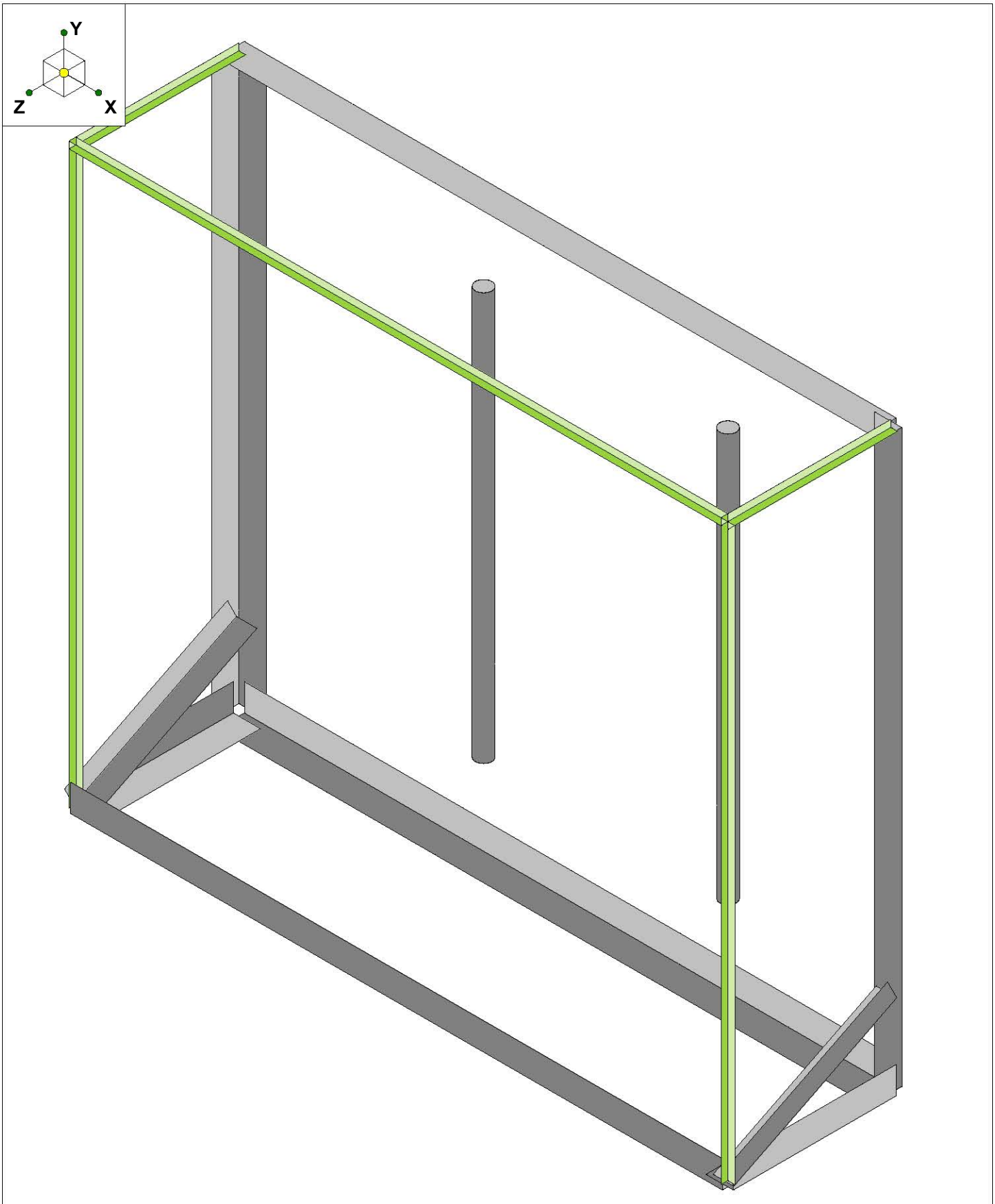
Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
2.87	0.85	**6.12**

Ice Loading Inputs:

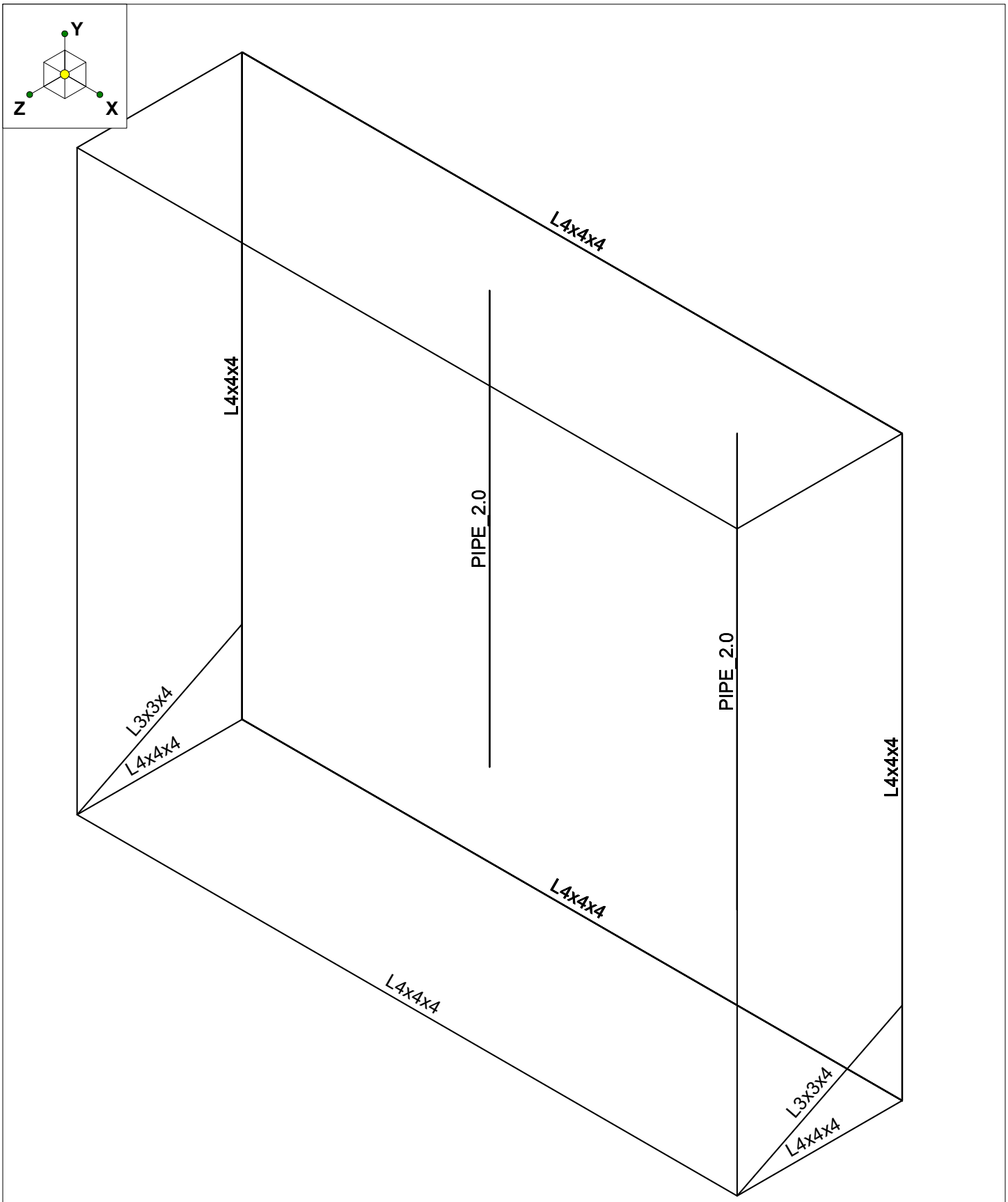
Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	40	mph (nominal 3-second gust)
Base Ice Thickness:	1.00	in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
EPBQ-654L8H6-B	53.0	1	1.00	Flat	Flat	17.58	8.27	123.56	83.83	93.76	113.63
EPBQ-654L8H6-B	53.0	1	1.00	Flat	Flat	17.58	8.27	123.56	83.83	93.76	113.63



Infinigy Engineering, PLLC		Existing Configuration
RJL	MAL02697	Jan 31, 2018 at 2:09 PM
499-006		Panel - Beta.r3d



Infinigy Engineering, PLLC		Member Shapes
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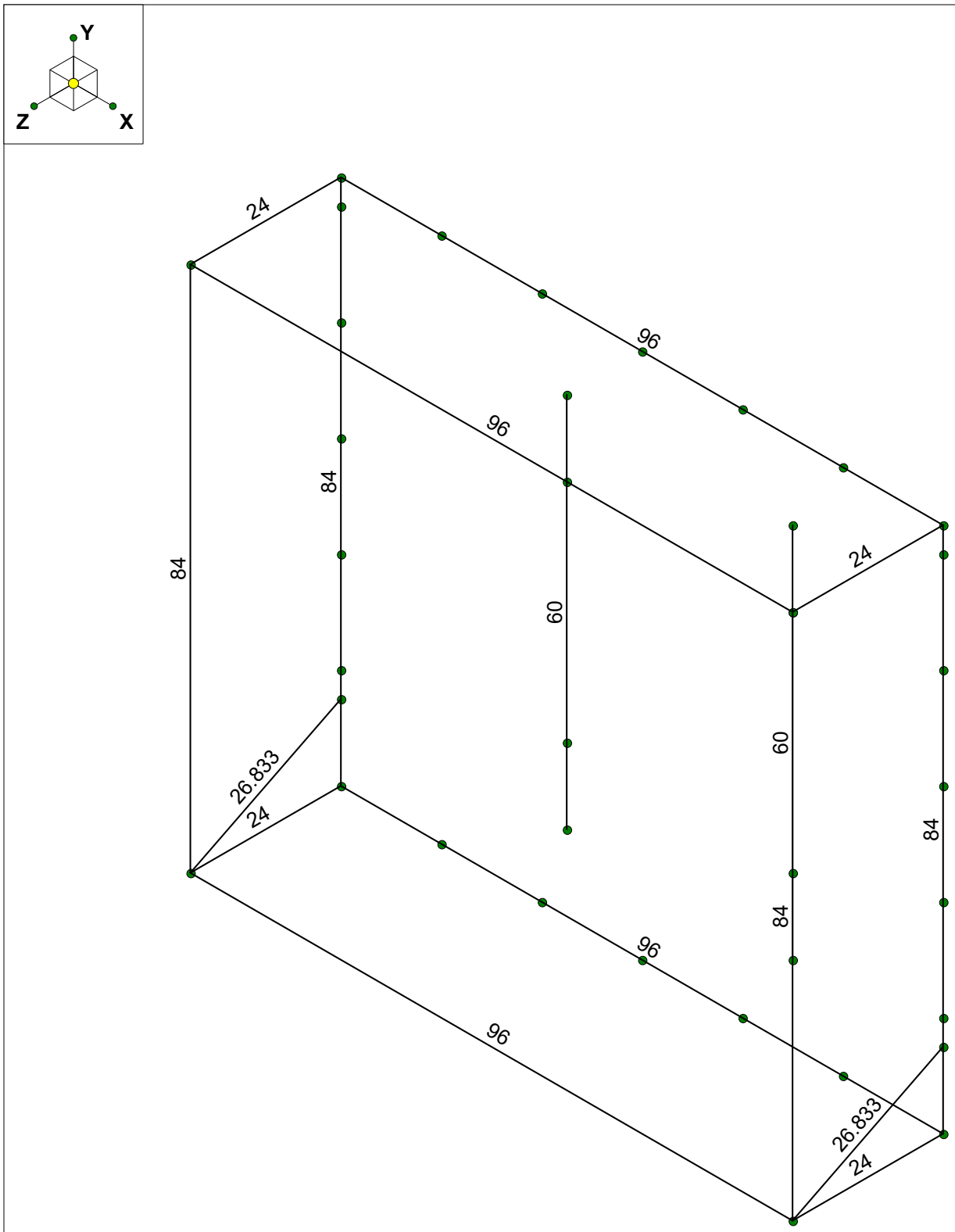
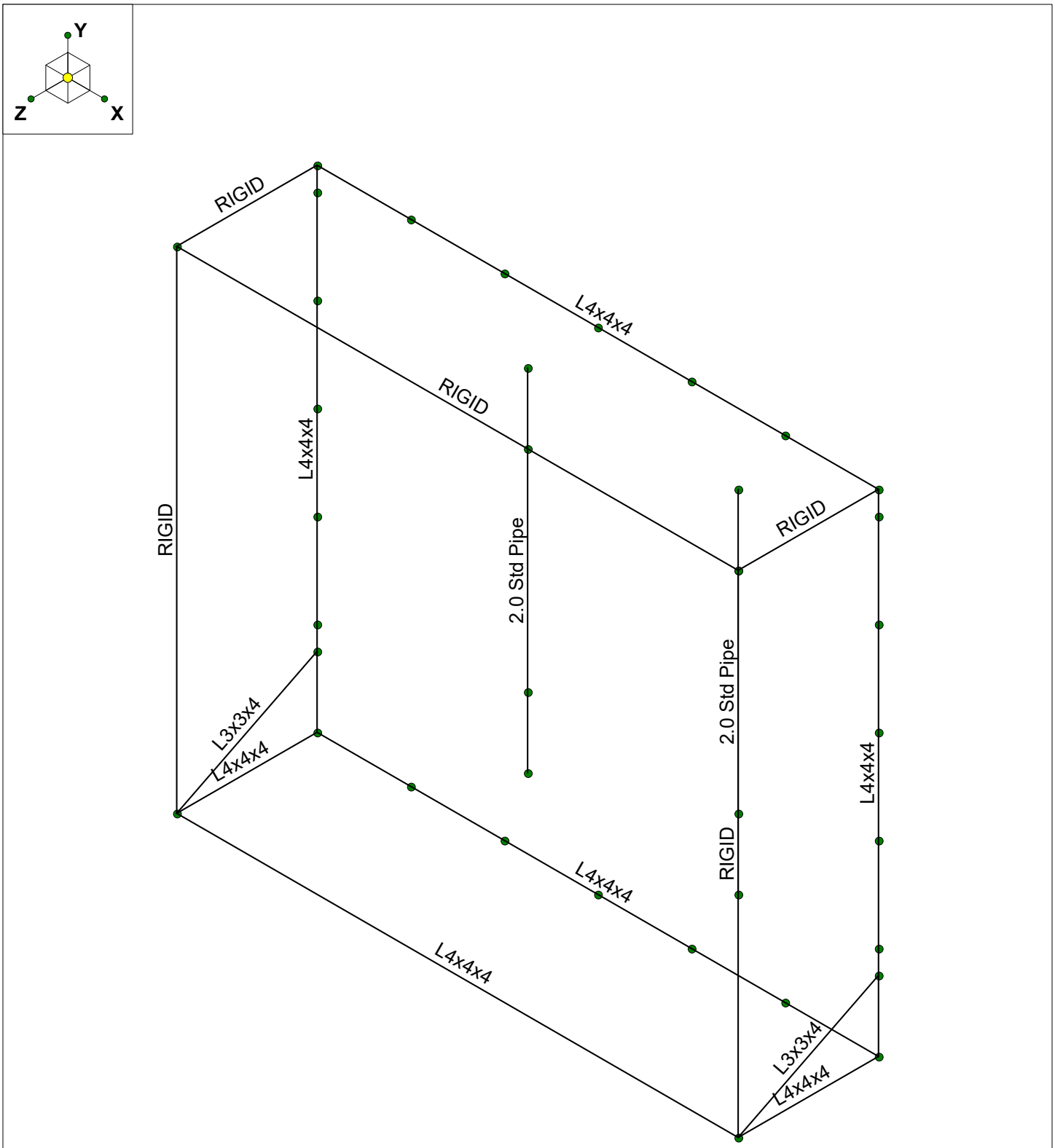


Member Length (in) Displayed

Infinigy Engineering, PLLC		Member Lengths
RJL	MAL02697	Jan 31, 2018 at 2:12 PM
499-006		Panel - Beta.r3d



Infinigy Engineering, PLLC		Section Set
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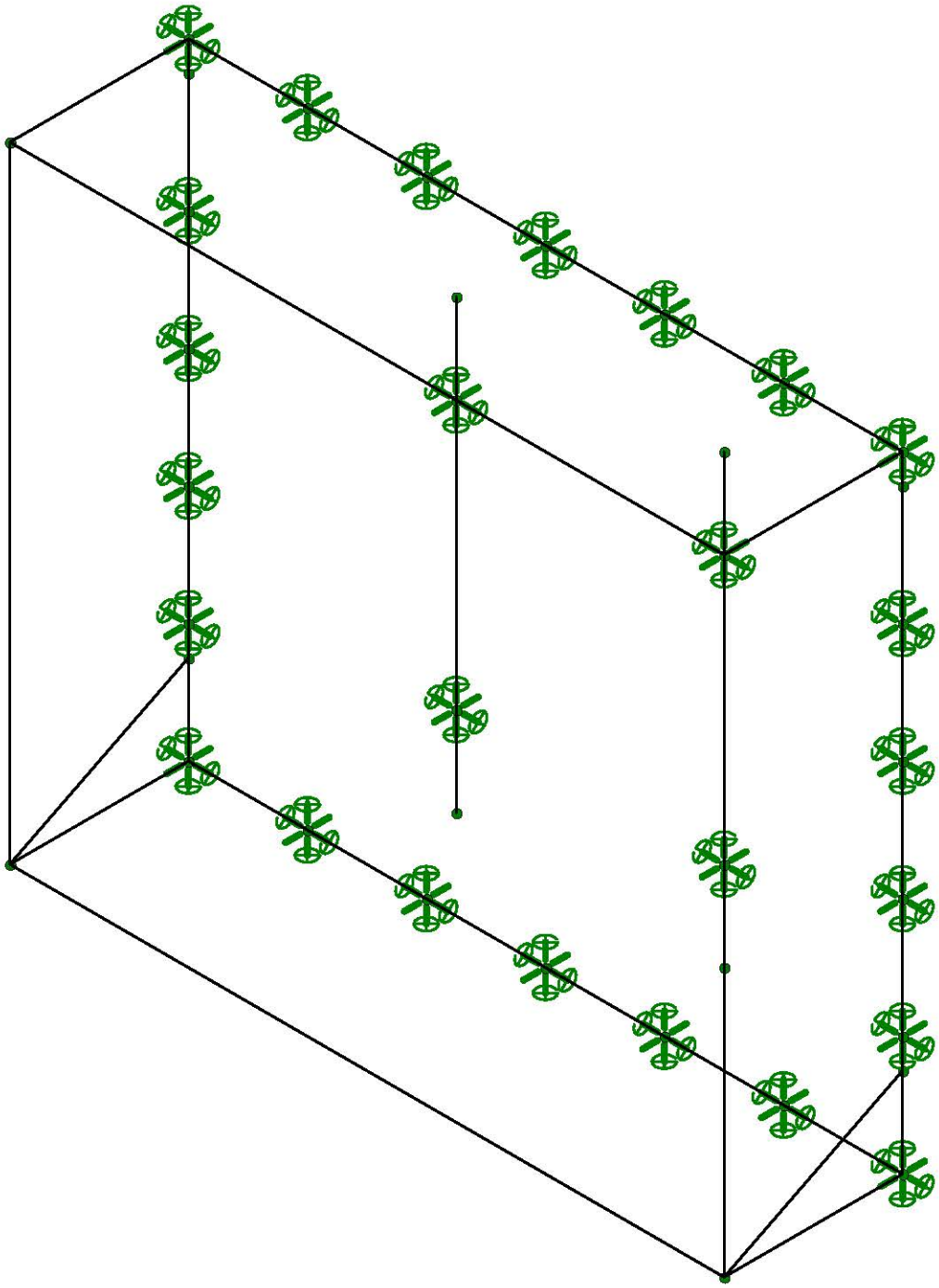
499-006		Panel - Beta.r3d



Infinigy Engineering, PLLC		Wireframe
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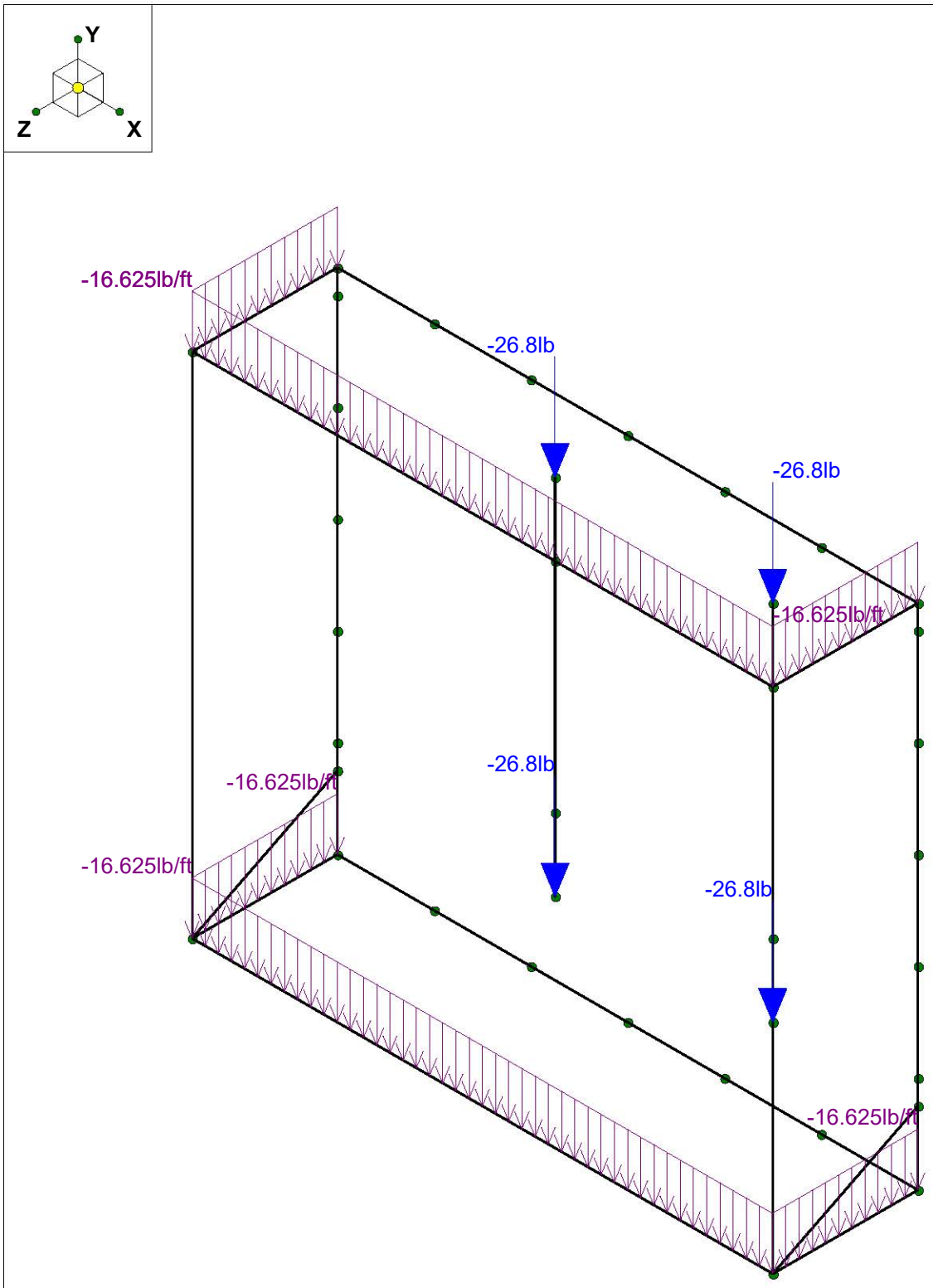
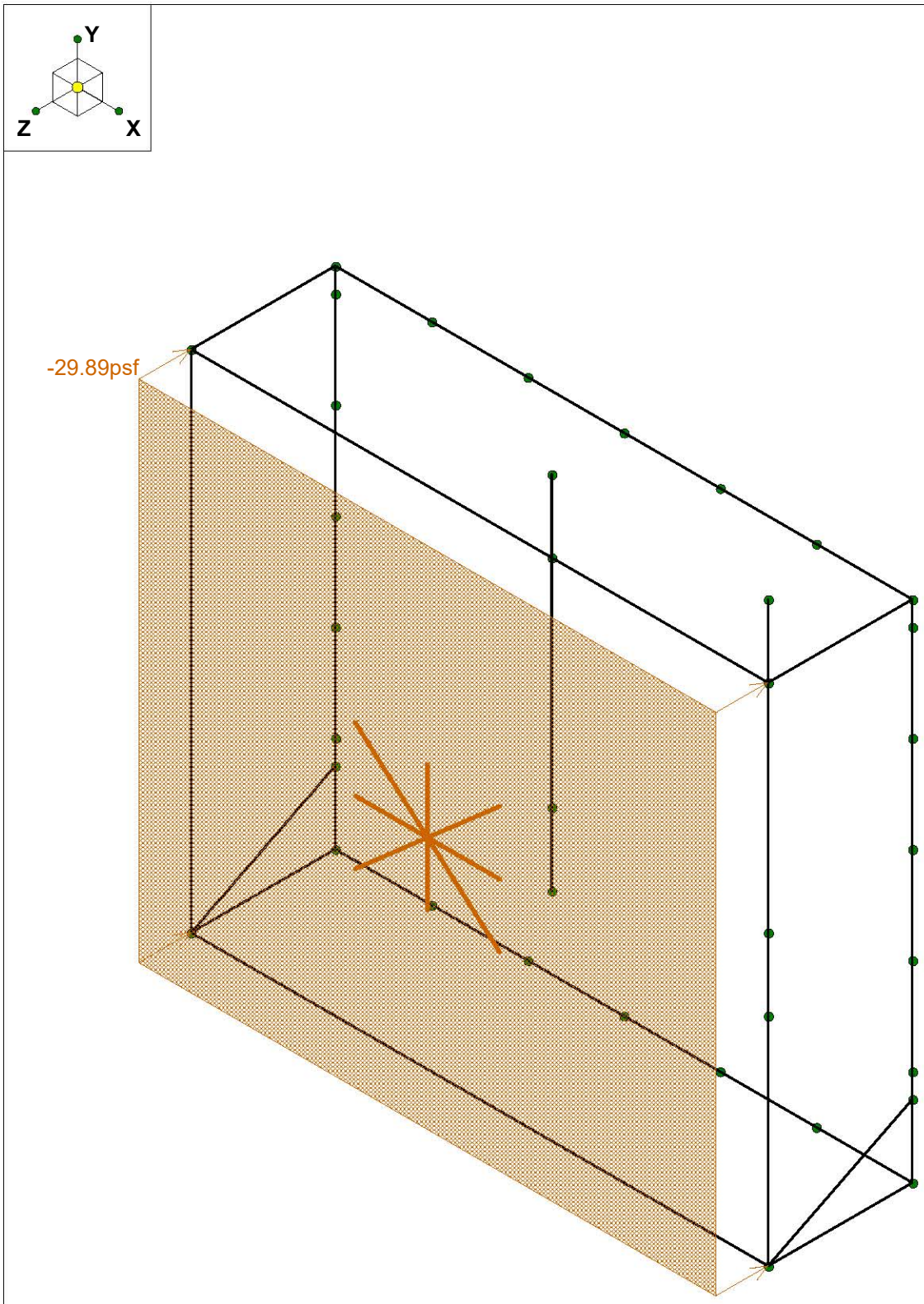
499-006		Panel - Beta.r3d



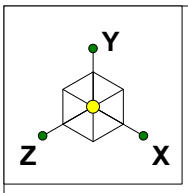
Loads: BLC 1, Self Weight

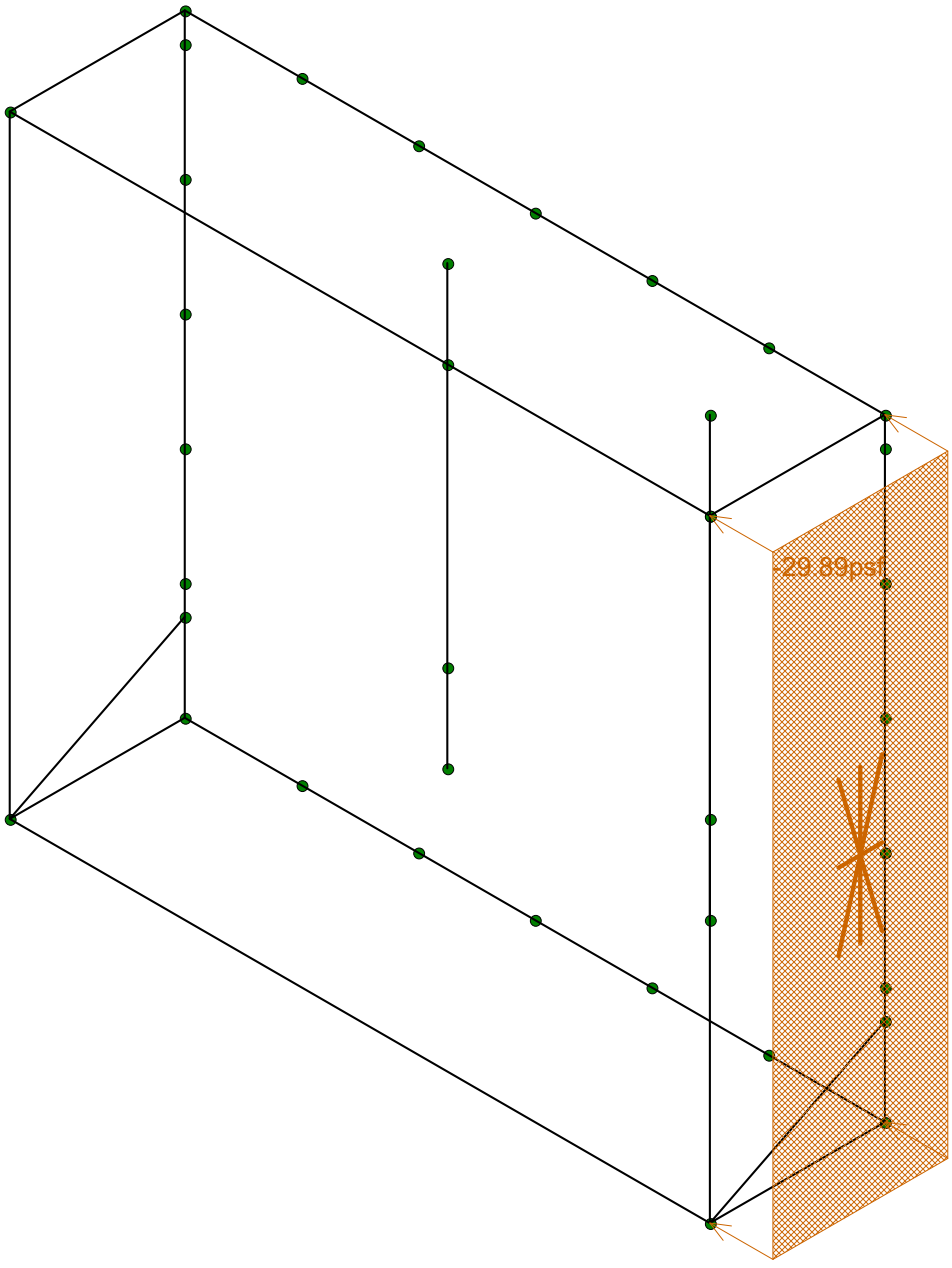
Infinigy Engineering, PLLC	MAL02697	Dead Load
RJL		Jan 31, 2018 at 2:13 PM
499-006		Panel - Beta.r3d



Loads: BLC 2, Wind Load AZI 000

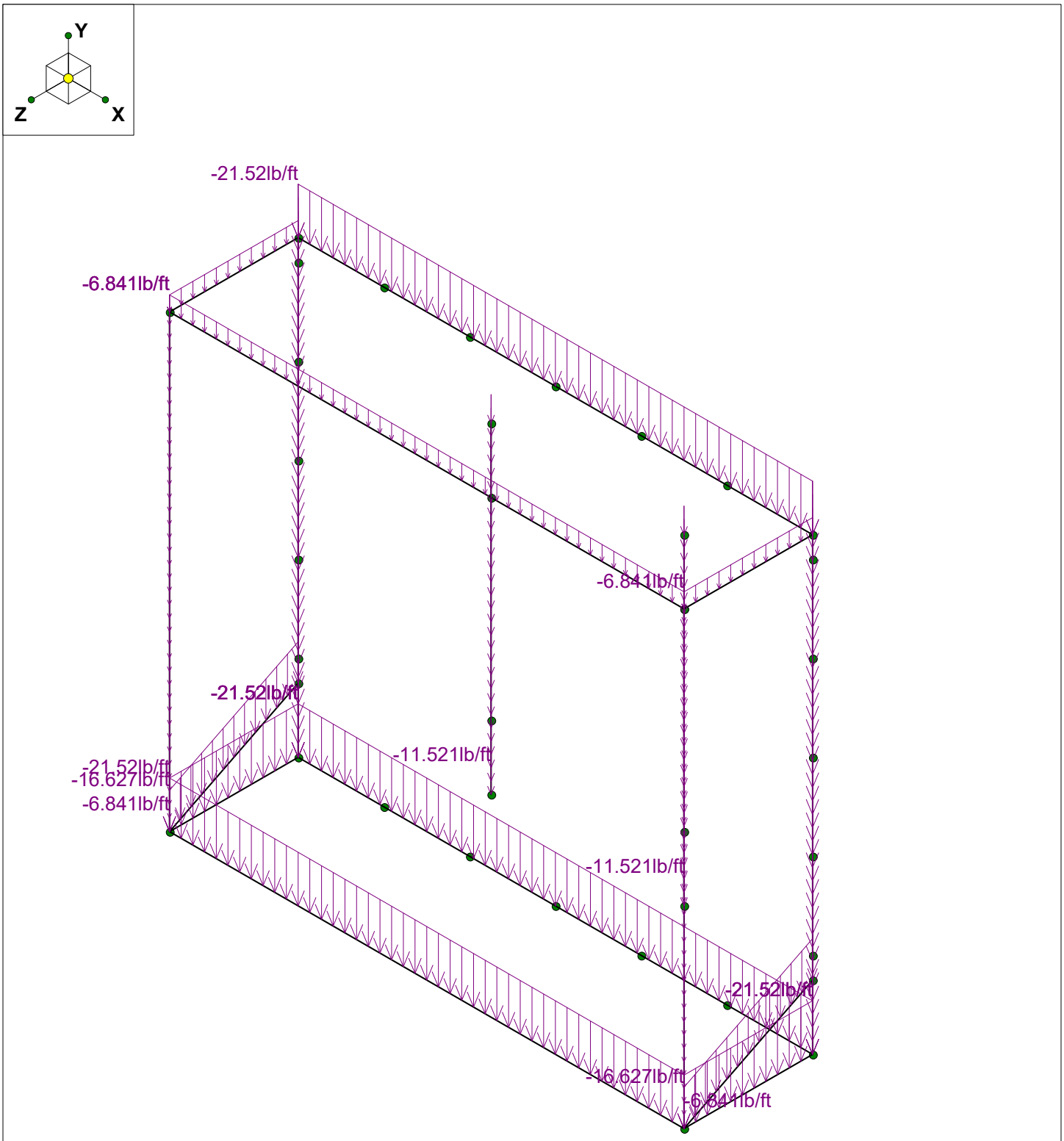
Infinigy Engineering, PLLC		Wind Load
RJL	MAL02697	Jan 31, 2018 at 2:13 PM
499-006		Panel - Beta.r3d





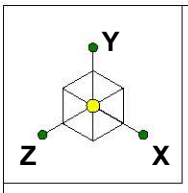
Loads: BLC 3, Wind Load AZI 090

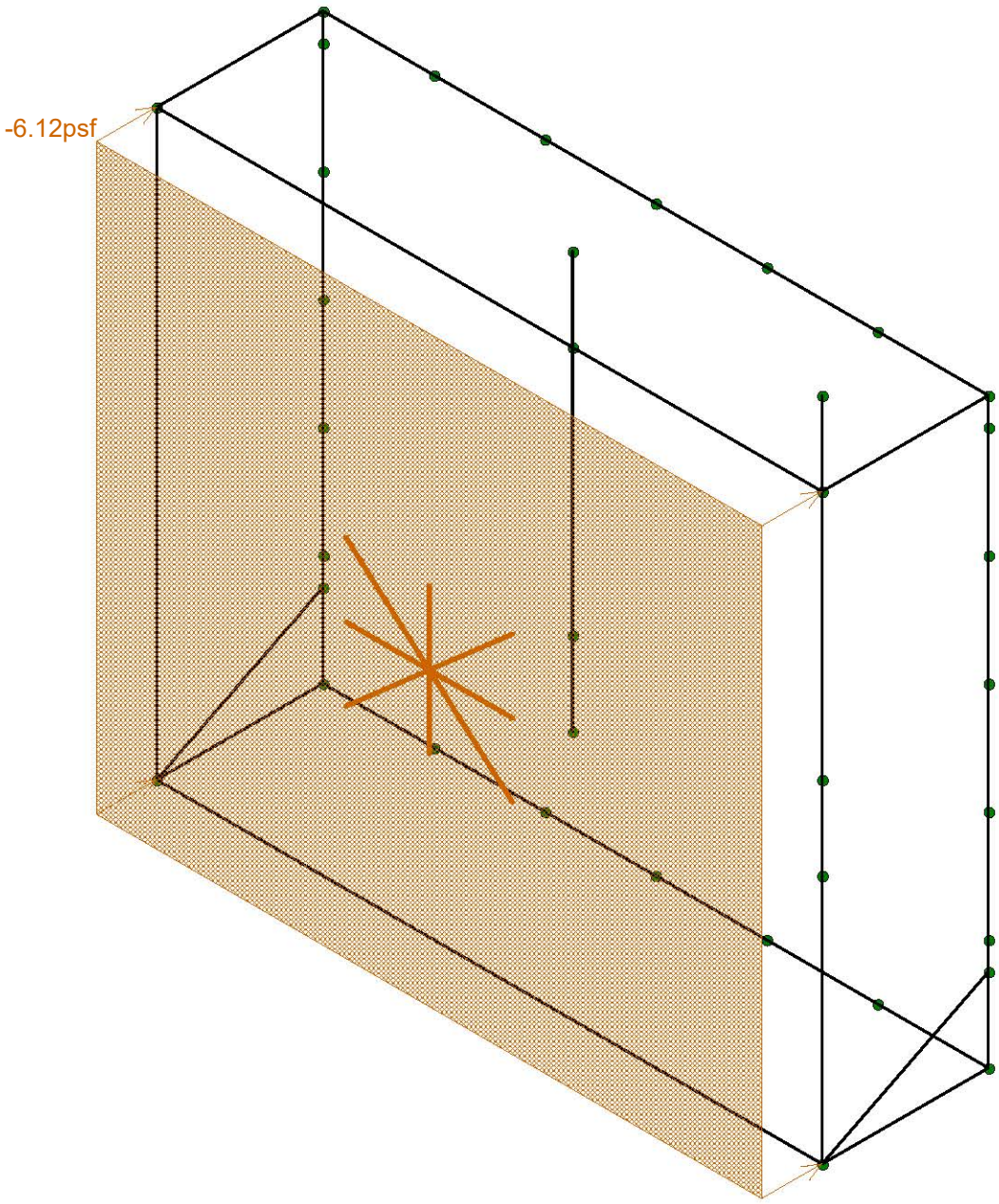
Infinigy Engineering, PLLC		Wind Load 90
RJL	MAL02697	Jan 31, 2018 at 2:13 PM
499-006		Panel - Beta.r3d



Loads: BLC 4, Ice Weight

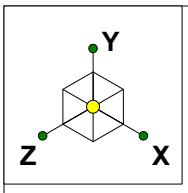
Infinigy Engineering, PLLC	MAL02697	Ice Weight
RJL		Jan 31, 2018 at 2:13 PM
499-006		Panel - Beta.r3d

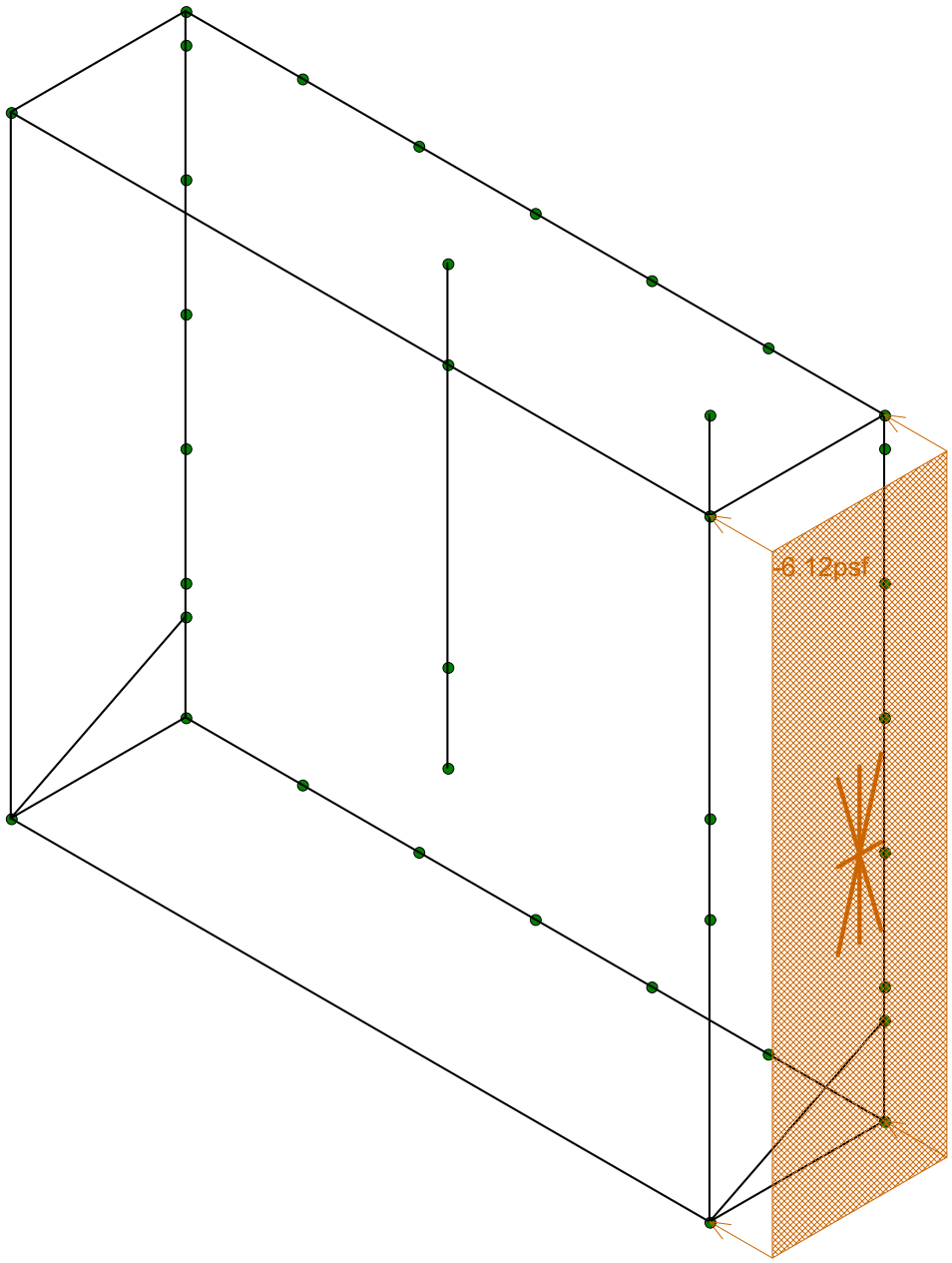




Loads: BLC 5, Wind + Ice Load AZI 000

Infinigy Engineering, PLLC		Wind + Ice
RJL	MAL02697	Jan 31, 2018 at 2:14 PM
499-006		Panel - Beta.r3d





Loads: BLC 6, Wind + Ice Load AZI 090

Infinigy Engineering, PLLC	MAL02697	Wind + Ice 90
RJL		Jan 31, 2018 at 2:14 PM
499-006		Panel - Beta.r3d

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N5	N1		270	L4x4x4	Beam	None	A36 Gr.36	Typical
2	M2	N1	N2		270	L4x4x4	Beam	None	A36 Gr.36	Typical
3	M3	N6	N2			L4x4x4	Beam	None	A36 Gr.36	Typical
4	M4	N5	N6			L4x4x4	Beam	None	A36 Gr.36	Typical
5	M5	N7	N8		90	L4x4x4	Beam	None	A36 Gr.36	Typical
6	M6	N5	N7		90	L4x4x4	Beam	None	A36 Gr.36	Typical
7	M7	N6	N8			L4x4x4	Beam	None	A36 Gr.36	Typical
8	M8	N1	N9			L3x3x4	Beam	None	A36 Gr.36	Typical
9	M9	N2	N10		270	L3x3x4	Beam	None	A36 Gr.36	Typical
10	M10	N20	N18			2.0 Std Pipe	Beam	None	A53 Gr.B	Typical
11	M11	N19	N17			2.0 Std Pipe	Beam	None	A53 Gr.B	Typical
12	M12	N1	N3			RIGID	None	None	RIGID	Typical
13	M13	N3	N7			RIGID	None	None	RIGID	Typical
14	M14	N2	N4			RIGID	None	None	RIGID	Typical
15	M15	N4	N8			RIGID	None	None	RIGID	Typical
16	M16	N3	N4			RIGID	None	None	RIGID	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		5	312	0
3	Total General		5	312	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L3x3x4	2	53.7	21.9
7	A36 Gr.36	L4x4x4	7	504	275.8
8	A53 Gr.B	PIPE_2.0	2	120	34.7
9	Total HR Steel		11	677.7	332.5

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(M...	Surface...
1	Self Weight	DL		-1			4	6		
2	Wind Load AZI 000	WLZ							1	
3	Wind Load AZI 090	WLX							1	
4	Ice Weight	OL1						16		
5	Wind + Ice Load AZI 000	OL2							1	
6	Wind + Ice Load AZI 090	OL3							1	
7	Service Live 1	LL								
8	BLC 2 Transient Area Loa...	None						24		
9	BLC 3 Transient Area Loa...	None						12		
10	BLC 5 Transient Area Loa...	None						24		
11	BLC 6 Transient Area Loa...	None						12		

Load Combinations

	Description	S...	P...	S..	BLC	Factor	BLC	Fac...	BLC	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
1	1.4D	Y...	Y		DL	1.4																				
2	1.2D + 1.6W AZI 000	Y...	Y		DL	1.2	WLZ	1.6																		
3	1.2D + 1.6W AZI 030	Y...	Y		DL	1.2	WLZ	1.386	WLX	.8																
4	1.2D + 1.6W AZI 060	Y...	Y		DL	1.2	WLZ	.8	WLX	1....																
5	1.2D + 1.6W AZI 090	Y...	Y		DL	1.2			WLX	1.6																
6	1.2D + 1.6W AZI 120	Y...	Y		DL	1.2	WLZ	-.8	WLX	1....																

Load Combinations (Continued)

	Description	S..	P..	S..	BLC	Factor	BLC	Fac...	BLC	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
7	1.2D + 1.6W AZI 150	Y...	Y		DL	1.2	WLZ	-1.3...	WLX	.8														
8	1.2D + 1.6W AZI 180	Y...	Y		DL	1.2	WLZ	-1.6																
9	1.2D + 1.6W AZI 210	Y...	Y		DL	1.2	WLZ	-1.3...	WLX	-.8														
10	1.2D + 1.6W AZI 240	Y...	Y		DL	1.2	WLZ	-.8	WLX	-1...														
11	1.2D + 1.6W AZI 270	Y...	Y		DL	1.2			WLX	-1.6														
12	1.2D + 1.6W AZI 300	Y...	Y		DL	1.2	WLZ	.8	WLX	-1...														
13	1.2D + 1.6W AZI 330	Y...	Y		DL	1.2	WLZ	1.386	WLX	-.8														
14	0.9D + 1.6W AZI 000	Y...	Y		DL	.9	WLZ	1.6																
15	0.9D + 1.6W AZI 030	Y...	Y		DL	.9	WLZ	1.386	WLX	.8														
16	0.9D + 1.6W AZI 060	Y...	Y		DL	.9	WLZ	.8	WLX	1....														
17	0.9D + 1.6W AZI 090	Y...	Y		DL	.9			WLX	1.6														
18	0.9D + 1.6W AZI 120	Y...	Y		DL	.9	WLZ	-.8	WLX	1....														
19	0.9D + 1.6W AZI 150	Y...	Y		DL	.9	WLZ	-1.3...	WLX	.8														
20	0.9D + 1.6W AZI 180	Y...	Y		DL	.9	WLZ	-1.6																
21	0.9D + 1.6W AZI 210	Y...	Y		DL	.9	WLZ	-1.3...	WLX	-.8														
22	0.9D + 1.6W AZI 240	Y...	Y		DL	.9	WLZ	-.8	WLX	-1...														
23	0.9D + 1.6W AZI 270	Y...	Y		DL	.9			WLX	-1.6														
24	0.9D + 1.6W AZI 300	Y...	Y		DL	.9	WLZ	.8	WLX	-1...														
25	0.9D + 1.6W AZI 330	Y...	Y		DL	.9	WLZ	1.386	WLX	-.8														
26	1.2D + 1.0Di	Y...	Y		DL	1.2	OL1	1																
27	1.2D + 1.0Di + 1.0Wi AZI 000	Y...	Y		DL	1.2	OL1	1	OL2	1														
28	1.2D + 1.0Di + 1.0Wi AZI 030	Y...	Y		DL	1.2	OL1	1	OL2	.8...	...	.5												
29	1.2D + 1.0Di + 1.0Wi AZI 060	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	.8...												
30	1.2D + 1.0Di + 1.0Wi AZI 090	Y...	Y		DL	1.2	OL1	1			...	1												
31	1.2D + 1.0Di + 1.0Wi AZI 120	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	.8...												
32	1.2D + 1.0Di + 1.0Wi AZI 150	Y...	Y		DL	1.2	OL1	1	OL2	-....	...	.5												
33	1.2D + 1.0Di + 1.0Wi AZI 180	Y...	Y		DL	1.2	OL1	1	OL2	-1														
34	1.2D + 1.0Di + 1.0Wi AZI 210	Y...	Y		DL	1.2	OL1	1	OL2	-....	...	-.5												
35	1.2D + 1.0Di + 1.0Wi AZI 240	Y...	Y		DL	1.2	OL1	1	OL2	-.5	...	-....												
36	1.2D + 1.0Di + 1.0Wi AZI 270	Y...	Y		DL	1.2	OL1	1			...	-1												
37	1.2D + 1.0Di + 1.0Wi AZI 300	Y...	Y		DL	1.2	OL1	1	OL2	.5	...	-....												
38	1.2D + 1.0Di + 1.0Wi AZI 330	Y...	Y		DL	1.2	OL1	1	OL2	.8...	...	-.5												
39	1.2D + 1.5L + 1.0WL (30 mph) AZI 000	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...														
40	1.2D + 1.5L + 1.0WL (30 mph) AZI 030	Y...	Y		DL	1.2	LL	1.5	WLZ	.08	...	.0...												
41	1.2D + 1.5L + 1.0WL (30 mph) AZI 060	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...	...	.08												
42	1.2D + 1.5L + 1.0WL (30 mph) AZI 090	Y...	Y		DL	1.2	LL	1.5			...	.0...												
43	1.2D + 1.5L + 1.0WL (30 mph) AZI 120	Y...	Y		DL	1.2	LL	1.5	WLZ	-....	...	.08												
44	1.2D + 1.5L + 1.0WL (30 mph) AZI 150	Y...	Y		DL	1.2	LL	1.5	WLZ	-.08	...	.0...												
45	1.2D + 1.5L + 1.0WL (30 mph) AZI 180	Y...	Y		DL	1.2	LL	1.5	WLZ	-....														
46	1.2D + 1.5L + 1.0WL (30 mph) AZI 210	Y...	Y		DL	1.2	LL	1.5	WLZ	-.08	...	-....												
47	1.2D + 1.5L + 1.0WL (30 mph) AZI 240	Y...	Y		DL	1.2	LL	1.5	WLZ	-....	...	-.08												
48	1.2D + 1.5L + 1.0WL (30 mph) AZI 270	Y...	Y		DL	1.2	LL	1.5			...	-....												
49	1.2D + 1.5L + 1.0WL (30 mph) AZI 300	Y...	Y		DL	1.2	LL	1.5	WLZ	.0...	...	-.08												
50	1.2D + 1.5L + 1.0WL (30 mph) AZI 330	Y...	Y		DL	1.2	LL	1.5	WLZ	.08	...	-....												

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N16	max	0	1	71.375	26	0	1	NC	NC	NC	NC	0	1
2		min	0	1	31.929	14	0	1	NC	NC	NC	NC	0	1
3	N14	max	0	1	71.375	26	0	1	NC	NC	NC	NC	0	1
4		min	0	1	31.929	14	0	1	NC	NC	NC	NC	0	1
5	N13	max	0	1	71.375	26	0	1	NC	NC	NC	NC	0	1
6		min	0	1	31.929	14	0	1	NC	NC	NC	NC	0	1
7	N5	max	2.262	37	93.189	33	4.781	27	NC	NC	NC	NC	0	1
8		min	.452	18	29.632	14	.483	20	NC	NC	NC	NC	0	1

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
9	N6	max	22.256	17	93.79	36	5.148	36	NC	NC	NC	NC	0	1
10		min	-23.314	11	24.935	17	-2.385	17	NC	NC	NC	NC	0	1
11	N8	max	776.103	7	546.612	30	1338.958	2	NC	NC	NC	NC	0	1
12		min	-776.092	25	33.91	23	-1338.174	20	NC	NC	NC	NC	0	1
13	N7	max	757.314	14	545.439	36	1338.958	2	NC	NC	NC	NC	0	1
14		min	-757.325	8	43.079	17	-1338.174	20	NC	NC	NC	NC	0	1
15	N23	max	-.553	14	58.308	33	-.925	14	NC	NC	NC	NC	0	1
16		min	-2.768	33	11.569	14	-5.365	33	NC	NC	NC	NC	0	1
17	N24	max	67.028	5	59.181	36	9.541	17	NC	NC	NC	NC	0	1
18		min	-65.736	23	4.743	17	-11.968	11	NC	NC	NC	NC	0	1
19	N26	max	46.879	17	39.201	26	1.207	23	NC	NC	NC	NC	0	1
20		min	-47.17	11	7.881	14	-1.352	5	NC	NC	NC	NC	0	1
21	N25	max	.626	33	39.201	26	-.062	14	NC	NC	NC	NC	0	1
22		min	.124	14	7.881	14	-.31	33	NC	NC	NC	NC	0	1
23	N29	max	-.022	15	39.201	26	.055	34	NC	NC	NC	NC	0	1
24		min	-.112	34	7.881	14	.011	15	NC	NC	NC	NC	0	1
25	N33	max	.02	36	44.101	26	-.002	17	NC	NC	NC	NC	0	1
26		min	.004	17	8.866	15	-.01	36	NC	NC	NC	NC	0	1
27	N34	max	68.167	17	44.101	26	.001	17	NC	NC	NC	NC	0	1
28		min	-68.176	11	8.866	21	-.01	36	NC	NC	NC	NC	0	1
29	N30	max	58.561	5	39.201	26	.097	11	NC	NC	NC	NC	0	1
30		min	-58.509	23	7.881	14	-.071	17	NC	NC	NC	NC	0	1
31	N35	max	0	17	41.609	30	1.212	23	NC	NC	NC	NC	0	1
32		min	0	11	5.434	23	-1.688	5	NC	NC	NC	NC	0	1
33	N31	max	0	17	38.89	36	.303	5	NC	NC	NC	NC	0	1
34		min	0	11	7.294	17	-.216	23	NC	NC	NC	NC	0	1
35	N27	max	0	17	39.343	30	.032	23	NC	NC	NC	NC	0	1
36		min	0	23	7.816	23	-.07	30	NC	NC	NC	NC	0	1
37	N21	max	0	37	38.827	36	.187	30	NC	NC	NC	NC	0	1
38		min	0	18	7.789	17	.03	23	NC	NC	NC	NC	0	1
39	N19A	max	0	37	41.244	30	-.203	23	NC	NC	NC	NC	0	1
40		min	0	18	8.29	23	-1.012	30	NC	NC	NC	NC	0	1
41	N20A	max	0	14	39.201	36	0	11	NC	NC	NC	NC	0	1
42		min	0	8	7.881	17	0	17	NC	NC	NC	NC	0	1
43	N22	max	0	14	39.201	30	0	17	NC	NC	NC	NC	0	1
44		min	0	8	7.881	23	0	11	NC	NC	NC	NC	0	1
45	N28	max	0	5	39.201	36	0	11	NC	NC	NC	NC	0	1
46		min	0	11	7.881	17	0	17	NC	NC	NC	NC	0	1
47	N32	max	0	7	39.201	30	0	17	NC	NC	NC	NC	0	1
48		min	0	25	7.881	23	0	11	NC	NC	NC	NC	0	1
49	N36	max	0	7	39.201	36	0	11	NC	NC	NC	NC	0	1
50		min	0	25	7.88	17	0	17	NC	NC	NC	NC	0	1
51	N15	max	0	1	71.375	26	0	1	NC	NC	NC	NC	0	1
52		min	0	1	31.929	14	0	1	NC	NC	NC	NC	0	1
53	Totals:	max	669.536	5	2277.656	38	2678.144	14						
54		min	-669.536	23	754.786	19	-2678.144	8						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear C...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*...	phi*...	...	Eqn
1	M2	L4x4x4	.214	0	8	.017	90	y	2	27707.806	62532	3.138	6.426	...	H2-1
2	M9	L3x3x4	.015	0	11	.004	0	y	5	41764.388	46656	1.688	3.756	...	H2-1
3	M8	L3x3x4	.006	0	27	.002	0	y	27	41764.388	46656	1.688	3.756	...	H2-1
4	M3	L4x4x4	.005	0	36	.003	24	y	30	54489.031	62532	3.138	6.897	...	H2-1
5	M1	L4x4x4	.005	24	27	.003	24	z	38	54489.031	62532	3.138	6.715	...	H2-1
6	M7	L4x4x4	.003	15.75	11	.004	15.75	y	5	32811.711	62532	3.138	6.72	...	H2-1

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear C...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*P...	phi*...	phi*...	...	Eqn
7	M10	PIPE_2.0	.002	48.125	26	.000	0		1	23808.54	32130	1.872	1.872	1	H1-...
8	M11	PIPE_2.0	.002	48.125	26	.000	0		1	23808.54	32130	1.872	1.872	1	H1-...
9	M6	L4x4x4	.002	12.25	33	.000	12.25	y	33	32811.711	62532	3.138	6.897	...	H2-1
10	M4	L4x4x4	.002	80	30	.001	80	y	30	27707.806	62532	3.138	5.91	...	H2-1
11	M5	L4x4x4	.002	80	36	.001	80	z	36	27707.806	62532	3.138	5.713	...	H2-1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	L4x4x4	L4x4x4	Beam	None	A36 Gr.36	Typical	1.93	3	3	.044
2	L3x3x4	L3x3x4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	.031
3	2.0 Std Pipe	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
1	M1						Yes			None
2	M2						Yes			None
3	M3						Yes			None
4	M4						Yes			None
5	M5						Yes			None
6	M6						Yes			None
7	M7						Yes			None
8	M8						Yes			None
9	M9						Yes			None
10	M10						Yes			None
11	M11						Yes			None
12	M12						Yes			None
13	M13						Yes			None
14	M14						Yes			None
15	M15						Yes			None
16	M16						Yes			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	L4x4x4	24			Lbyy						Lateral
2	M2	L4x4x4	96			Lbyy						Lateral
3	M3	L4x4x4	24			Lbyy						Lateral
4	M4	L4x4x4	96			Lbyy						Lateral
5	M5	L4x4x4	96			Lbyy						Lateral
6	M6	L4x4x4	84			Lbyy						Lateral
7	M7	L4x4x4	84			Lbyy						Lateral
8	M8	L3x3x4	26.833			Lbyy						Lateral
9	M9	L3x3x4	26.833			Lbyy						Lateral
10	M10	2.0 Std Pipe	60			Lbyy						Lateral
11	M11	2.0 Std Pipe	60			Lbyy						Lateral

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[in,%]
1	M10	Y	-26.8	0
2	M11	Y	-26.8	0
3	M10	Y	-26.8	60
4	M11	Y	-26.8	60

Member Distributed Loads (BLC 1 : Self Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	Y	-16.625	-16.625	0	%100
2	M2	Y	-16.625	-16.625	0	%100
3	M3	Y	-16.625	-16.625	0	%100
4	M13	Y	-16.625	-16.625	0	%100
5	M15	Y	-16.625	-16.625	0	%100
6	M16	Y	-16.625	-16.625	0	%100

Member Distributed Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M1	Y	-21.52	-21.52	0	%100
2	M2	Y	-21.52	-21.52	0	%100
3	M3	Y	-21.52	-21.52	0	%100
4	M4	Y	-21.52	-21.52	0	%100
5	M5	Y	-21.52	-21.52	0	%100
6	M6	Y	-21.52	-21.52	0	%100
7	M7	Y	-21.52	-21.52	0	%100
8	M8	Y	-16.627	-16.627	0	%100
9	M9	Y	-16.627	-16.627	0	%100
10	M10	Y	-11.521	-11.521	0	%100
11	M11	Y	-11.521	-11.521	0	%100
12	M12	Y	-6.841	-6.841	0	%100
13	M13	Y	-6.841	-6.841	0	%100
14	M14	Y	-6.841	-6.841	0	%100
15	M15	Y	-6.841	-6.841	0	%100
16	M16	Y	-6.841	-6.841	0	%100

Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M2	Z	-20.342	-55.213	12	24
2	M2	Z	-55.213	-90.085	24	36
3	M2	Z	-90.085	-107.521	36	48
4	M2	Z	-107.521	-90.085	48	60
5	M2	Z	-90.085	-55.213	60	72
6	M2	Z	-55.213	-20.342	72	84
7	M12	Z	-17.436	-47.326	3.553e-15	14
8	M12	Z	-47.326	-77.216	14	28
9	M12	Z	-77.216	-92.161	28	42
10	M12	Z	-92.161	-77.216	42	56
11	M12	Z	-77.216	-47.326	56	70
12	M12	Z	-47.326	-17.436	70	84
13	M14	Z	-17.436	-47.326	0	14
14	M14	Z	-47.326	-77.216	14	28
15	M14	Z	-77.216	-92.161	28	42
16	M14	Z	-92.161	-77.216	42	56
17	M14	Z	-77.216	-47.326	56	70
18	M14	Z	-47.326	-17.436	70	84
19	M16	Z	-20.342	-55.213	12	24
20	M16	Z	-55.213	-90.085	24	36
21	M16	Z	-90.085	-107.521	36	48
22	M16	Z	-107.521	-90.085	48	60
23	M16	Z	-90.085	-55.213	60	72
24	M16	Z	-55.213	-20.342	72	84

Member Distributed Loads (BLC 9 : BLC 3 Transient Area Loads)

Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...

Member Distributed Loads (BLC 9 : BLC 3 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M3	X	-7.638	-7.638	0	21.6
2	M7	X	-14.485	-23.165	8.4	30.8
3	M7	X	-23.165	-28.932	30.8	53.2
4	M7	X	-28.932	-31.788	53.2	75.6
5	M9	X	-23.56	-17.617	0	6.708
6	M9	X	-17.617	-26.526	6.708	13.416
7	M9	X	-26.526	-33.539	13.416	20.125
8	M9	X	-33.539	-23.805	20.125	26.833
9	M14	X	-5.88	-28.122	0	28
10	M14	X	-28.122	-34.061	28	56
11	M14	X	-34.061	-23.696	56	84
12	M15	X	-28.011	-28.011	12	24

Member Distributed Loads (BLC 10 : BLC 5 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M2	Z	-4.165	-11.305	12	24
2	M2	Z	-11.305	-18.445	24	36
3	M2	Z	-18.445	-22.015	36	48
4	M2	Z	-22.015	-18.445	48	60
5	M2	Z	-18.445	-11.305	60	72
6	M2	Z	-11.305	-4.165	72	84
7	M12	Z	-3.57	-9.69	3.553e-15	14
8	M12	Z	-9.69	-15.81	14	28
9	M12	Z	-15.81	-18.87	28	42
10	M12	Z	-18.87	-15.81	42	56
11	M12	Z	-15.81	-9.69	56	70
12	M12	Z	-9.69	-3.57	70	84
13	M14	Z	-3.57	-9.69	0	14
14	M14	Z	-9.69	-15.81	14	28
15	M14	Z	-15.81	-18.87	28	42
16	M14	Z	-18.87	-15.81	42	56
17	M14	Z	-15.81	-9.69	56	70
18	M14	Z	-9.69	-3.57	70	84
19	M16	Z	-4.165	-11.305	12	24
20	M16	Z	-11.305	-18.445	24	36
21	M16	Z	-18.445	-22.015	36	48
22	M16	Z	-22.015	-18.445	48	60
23	M16	Z	-18.445	-11.305	60	72
24	M16	Z	-11.305	-4.165	72	84

Member Distributed Loads (BLC 11 : BLC 6 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,...	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	M3	X	-1.564	-1.564	0	21.6
2	M7	X	-2.966	-4.743	8.4	30.8
3	M7	X	-4.743	-5.924	30.8	53.2
4	M7	X	-5.924	-6.509	53.2	75.6
5	M9	X	-4.824	-3.607	0	6.708
6	M9	X	-3.607	-5.431	6.708	13.416
7	M9	X	-5.431	-6.867	13.416	20.125
8	M9	X	-6.867	-4.874	20.125	26.833
9	M14	X	-1.204	-5.758	0	28
10	M14	X	-5.758	-6.974	28	56
11	M14	X	-6.974	-4.852	56	84
12	M15	X	-5.735	-5.735	12	24

Member Area Loads (BLC 2 : Wind Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N3	N4	N2	N1	Z	Two Way	-29.89

Member Area Loads (BLC 3 : Wind Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N4	N8	N6	N2	X	Two Way	-29.89

Member Area Loads (BLC 5 : Wind + Ice Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N3	N4	N2	N1	Z	Two Way	-6.12

Member Area Loads (BLC 6 : Wind + Ice Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N4	N8	N6	N2	X	Two Way	-6.12

GENERAL NOTES:

1. THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE LATEST VERSION OF APPLICABLE LOCAL/STATE/COUNTY/CITY BUILDING CODES, AS WELL AS ANSI/TIA-222 STANDARD, AWWA-D100 STANDARD, NDS, NEC, MSJC, AND/OR THE LATEST VERSION OF THE INTERNATIONAL BUILDING CODE, UNLESS NOTED OTHERWISE IN THE CORRESPONDING STRUCTURAL REPORT.
2. ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
3. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN SIMILAR CONSTRUCTION.
4. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. IF OBSTRUCTIONS ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD PRIOR TO CONTINUING WORK.
5. ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND/OR CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE DURING CONSTRUCTION. TIA-1019-A-2011 IS AN APPROPRIATE REFERENCE FOR THOSE DESIGNS MEETING TIA STANDARDS. THE ENGINEER OF RECORD MAY PROVIDE FORMAL RIGGING PLANS AT THE REQUEST AND EXPENSE OF THE CONTRACTOR.
7. INSTALLATION SHALL NOT INTERFERE NOR DENY ADEQUATE ACCESS TO OR FROM ANY EXISTING OR PROPOSED OPERATIONAL AND SAFETY EQUIPMENT.
8. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

STEEL CONSTRUCTION NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
2. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES, AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS' RECOMMENDATIONS.
3. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
4. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. ALL STEEL MEMBERS AND CONNECTIONS SHALL MEET THE FOLLOWING GRADES:
   - ANGLES, CHANNELS, PLATES AND BARS TO BE A36. Fy=36 KSI, U.N.O.
   - W SHAPES TO BE A992. Fy=50 KSI, U.N.O.
   - RECTANGULAR HSS TO BE A500, GRADE B. FY=46 KSI, U.N.O.
   - ROUND HSS TO BE A500, GRADE B. FY=42 KSI, U.N.O.
   - STEEL PIPE TO BE A53, GRADE B. Fy=35 KSI, U.N.O.
   - BOLTS TO BE A325-X. Fu=120 KSI, U.N.O.
   - U-BOLTS AND LAG SCREWS TO BE A307 GR A. Fu=60 KSI, U.N.O.
6. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES, U.N.O.
7. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION.
8. ALL HILTI ANCHORS TO BE CARBON STEEL, U.N.O.
   - MECHANICAL ANCHORS: KWIK BOLT-TZ, U.N.O.
   - CMU BLOCK ANCHORS: ADHESIVE - HY120, U.N.O.
   - CONCRETE ANCHORS: ADHESIVE - HY150, U.N.O.
   - CONCRETE REBAR: ADHESIVE - RE500, U.N.O.
9. ALL STUDS TO BE NELSON CAPACITOR DISCHARGE 1/4"-20 LOW CARBON STEEL COPPER-FLASH AT 55 KSI ULT/50 KSI YIELD, U.N.O.
10. BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
11. MINIMUM EDGE DISTANCES SHALL CONFORM TO AISC TABLE J3.4.

CONCRETE CONSTRUCTION NOTES:

1. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.
2. EXISTING CONCRETE SURFACES THAT ARE TO BE IN CONTACT WITH NEW PROPOSED CONCRETE SHOULD BE WIRE BRUSHED CLEAN AND TREATED WITH APPROPRIATE MECHANICAL SCRATCH COAT AND REPAIR MATERIALS OR APPROPRIATE CHEMICAL METHODS SUCH AS THE APPLICATION OF A BONDING AGENT, EX. SAKRETE OR EQUIVALENT, TO ENSURE A QUALITY BOND BETWEEN EXISTING AND PROPOSED CONCRETE SURFACES.

FIBER REINFORCED POLYMER (FRP) NOTES:

1. FRP PLATES, SHAPES, BOLTS AND NUTS (STUD/NUT ASSEMBLIES) SHALL CONFORM TO ASTM D638, 695, 790. PLATES AND SHAPES TO BE FY = 5.35 KSI LW (SAFETY FACTOR OF 8), .945 KSI CW (SAFETY FACTOR OF 8) MIN.
2. IF FIELD FABRICATION IS REQUIRED, ALL CUT EDGES AND DRILLED HOLES TO BE SEALED USING VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
3. ALL FASTENERS TO BE 1/2" DIA FRP THREADED ROD WITH FIBER REINFORCED THERMOPLASTIC NUT, SPACED AT 12 INCHES ON CENTER MAXIMUM, U.N.O., FOR PANELS AND AS DESIGNED FOR STRUCTURAL MEMBERS.
4. THE COLOR AND SURFACE PATTERN OF EXPOSED FRP PANELS SHALL MATCH THE EXTERIOR OF THE EXISTING BUILDING, U.N.O.
5. STUD/NUT ASSEMBLIES SHOULD BE LUBRICATED FOR INSTALLATION
6. ENSURE BEARING SURFACES OF THE NUTS ARE PARALLEL TO THE SURFACES BEING FASTENED.
7. TORQUE BOLTS ACCORDING TO THE FOLLOWING TABLE:

INSTALLATION TORQUE TABLE

SIZE	ULTIMATE TORQUE STRENGTH	RECOMMENDED MAXIMUM INSTALLATION TORQUE
3/8-16 UNC	8 FT-LBS	4 FT-LBS
1/2-13 UNC	18 FT-LBS	8 FT-LBS
5/8-11 UNC	35 FT-LBS	16 FT-LBS
3/4-10 UNC	50 FT-LBS	24 FT-LBS
1-8 UNC	110 FT-LBS	50 FT-LBS

8. WHEN TIGHTENING FRP STUD/NUT ASSEMBLIES, WRENCHES MUST MAKE FULL CONTACT WITH ALL NUT EDGES. A STANDARD SIX POINT SOCKET IS RECOMMENDED.
9. STUD/NUT ASSEMBLIES SHOULD BE BONDED BY APPLYING BONDING AGENT TO ENTIRE NUT AND EXPOSED STUD.
10. ALL FRP MATERIALS TO BE PROVIDED BY FIBERGRATE COMPOSITE STRUCTURES, DALLAS TX, OR APPROVED EQUAL.
11. ALL FRP SHAPES TO BE DYNAFORM PULTRUDED STRUCTURAL SHAPES.
12. ALL FRP PLATES TO BE FIBERPLATE MOLDED FRP PLATE.
13. ALL FRP PANELS TO BE FIBERPLATE CLADDING PANEL.
14. EACH FRP PANEL TO BE IDENTIFIED WITH LARR#25536 AND FIBERGRATE COMPOSITE STRUCTURAL LABEL.
15. FRP MATERIAL TO BE CLASSIFIED AS CC1 OR BETTER, AND HAVE MAXIMUM FLAME SPREAD OF 50.
16. ALL DESIGN AND CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH LOS ANGELES RESEARCH REPORT RR25536, DATED FEBRUARY 1, 2016.
17. SPECIAL INSPECTIONS MUST BE PROVIDED FOR ALL FRP INSTALLMENTS. SEE SPECIAL INSPECTION SECTION, THIS SHEET.

RATIO OF EDGE DISTANCE TO FRP FASTENER DIAMETER

	RANGE	RECOMMENDED
EDGE DISTANCE - CL* BOLT TO END	2.0-4.0	3.0
EDGE DISTANCE - CL* BOLT TO SIDE	1.5-3.5	2.5
BOLT PITCH - CL* TO CL*	4.0-5.0	5.0

WOOD CONSTRUCTION NOTES:

1. ALL EXISTING WOOD SHAPES ARE ASSUMED TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN.
2. ALL PROPOSED WOOD SHAPES ARE TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN. U.N.O.
3. ALL EXISTING AND PROPOSED GLUED LAMINATED TIMBERS ARE TO BE 24F-1.8C DOUGLAS FIR BALANCED WITH A REFERENCE DESIGN BENDING VALUE OF 2400 PSI MIN. U.N.O.

MASONRY CONSTRUCTION NOTES:

1. ALL BRICK TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 100 PSI SHALL BE USED. FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 133 PSI.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
2. ALL CMU TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS, TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 64 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 158 PSI FOR FULLY GROUTED BLOCKS.
   - FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 84 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 163 PSI FOR FULLY GROUTED BLOCKS.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.

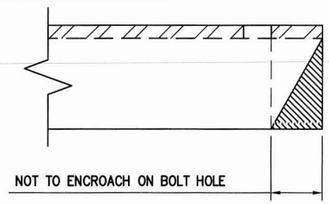
TOWER PLUMB & TENSION NOTES:

1. PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.
2. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
3. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS FOR LATTICED STRUCTURES.
4. THE TWIST BETWEEN ANY TWO ELEVATIONS THROUGHOUT THE HEIGHT OF A LATTICE STRUCTURE SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE LATTICE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.

SPECIAL INSPECTIONS NOTES:

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER AND APPROVED BY THE JURISDICTION, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH THE THE GOVERNING BUILDING CODE, APPLICABLE SECTION(S) AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
   a. STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELDS ONLY).
   b. HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 AND/OR A490 BOLTS) TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD.
   c. MECHANICAL AND EPOXIED ANCHORAGES.
   d. FIBER REINFORCED POLYMER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE FRP MATERIAL SPECIFIED ON THE APPROVED DESIGN DOCUMENTS IS BEING INSTALLED.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT ALL CUT EDGES AND DRILLED HOLES ARE PROPERLY SEALED USING A VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE STRUCTURE IS BUILT IN ACCORDANCE WITH THE APPROVED DESIGN DOCUMENTS.
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM WORK WITHOUT THE SPECIAL INSPECTIONS.

MAXIMUM ALLOWABLE ANGLE CLIP



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COMMONWEALTH OF MASSACHUSETTS
JOSEPH R. JOHNSTON
CIVIL
No. 50391
REGISTERED PROFESSIONAL ENGINEER
FEB 02 2018

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No.	Submittal / Revision	App'd	Date
0	ISSUED FOR REVIEW	NRO	02/02/18

Drawn: DMB Date: 02/02/18
Designed: EB Date: 02/02/18
Checked: NRO Date: 02/02/18

Project Number: 499-006

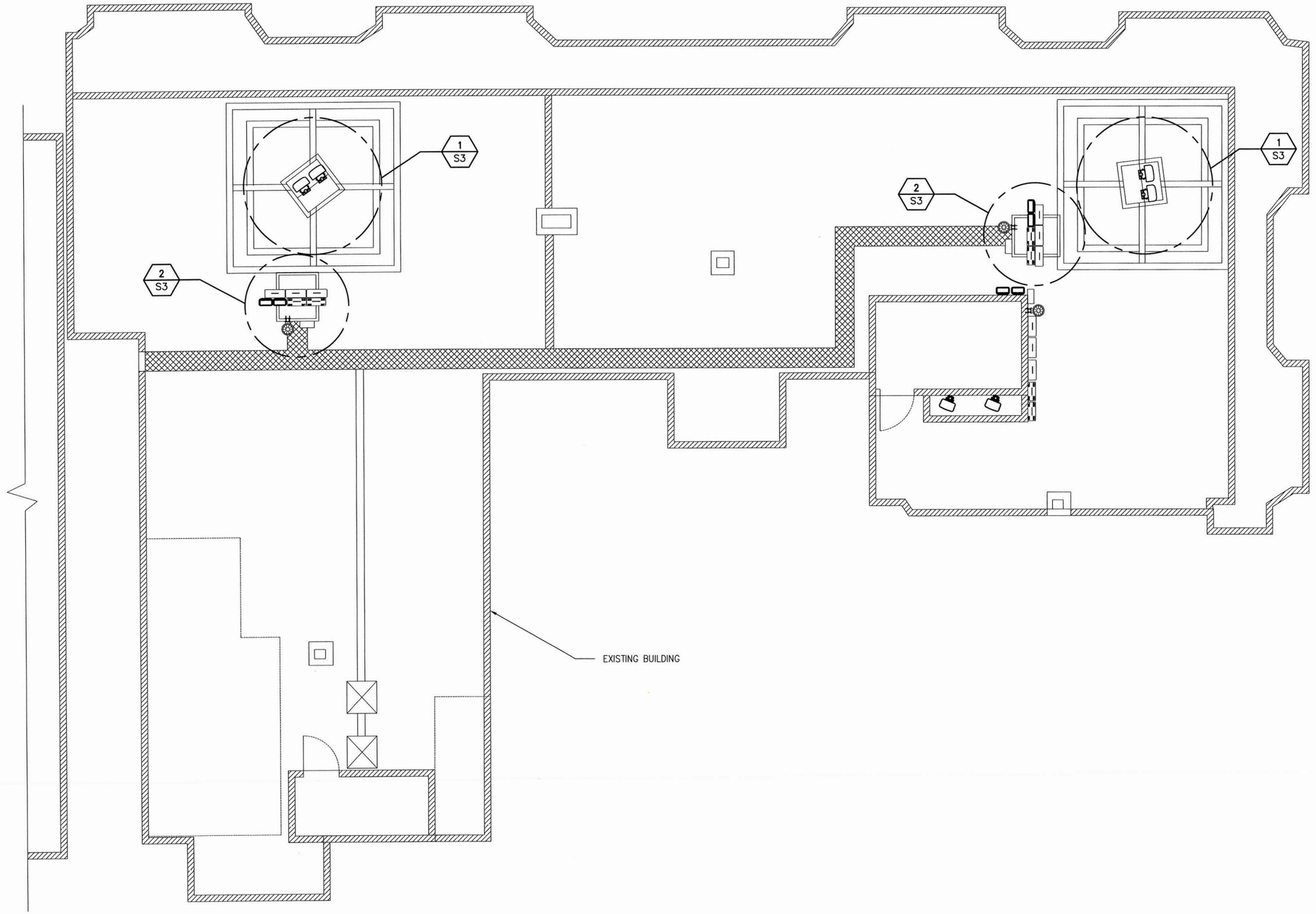
Project Title:
CAMBRIDGE 280
BROOKLINE STREET
MAL02697
FA# 1014353
280 BROOKLINE STREET
CAMBRIDGE, MA 02139

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/02/18
0

Drawing Title
GENERAL NOTES

Drawing Number
S1



1 SITE PLAN
SCALE: NOT TO SCALE

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MAL02697
FA# 1014353
280 BROOKLINE STREET
CAMBRIDGE, MA 02139

Prepared For:
smartlink

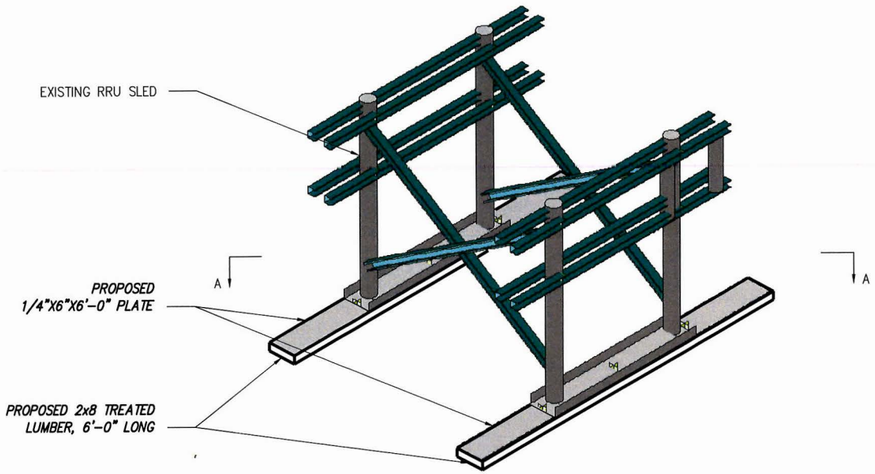
Drawing Scale:
AS NOTED

Date:
02/02/18

0

Drawing Title
SITE PLAN

Drawing Number
S2



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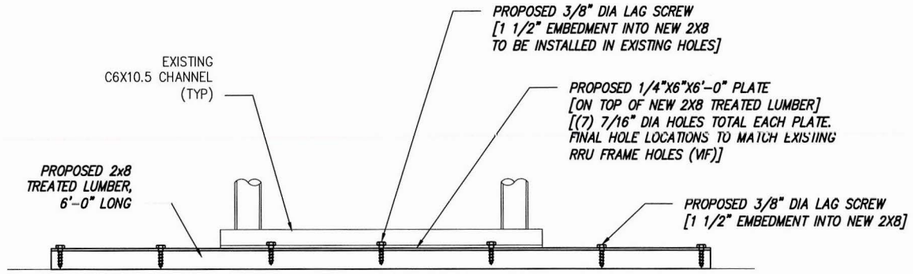

4 SECTION B-B
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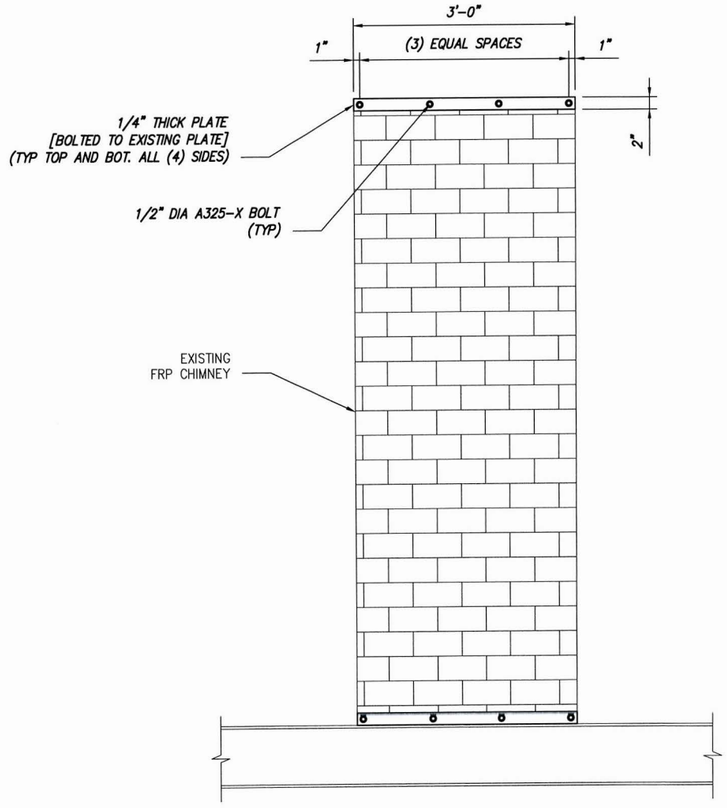

1 CHIMNEY ELEVATION VIEW
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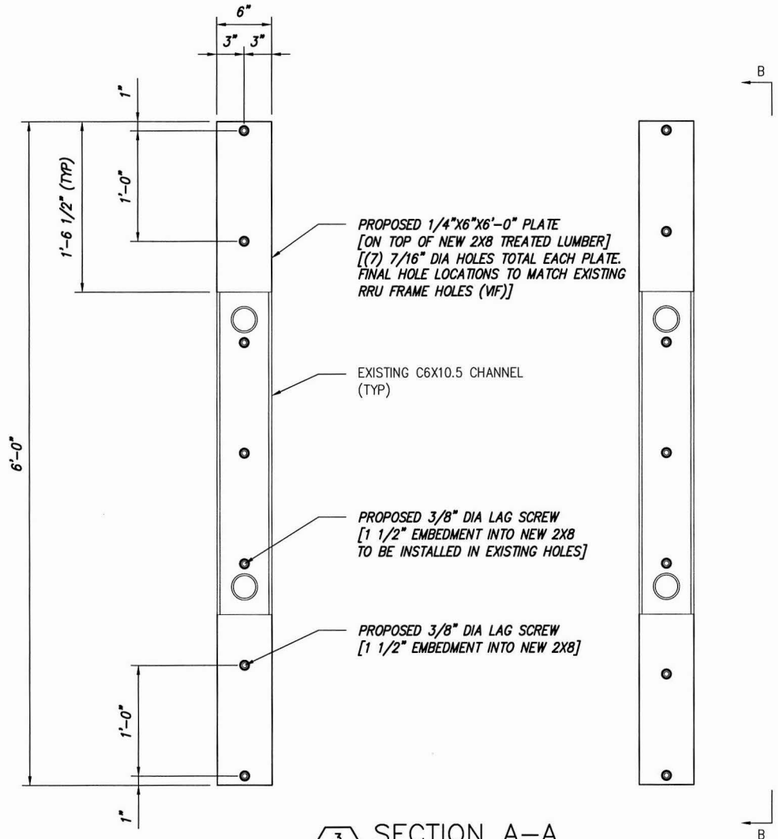

3 SECTION A-A
SCALE: NOT TO SCALE

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at&t

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FEB 02 2018

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Drawn: DMB Date: 02/02/18
Designed: EB Date: 02/02/18
Checked: NRO Date: 02/02/18

Project Number: 499-006

Project Title:
CAMBRIDGE 280
BROOKLINE STREET
MAL02697
FA# 1014353
280 BROOKLINE STREET
CAMBRIDGE, MA 02139

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/02/18
0

Drawing Title
MODIFICATION DETAILS

Drawing Number
S3

SITESAFE
RF COMPLIANCE EXPERTS

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703.276.1100 ● 703.276.1169 fax
info@sitesafe.com ● www.sitesafe.com

Smartlink on behalf of AT&T Mobility, LLC Site FA – 10141353 Site ID – MA2697 (MRCTB025446) USID – 115250 Site Name – Cambridge 280 Brookline Street

280 Brookline Street
Cambridge, MA 02139

Latitude: N42-21-25.79
Longitude: W71-6-28.76
Structure Type: Rooftop

Report generated date: March 23, 2018
Report by: Leo Romero
Customer Contact: Patrick Baker

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

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Table of Contents

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1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	Yes
Max Cumulative Simulated RFE Level on the Rooftop	3,206.0% General Public Limit 1" in front of AT&T Mobility, LLC's Beta Sector Antenna #4
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
FCC & AT&T Compliant?	Will Be Compliant
Optional AT&T Mitigation Items?	No

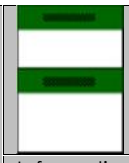
The following documents were provided by the client and were utilized to create this report:

RFDS: NEW-ENGLAND_BOSTON_MAL02697_2018-LTE-Next-Carrier_LTE_mr673a_2101A0DB0M_10141353_115250_04-23-2017_As-Built-In-Progress_v2.00

CD's: 10141353_AE201_180205_MAL02697_REV1

RF Powers Used: RFDS ERP Values and AT&T Engineering Defaults

1.2 Signage Summary

AT&T Signage Locations							
	Information1	Information 2	Notice	Notice 2	Caution	Caution 2	Barriers
Access Point(s)	☒[2]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐
Alpha	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☒[4]	☐
Beta	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☒[2]	☐
Gamma	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☒[4]	☐

Note: All existing signage was documented during a previous site visit (03/23/16).

1.3 Fall Arrest Anchor Point Summary

Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	0	Y

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2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram

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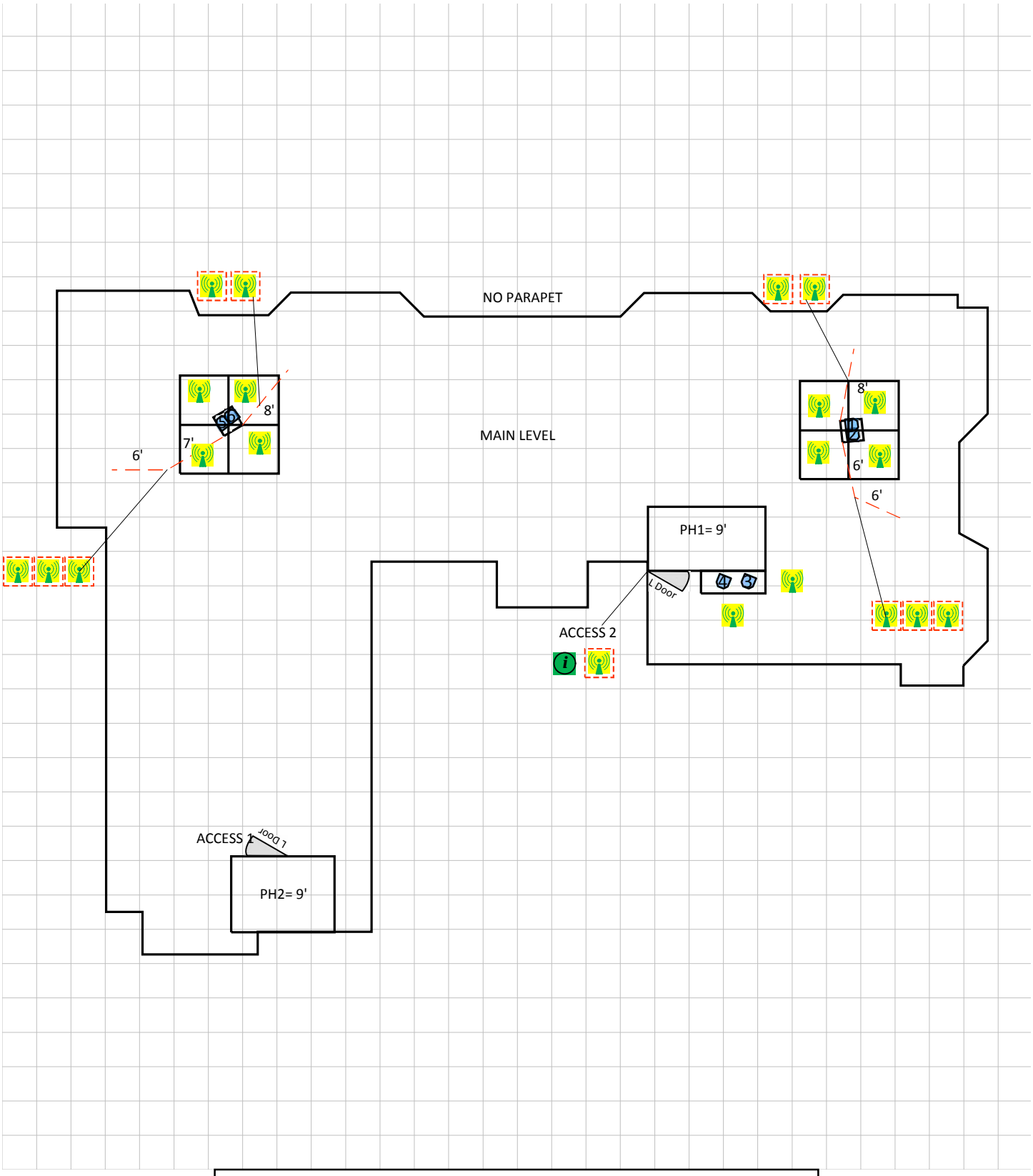
Site Scale Map For: Cambridge 280 Brookline Street



(Feet)

0 7.5 15

www.sitesafe.com
Site Name:Cambridge 280 Brookline Street
3/23/2018 8:02:23 AM

Carrier Identification

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

Sign Legend

Caution 1 | Caution 2 | Notice 2 | Notice 1 | Warning | Info 1 | Info 2

Barrier

Proposed Barriers/ Signs

3 Antenna Inventory

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

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z
1	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	850	30	64	6.4	12.46	1	0	704.8	108.3'	102.9'	4.1'
1	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	2100	30	61	6.4	15.36	0	1	5070.2	108.3'	102.9'	4.1'
1	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	2300	30	57	6.4	15.66	0	1	1285.2	108.3'	102.9'	4.1'
2	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	737	30	68	6.4	12.36	0	1	1475.7	108.4'	101.8'	4.1'
2	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	1900	30	60	6.4	15.06	0	1	7328.7	108.4'	101.8'	4.1'
3	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	850	150	64	6.4	12.46	1	0	704.8	97'	85.8'	2.1'
3	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	2100	150	61	6.4	15.36	0	1	5070.2	97'	85.8'	2.1'
3	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	2300	150	57	6.4	15.66	0	1	1285.2	97'	85.8'	2.1'
4	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	737	150	68	6.4	12.36	0	1	1475.7	94.2'	85.8'	2.1'
4	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	1900	150	60	6.4	15.06	0	1	7328.7	94.2'	85.8'	2.1'
5	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	850	270	64	6.4	12.46	1	0	704.8	39.6'	103.2'	4.1'
5	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	2100	270	61	6.4	15.36	0	1	5070.2	39.6'	103.2'	4.1'
5	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	2300	270	57	6.4	15.66	0	1	1285.2	39.6'	103.2'	4.1'
6	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	737	270	68	6.4	12.36	0	1	1475.7	40.5'	103.9'	4.1'
6	AT&T MOBILITY LLC (Proposed)	KMW EPBQ-654L8H6	Panel	1900	270	60	6.4	15.06	0	1	7328.7	40.5'	103.9'	4.1'

NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

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4 Emission Predictions

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

- Main Level = 0'
- PH1 and PH2 = 9'

The Antenna Inventory heights are referenced to the same level.

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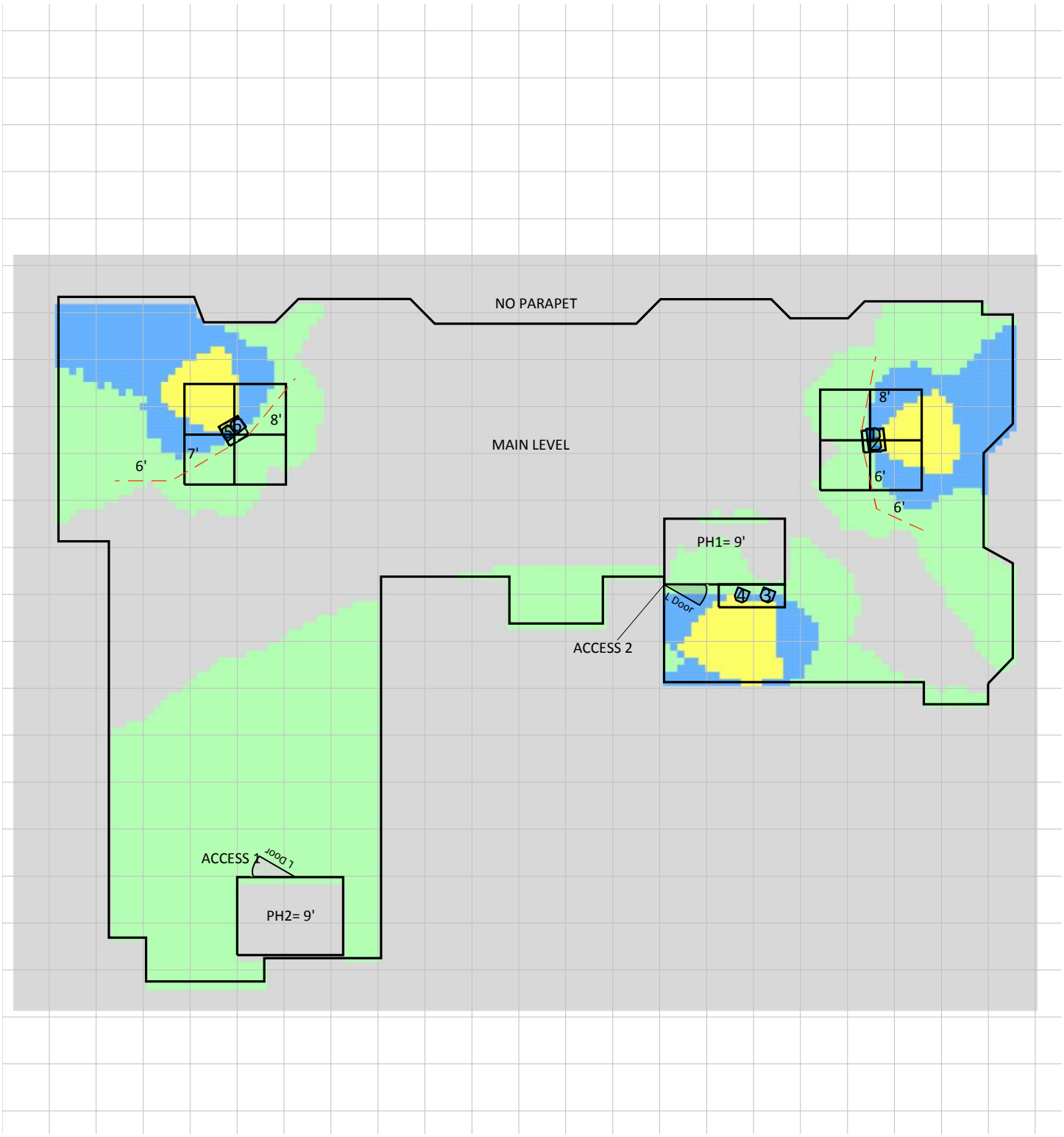
RF Exposure Simulation For: Cambridge 280 Brookline Street



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

% of FCC Public Exposure Limit

>= 5000	>= 500	>= 100	>= 5	< 5

Carrier Identification

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

Barrier

Proposed Barriers/ Signs

(Feet)

0 7.5 15

www.sitesafe.com
Site Name:Cambridge 280 Brookline Street
3/23/2018 8:01:16 AM

SitesafeTC Version:1.0.0.0 - 0.0.0.268
Sitesafe OET-65 Model
Near Field Boundary: 1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

5 Site Compliance

5.1 Site Compliance Statement

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

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

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

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

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

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

Site Access 2 Location

(1) Yellow Caution 2 sign(s) required.

AT&T Mobility, LLC Proposed Alpha Sector Location

Install a barrier that is 8' long on the left side of the sector and 12' long on the right side of the sector, comprised of 3 segment(s) and an estimated 5 stanchions as depicted in the site scale map.

Install 5 total Caution 2 sign(s) on the proposed barrier stanchions.

- 8' left segment: (2) Caution 2 sign(s)
- 6' right segment: (2) Caution 2 sign(s)
- 6' right segment: (1) Caution 2 sign(s)

AT&T Mobility, LLC Proposed Beta Sector Location

Implement an RF Safety Plan and Access Control procedures for anyone requiring to access the rooftop through access 2 and the areas exceeding the General Public MPE limit in front of the sector.

AT&T Mobility, LLC Proposed Gamma Sector Location

Install a barrier that is 13' long on the left side of the sector and 8' long on the right side of the sector, comprised of 3 segment(s) and an estimated 5 stanchions as depicted in the site scale map.

Install 5 total Caution 2 sign(s) on the proposed barrier stanchions.

- 7' left segment: (2) Caution 2 sign(s)
- 6' right segment: (1) Caution 2 sign(s)
- 8' right segment: (2) Caution 2 sign(s)

Notes:

- Signage on the barriers should be placed on the stanchions no more than 8' apart from each other.

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- Barriers were only recommended in areas predicted to exceed the General Public MPE limit greater than 6' from the unprotected roof edge. All other predicted to exceed areas are within 6' of the unprotected roof edge.
- Sitesafe recommends that the Information 1 signage be removed from access 1, as it is not required by AT&T Mobility, LLC's signage policy.
- Ensure all existing signage documented in this report still exist at the site, unless otherwise indicated.

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6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

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

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

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

March 23, 2018

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Appendix A – Statement of Limiting Conditions

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

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

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

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Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

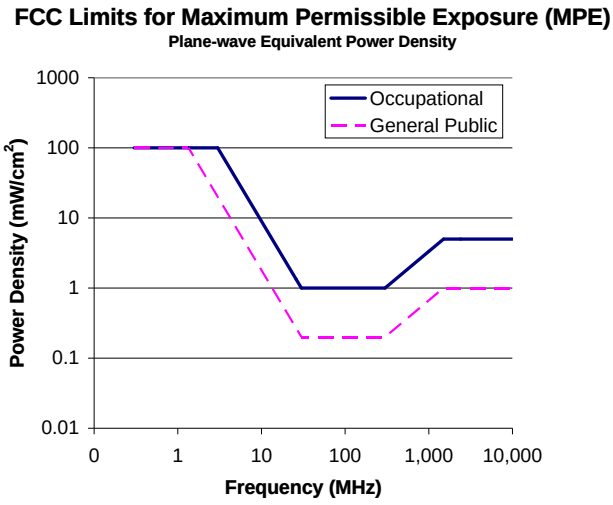
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



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Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –
- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

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Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

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Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit.
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone**.
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers**.
- Yellow represents areas predicted to exceed Occupational MPE limits. Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

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Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

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Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the

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potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency (RF) – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

Radio Frequency Exposure (RFE) – The amount of RF power density that a person is or might be exposed to.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

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Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, LLC.
http://www.sitesafe.com
FCC Radio Frequency Safety
http://www.fcc.gov/encyclopedia/radio-frequency-safety
National Council on Radiation Protection and Measurements (NCRP)
http://www.ncrponline.org
Institute of Electrical and Electronics Engineers, Inc., (IEEE)
http://www.ieee.org
American National Standards Institute (ANSI)
http://www.ansi.org
Environmental Protection Agency (EPA)
http://www.epa.gov/radtown/wireless-tech.html
National Institutes of Health (NIH)
http://www.niehs.nih.gov/health/topics/agents/emf/
Occupational Safety and Health Agency (OSHA)
http://www.osha.gov/SLTC/radiofrequencyradiation/
International Commission on Non-Ionizing Radiation Protection (ICNIRP)
http://www.icnirp.org
World Health Organization (WHO)
http://www.who.int/peh-emf/en/
National Cancer Institute
http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones
American Cancer Society (ACS)
http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?siteareа=PED
European Commission Scientific Committee on Emerging and Newly Identified Health Risks
http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf
Fairfax County, Virginia Public School Survey
http://www.fcps.edu/fts/safety-security/RFEESurvey/
UK Health Protection Agency Advisory Group on Non-ionising Radiation
http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368
Norwegian Institute of Public Health
http://www.fhi.no/dokumenter/545eea7147.pdf

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#52

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Bk: 54799 Pg: 350 Doc: DEED
Page: 1 of 2 08/09/2010 11:07 AM

274 - 280 Brookline St, Cambridge

QUITCLAIM DEED

CHICCARELLI REAL ESTATE, INC., a Massachusetts corporation with a usual place of business in Waltham, Massachusetts

for consideration paid of **$ 1.00**

grants to **CHICCARELLI REAL ESTATE, INC. 1**, a Massachusetts corporation with a usual place of business at 289 Great Road, Suite 104, Acton, Massachusetts

The land with the buildings thereon, situated in Cambridge, Middlesex County, Massachusetts, being now known and numbered 274-280 Brookline Street and also being Lot 11 and a part of Lot 10 on a "Plan of Land in Cambridge owned by J. G. Chase," dated July 1885, J. S. Chase, C.E., recorded with Middlesex County South District Registry of Deeds in Plan Book 48, Plan 7, and according to said Plan bounded and described as follows:

NORTHWESTERLY	by said Brookline Street, One Hundred Ten (110) feet;
NORTHEASTERLY	by Putnam Avenue, Fifty-One and 5/10 (51.5) Feet;
SOUTHEASTERLY	by the remaining part of said Lot 10 being land now or formerly of Samuel Weinstein by a line parallel with said Brookline Street, Sixty-Eight (68) Feet;
NORTHEASTERLY	again by said land now or formerly of said Weinstein, Thirty-Three and 5/10 (33.5) Feet;
SOUTHEASTERLY	again by Lots 9 and 7 on said Plan, Forty-Two (42) feet; and
SOUTHWESTERLY	by Lot 12 on said Plan, Eighty-Five (85) Feet.

Said premises are conveyed subject to and with the benefit of easements, restrictions, agreements and reservations of record, if any there be, insofar as the same may be in force and applicable.

Being the same premises conveyed to the Grantor by deed of Anna M. Chiccarelli dated December 28, 1984 and recorded with the Middlesex South District Registry of Deeds in Book 16542, Page 170.

Property address: **274-280 Brookline Street, Cambridge, Massachusetts**

In witness whereof, the said Chiccarelli Real Estate, Inc. has caused its seal to be affixed hereto and these presents to be signed, acknowledge and delivered in its name by Rita Lambergs Tomes, its President and Treasurer this 5th day of May, 2010.

Chiccarelli Real Estate, Inc.

By: Rita Lambergs Tomes
Rita Lambergs Tomes
President and Treasurer

Commonwealth of Massachusetts
County of Norfolk

On this 5th day of May, 2010, before me the undersigned notary public, personally appeared the above-named, Rita Lambergs Tomes, President and Treasurer of Chicarelli Real Estate, Inc., and proved to me through satisfactory evidence of identification, which was personal knowledge to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it on behalf of Chicarelli Real Estate, Inc. voluntarily for its said purpose.

Dale A Kaiser
Notary Public
My commission expires:

DALE ANN KAISER
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
MY COMMISSION EXPIRES 4/08/2016

MARTHA COAKLEY
ATTORNEY GENERAL

THE COMMONWEALTH OF MASSACHUSETTS
OFFICE OF THE ATTORNEY GENERAL
CENTRAL MASSACHUSETTS DIVISION
10 MECHANIC STREET, SUITE 301
WORCESTER, MA 01608

(508) 792-7600
(508) 795-1991 fax
www.mass.gov/ago

June 12, 2013

Gail Garrett, Town Clerk
Town of Mount Washington
118 East Street
Mount Washington, MA 01258

RE: Mount Washington Special Town Meeting of April 1, 2013 - Case # 6642
Warrant Articles # 1, 2, and 3 (Zoning)

Dear Ms. Garrett:

Articles 1, 2, and 3 - We approve the amendments to the Town by-laws adopted under Articles 1, 2, and 3 on the warrant for the Mount Washington Special Town Meeting that convened on April 1, 2013, and the map pertaining to Article 3. Our comments on Articles 1 and 2 are provided below.

Article 1 - The amendments adopted under Article 1 add a new Section 215-27 to the zoning by-laws entitled "Wireless Telecommunication Facility Zoning Bylaw." We approve the new Section 215-27, but offer the following comments.

I. Applicable Law

The federal Telecommunications Act of 1996, 47 U.S.C. § 332 (7) preserves state and municipal zoning authority to regulate personal wireless service facilities, subject to the following limitations:

1. Zoning regulations "shall not unreasonably discriminate among providers of functionally equivalent services." 47 U.S.C. §332(7) (B) (i) (I)

2. Zoning regulations "shall not prohibit or have the effect of prohibiting the provisions of personal wireless services." 47 U.S.C. § 332 (7) (B) (i) (II).

3. The Zoning Authority "shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time." 47 U.S.C.

§ 332 (7) (B) (ii).

4. Any decision "to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record." 47 U.S.C. § 332 (7) (B) (iii).

5. "No state or local government or instrumentality thereof may regulate the placement, construction and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communications] Commission's regulations concerning emissions." 47 U.S.C. § 332(7) (B) (iv).

Federal courts have construed the limitations listed under 47 U.S.C. § 332(7) as follows. First, even a facially neutral by-law may have the effect of prohibiting the provision of wireless coverage if its application suggests that no service provider is likely to obtain approval. "If the criteria or their administration effectively preclude towers no matter what the carrier does, they may amount to a ban 'in effect'…." Town of Amherst, N.H. v. Omnipoint Communications Enters, Inc., 173 F.3d 9, 14 (1st Cir. 1999).

Second, local zoning decisions and by-laws that prevent the closing of significant gaps in wireless coverage have been found to effectively prohibit the provision of personal wireless services in violation of 47 U.S.C. § 332(7). See, e.g., Nat'l Tower, LLC v. Plainville Zoning Bd. of Appeals, 297 F.3d 14, 20 (1st Cir. 2002) ("local zoning decisions and ordinances that prevent the closing of significant gaps in the availability of wireless services violate the statute"); Omnipoint Communications MB Operations, LLC v. Town of Lincoln, 107 F. Supp. 2d 108, 117 (D. Mass. 2000) (by-law resulting in significant gaps in coverage within town had effect of prohibiting wireless services).

Third, whether the denial of a permit has the effect of prohibiting the provision of personal wireless services depends in part upon the availability of reasonable alternatives. See 360 Degrees Communications Co. v. Bd. of Supervisors, 211 F.3d 79, 85 (4th Cir. 2000). Zoning regulations must allow cellular towers to exist somewhere. Towns may not effectively ban towers throughout the municipality, even under the application of objective criteria. See Virginia Metronet, Inc. v. Bd. of Supervisors, 984 F. Supp. 966, 971 (E.D. Va. 1998).

State law also establishes certain limitations on a municipality's authority to regulate wireless communications facilities and service providers. Under General Laws Chapter 40A, Section 3, wireless service providers may apply to the Department of Telecommunications and Cable for an exemption from local zoning requirements. If a telecommunication provider does not apply for or is not granted an exemption under c. 40A, § 3, it remains subject to local zoning requirements pertaining to cellular towers. See Building Comm'r of Franklin v. Dispatch Communications of New England, Inc., 48 Mass. App. Ct. 709, 722 (2000). Also, G.L. c. 40J, § 6B, charges the Massachusetts Broadband Institute with the task of promoting broadband access throughout the state. Municipal regulation of broadband service providers must not frustrate the achievement of this statewide policy.

In addition, Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012

requires that "[A] state or local government *may not deny, and shall approve*, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." (emphasis added). The Act defines "eligible facilities request" as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies "[n]otwithstanding section 704 of the Telecommunications Act of 1996." The Act's requirement that a local government "may not deny, and shall approve, any eligible facilities request" means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

We approve the new Section 215-27. However, the Town must apply the by-law in a manner consistent with the applicable law outlined above. In particular, Section IV of the new by-law requires that Wireless Telecommunication Facilities are only allowed by special permit in the Wireless Telecommunication Overlay District. This requirement cannot be applied to eligible facilities requests for modification to existing facilities which qualify for required approval under Section 6409 of the Act, as described above. We urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

II. Analysis of Mount Washington's Wireless Telecommunication Facility By-Law

A. Section VIII "Criteria For Approval and Conditions".

This section provides as follows:

> 5. The applicant will remove the Facility, should the Facility be abandoned or cease to operate. The Planning Board may require the applicant to provide a bond, or other form of financial guarantee acceptable to the Planning Board to cover the cost of removal of the Facility, should the Facility be abandoned or cease to operate, and ensure other compliance hereunder.

The Town must apply any bond or other financial guarantee proceeds in a manner consistent with state law. Bond proceeds do not become Town funds unless and until the applicant defaults on the obligation under the proposed by-law. Moreover, if the Town must use the bond to pay for removal of a wireless communication facility or the repair and/or restoration of the premises, an appropriation is required before expenditure is made to do the work. General Laws Chapter 44, Section 53, provides that "[a]ll moneys received by a city, town or district officer or department, except as otherwise provided by special acts and except fees provided for by statute, shall be paid by such officers or department upon their receipt into the city, town or district treasury." Under Section 53 all moneys received by the Town become a part of the general fund, unless the Legislature has expressly made other provisions that are applicable to such receipt. In the absence of any general or special law to the contrary, performance security funds of the sort contemplated here must be deposited with the Town Treasurer and made part of the Town's general fund, pursuant to G.L. c. 44, § 53. The Town must then appropriate the money for the specific purpose of completing the work required for removal and/or restoration.

B. Section X "Permit Revocation For Non-Performance".

Section X authorizes the Planning Board to revoke a special permit for failure to comply with certain conditions. We approve Section X. However, before the Planning Board revokes a permit for failure to comply with certain conditions provided in Section X, the Planning Board should discuss with Town Counsel what due process, including notice and hearing requirements, are required. We suggest that the Town discuss this issue in more detail with Town Counsel.

Finally, the word "ordinance" is used in the by-law. Towns enact "by-laws" and cities enact "ordinances." The Town may wish delete the word "ordinance" from the new Section 215-27 and insert the word "by-law" at a future Town Meeting.

Article 2 - The amendments adopted under Article 2 add a new Section 215-28, "Solar Photovoltaic Installation Moratorium Bylaw," to the Town's zoning by-laws. The temporary moratorium (through one year from the date of enactment of Section 215-28) on solar photovoltaic installation other than those mounted on an existing structure provides as follows:

> Whereas, the Town of Mount Washington is undertaking a comprehensive study with respect to regulating the use of land for Solar Photovoltaic Installations, and
>
> Whereas, there have been significant changes in law regarding Solar Photovoltaic Installations; and,
>
> Whereas, the Town wishes to act carefully in a field with evolving law and technology, to investigate ways to preserve the character of the community while serving the needs of its people, and to devise an orderly process for granting permits by drafting an amendment to the Bylaw which is comprehensive, practical, equitable, and addresses the concerns of the Town on number, size, appearance, site standards, and location of Solar Photovoltaic Installations; and,
>
> Whereas, it is desired to protect the Town from ill-advised and inappropriate development of Solar Photovoltaic Installations pending a thorough review and the formulation of such a zoning amendment; and,
>
> Whereas, the Planning Board has determined that one year is necessary for such a comprehensive review and development of a Bylaw Subsection on Solar Photovoltaic Installations.
>
> Now, therefore, no Solar Photovoltaic Installations other than those mounted on an existing structure, in the usual manner, shall be permitted for one year from the date of enactment of this Bylaw.

We approve the temporary moratorium adopted under Article 2 because the Town has the authority to "impose reasonable time limitations on development, at least where those restrictions are temporary and adopted to provide controlled development while the municipality engages in comprehensive planning studies." Sturges v. Chilmark, 380 Mass. 246, 252-253 (1980). Such a temporary moratorium is within the Town's zoning power where there is a stated need for "study, reflection and decision on a subject matter of [some] complexity…" W.R.

Grace v. Cambridge City Council, 56 Mass. App. Ct. 559, 569 (2002) (City's temporary moratorium on building permits in two districts was within city's authority to zone for public purposes.) The time limit Mount Washington has selected for its temporary moratorium (one year from the date of enactment of the by-law) appears to be reasonable in the circumstances. The moratorium is limited in time period and scope (to the use of land and structures for solar photovoltaic installations), and thus does not present the problem of a rate-of-development bylaw of unlimited duration which the Zuckerman court determined was unconstitutional. Zuckerman v. Hadley, 442 Mass. 511, 512 (2004) ("[A]bsent exceptional circumstances not present here, restrictions of unlimited duration on a municipality's rate of development are in derogation of the general welfare and thus are unconstitutional.")

While we approve the temporary one year moratorium on solar photovoltaic installations, we note that G.L. c. 40A, § 3, protects solar energy systems and the building of structures that facilitate the collection of solar energy from certain local zoning requirements. General Laws Chapter 40A, Section 3, provides in pertinent part as follows:

> No zoning ordinance or by-law shall prohibit or unreasonably regulate the installation of solar energy systems or the building of structures that facilitate the collection of solar energy, except where necessary to protect the public health, safety or welfare.

General Laws Chapter 40A, Section 3, prohibits towns from adopting zoning by-laws that prohibit or *unreasonably regulate* the installation of solar energy systems or the building of structures that facilitate the collection of solar energy, except where necessary to protect the public health, safety or welfare. A temporary moratorium longer than one year may be vulnerable to a challenge in court that it is an unreasonable regulation of solar energy systems under G.L. c. 40A, § 3. We suggest the Town consult closely with Town Counsel on this issue.

Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

Very truly yours,
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cc: Town Counsel Joel Bard (via electronic mail)

MAURA HEALEY
ATTORNEY GENERAL

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February 23, 2015

Debra A. Bourbeau, Town Clerk
Town of Montague
1 Avenue A
Montague, MA 01376

RE: Montague Special Town Meeting of October 29, 2014 - Case # 7451
Warrant Article # 17 (Zoning)

Dear Ms. Bourbeau:

Article 17 - We approve Article 17 from the October 29, 2014 Montague Special Town Meeting. Article 17 amends several portions of the Town's zoning by-laws pertaining to site plan review.

1. Section 5.2 (d), Permitted Uses and Special Permits - Procedures

Section 5.2 (d) was deleted in its entirety and replaced with new text that provides as follows (with emphasis added):

> All applications for Special Permits and Site Plan Review from the Board of Appeals or the Planning Board shall be subject to the procedural requirements established by the respective Board. The Board of Appeals or Planning Board may determine that the assistance of outside professional expertise is required due to the size, scale, or complexity of a given project or its potential impact on the health, safety, and welfare of the Town. When outside review is determined to be necessary, the Board may require the applicant pay all reasonable expenses for this purpose, in accordance with the Board's regulations and M.G.L. Chapter 44 Section 53G.

General Laws Chapter 44, Section 53G, authorizes zoning boards, planning boards, boards of health, and conservation commissions, acting under authority conferred by G.L. c. 40A, § 9 and 12, c. 41, § 81Q, c. 40B, § 21, c. 111; and c. 40, § 8C, to impose consultant review fees, to disburse the funds collected, and to return unused portions to the applicant. However, the Legislature did not include Boards acting under the authority conferred solely by a local law within the small class of local boards that enjoy the benefits of G.L. c. 44, § 53G. When the Board is reviewing a site plan application based solely on the authority granted under local law, it cannot avail itself of the provisions of G.L. c. 44, § 53G. We suggest that the Town discuss this issue in more detail with Town Counsel.

2. Section 7.5.2, Telecommunication Facilities - General Provisions

Section 7.5.2, was deleted in its entirety and replaced with new text that provides as follows:

> Telecommunication Facilities may be allowed by Special Permit from the Board of Appeals pursuant to Sections 5.2 and Section 7.5. Conditions shall maximize the shared use of any new or existing structures to minimize the required number of such facilities; and shall minimize[e] adverse visual impacts through careful design, siting, and screening. No facility shall be located in a (RS) Residential District. (see: Section 2, Definitions).

Section 7.5.2 must be applied in a manner consistent with Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, which requires that "[A] state or local government *may not deny, and shall approve*, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." (emphasis added). The Act defines "eligible facilities request" as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies "[n]otwithstanding section 704 of the Telecommunications Act of 1996." The Act's requirement that a local government "may not deny, and shall approve, any eligible facilities request" means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

The Town must apply Section 7.5.2 in a manner consistent with the applicable law outlined above. We also urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the

date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

Very truly yours,

MAURA HEALEY
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February 10, 2015

Trudy L. Reid, Town Clerk
Town of Lynnfield
55 Summer Street
Lynnfield, MA 01940

RE: Lynnfield Fall Annual Town Meeting of October 20, 2014 - Case # 7408
Warrant Articles # 12, 13 and 14 (Zoning)
Warrant Articles # 16 and 17 (General)

Dear Ms. Reid:

Articles 12, 13, 14, 16 and 17 - We approve Articles 12, 13, 14, 16 and 17 from the October 20, 2014 Lynnfield Fall Annual Town Meeting. Our comments regarding Article 14 are provided below.

Article 14 - Article 14 makes a number of changes to the Town's zoning by-laws pertaining to Radio Telecommunication Facilities (RTF) and Personal Wireless Service Facilities (PWSF) including adding new definitions to Section 2, amending Section 7.4, "Site Plan" to add a new sub-section 7.4A "Additional Requirements for Personal Wireless Service Facilities"; and amending Section 8, "Special Permits" to add a new sub-section 8.7, "Siting of Radio Telecommunications Facilities."

I. Applicable Law

The federal Telecommunications Act of 1996, 47 U.S.C. § 332 (7) preserves state and municipal zoning authority to regulate personal wireless service facilities, subject to the following limitations:

1. Zoning regulations "shall not unreasonably discriminate among providers of functionally equivalent services." 47 U.S.C. §332(7) (B) (i) (I)

2. Zoning regulations "shall not prohibit or have the effect of prohibiting the provisions of personal wireless services." 47 U.S.C. § 332 (7) (B) (i) (II).

3. The Zoning Authority "shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time." 47 U.S.C. § 332 (7) (B) (ii).

4. Any decision "to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record." 47 U.S.C. § 332 (7) (B) (iii).

5. "No state or local government or instrumentality thereof may regulate the placement, construction and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communications] Commission's regulations concerning emissions." 47 U.S.C. § 332(7) (B) (iv).

Federal courts have construed the limitations listed under 47 U.S.C. § 332(7) as follows. First, even a facially neutral by-law may have the effect of prohibiting the provision of wireless coverage if its application suggests that no service provider is likely to obtain approval. "If the criteria or their administration effectively preclude towers no matter what the carrier does, they may amount to a ban 'in effect'…." Town of Amherst, N.H. v. Omnipoint Communications Enters, Inc., 173 F.3d 9, 14 (1st Cir. 1999).

Second, local zoning decisions and by-laws that prevent the closing of significant gaps in wireless coverage have been found to effectively prohibit the provision of personal wireless services in violation of 47 U.S.C. § 332(7). See, e.g., Nat'l Tower, LLC v. Plainville Zoning Bd. of Appeals, 297 F.3d 14, 20 (1st Cir. 2002) ("local zoning decisions and ordinances that prevent the closing of significant gaps in the availability of wireless services violate the statute"); Omnipoint Communications MB Operations, LLC v. Town of Lincoln, 107 F. Supp. 2d 108, 117 (D. Mass. 2000) (by-law resulting in significant gaps in coverage within town had effect of prohibiting wireless services).

Third, whether the denial of a permit has the effect of prohibiting the provision of personal wireless services depends in part upon the availability of reasonable alternatives. See 360 Degrees Communications Co. v. Bd. of Supervisors, 211 F.3d 79, 85 (4th Cir. 2000). Zoning regulations must allow cellular towers to exist somewhere. Towns may not effectively ban towers throughout the municipality, even under the application of objective criteria. See Virginia Metronet, Inc. v. Bd. of Supervisors, 984 F. Supp. 966, 971 (E.D. Va. 1998).

State law also establishes certain limitations on a municipality's authority to regulate wireless communications facilities and service providers. Under General Laws Chapter 40A, Section 3, wireless service providers may apply to the Department of Telecommunications and Cable for an exemption from local zoning requirements. If a telecommunication provider does not apply for or is not granted an exemption under c. 40A, § 3, it remains subject to local zoning requirements pertaining to cellular towers. See Building Comm'r of Franklin v. Dispatch Communications of New England, Inc., 48 Mass. App. Ct. 709, 722 (2000). Also, G.L. c. 40J, § 6B, charges the Massachusetts Broadband Institute with the task of promoting broadband access throughout the state. Municipal regulation of broadband service providers must not frustrate the achievement of this statewide policy.

In addition, Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 requires that "[A] state or local government *may not deny, and shall approve*, any eligible

facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." (emphasis added). The Act defines "eligible facilities request" as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies "[n]otwithstanding section 704 of the Telecommunications Act of 1996." The Act's requirement that a local government "may not deny, and shall approve, any eligible facilities request" means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

The Town must apply Article 14 in a manner consistent with the applicable law outlined above. In particular, Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act. We also urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

II. Section 8.7, Siting of Radio Telecommunications Facilities

A. Section 8.7.2, Purpose

Section 8.7.2 provides that the purpose of the by-law is to establish general guidelines for the siting of RTFs. Section 8.7.2 (4) establishes one of the by-law's goals as "[t]o make all RTF locations available for municipal agencies use where feasible."

It is unclear whether Section 8.7.2 (4) would require the Town's use of the RTF, and whether such use would be compensated or uncompensated. When applying the by-law, the Town cannot require an applicant to transfer property to the public without fair compensation. "The Fifth Amendment to the United States Constitution, made applicable to the States through the Fourteenth Amendment, provides that private property shall not 'be taken for public use, without just compensation.'" This protection is "designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole." Giovanella v. Conservation Commission of Ashland, 447 Mass. 720, 724 (2006) (*quoting* Armstrong v. United States, 364 U.S. 40, 49 (1960). More recently, the court in Collins v. Stow, 79 Mass. App. Ct. 447 (2011) ruled that a town cannot condition subdivision approval on the dedication of open space for public use and actual conveyance of the land to the Town in exchange for waivers. "Although a planning board's authority under the subdivision control law certainly encompasses, in appropriate circumstances, requiring open space, it does not extend to requiring the transfer of that open space to the public for reasons unrelated to adequate access and safety of the subdivision without providing just compensation." Id. at 453. We suggest that the Town consult with Town Counsel regarding the proper application of Section 8.7.2 (4).

B. Section 8.7.5.4, General

Section 8.7.5.4.1 provides in relevant part that:

> An undertaking shall be required, secured by a BOND appropriate in form and amount for removal of the PWSF within 6 months of cessation of operation of said facility or such other activity which may be appropriate to prevent the structures from becoming a nuisance or aesthetic blights.

The Town must apply any bond proceeds in a manner consistent with state law. Bond proceeds do not become Town funds unless and until the applicant defaults on the obligation under the by-law. Moreover, if the Town must use the bond to pay for removal of a PWSF or for other activity to prevent nuisance or blight, an appropriation is required before expenditure is made to do the work. General Laws Chapter 44, Section 53, provides that "[a]ll moneys received by a city, town or district officer or department, except as otherwise provided by special acts and except fees provided for by statute, shall be paid by such officers or department upon their receipt into the city, town or district treasury." Under Section 53 all moneys received by the Town become a part of the general fund, unless the Legislature has expressly made other provisions that are applicable to such receipt. In the absence of any general or special law to the contrary, performance security funds of the sort contemplated here must be deposited with the Town Treasurer and made part of the Town's general fund, pursuant to G.L. c. 44, § 53. The Town must then appropriate the money for the specific purpose of completing the work required for removal and/or other activities. The Town should consult with Town Counsel regarding the proper application of Section 8.7.5.4.

C. Section 8.7.5.5, Application Procedures

Section 8.7.5.5 pertaining to the Special Permit application provides in relevant part, that:

> The Application Phase of the process begins with the receipt by the SPGA of a complete application including all materials required by the Zoning Bylaw and any applicable regulations.
>
> *****
>
> Within 30 days of receipt, the SPGA or its designee shall review the application for consistency and completeness with respect to the Application Requirements in the bylaw and any applicable regulations and shall notify the Applicant in writing of any deficiency in the completeness of the application.
>
> *****
>
> The SPGA shall take regulatory notice of the Federal Communications Commission (FCC) presumption that the final action of the SPGA on a new Antenna Tower should take no more than 150 days from the date of receipt of the completed application, and that final action on a Collocation or Site Sharing application should take no more than 90 days from the date of receipt of the completed application except upon written

extension of these timelines by mutual agreement between the SPGA and the Applicant.

Section 8.7.5.5 must be applied in a manner consistent with the time limits established in G.L. c. 40A, § 9. General Laws Chapter 40A, Section 9, requires that the special permit granting authority "shall hold a public hearing for which notice has been given as provided in section eleven, on any application for a special permit within sixty-five days from the date of filing of such application. . . . The decision of the special permit granting authority shall be made within ninety days following the date of such public hearing. . . Failure by the special permit granting authority to take final action within . . . ninety days . . . shall be deemed to be a grant of the special permit." (emphasis added).

Pursuant to G.L. c. 40A, § 9, the filing of a special permit application "starts the clock" on the time period within which the special permitting authority must act. Section 8.7.5.5 cannot be applied in a manner that "starts the clock" only when a *completed* application is filed. The Town must apply Section 8.7.5.5 consistent with G.L. c. 40A, § 9. *See* Massachusetts Broken Stone Co. v. Town of Weston, 430 Mass. 637, 642 (2000). The Town should consult with Town Counsel regarding the proper application of Section 8.7.5.5.

Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

Very truly yours,

MAURA HEALEY
ATTORNEY GENERAL

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cc: Town Counsel Thomas Mullen

CITY OF CAMBRIDGE, MASSACHUSETTS

PLANNING BOARD

CITY HALL ANNEX, 344 BROADWAY, CAMBRIDGE

January 27, 2016

To: The Board of Zoning Appeal

From: The Planning Board

RE: BZA #9059- 2016, 1815 Massachusetts Avenue

The Planning Board reviewed the Special Permit application for the communication antenna at Lesley University and finds that this proposal is no worse than the current installations. The Planning Board does suggest that the antennas be located in such a way as to not break the roof line when viewed from the street, and that they be painted to match the facades. For example to match either the red brick or the gray stone band around the top of the tower.

City of Cambridge

MASSACHUSETTS

BOARD OF ZONING APPEAL

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

NOTICE OF DECISION

DECISION FILED WITH THE OFFICE OF THE CITY CLERK ON JUL 17 2013

Any person aggrieved by a decision of the Board of Zoning Appeal may appeal to the Superior Court or Land Court. Appeals, if any, shall be made pursuant to Section 17, Chapter 40A, Massachusetts General Laws and shall be filed within twenty calendar days from the above date, and a copy thereof shall be filed with the Cambridge City Clerk's office by that same date.

PREMISES: 274-280 Brookline Street
Cambridge, MA

PETITIONER: New Cingular Wireless PCS (AT&T)
C/o David Ford, Centerline Communications, LLC

PETITION: Special Permit: To install six (6) antennas, two (2) antennas will be façade mounted flush to the existing rooftop penthouse and painted to match the building color. The remaining four (4) antennas will be ballast mounted to the roof and enclosed within 10 ft. faux chimneys. Fifteen (15) radio-head units will be ballast mounted to the cable tray on the rooftop. An equipment area will be constructed within the basement and will be fitted with acoustical insulation. Cabling and associated trays and conduits will be placed on the rooftop, along with GPS antennas which will be mounted on the cable tray.

DECISION: GRANTED

CASE NO: 10398

***For full details, please refer to the decision available at Inspectional Services Dept.**