



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

BZA APPLICATION FORM

Plan No: BZA-016957-2018

GENERAL INFORMATION

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

Special Permit : √ Variance : Appeal :

PETITIONER : Sprint Spectrum Realty, LLC - Sprint Spectrum LP- C/O Simon J. Brighenti, Jr

PETITIONER'S ADDRESS : 700 W. Center Street 3rd Fl West Bridgewater, MA 02379

LOCATION OF PROPERTY : 300 Mt Auburn St Cambridge, MA

TYPE OF OCCUPANCY : Utilities ZONING DISTRICT : Residence C-3 Zone

REASON FOR PETITION :

Other: Remove and replace existing Telecom equipment

DESCRIPTION OF PETITIONER'S PROPOSAL :

Remove existing previously-permitted rooftop telecommunication equipment and replace with upgraded equipment. This is an eligible facility request pursuant to 47 USC 1455 (a).

SECTIONS OF ZONING ORDINANCE CITED :

Article <u>4.000</u>	Section <u>4.32.G.1 (Telecommunication Facility).</u>
Article <u>4.000</u>	Section <u>4.40 (Footnote 49) (Telecommunication Facility).</u>
Article <u>6409</u>	Section <u>47 USC 1455 (a)</u>
Article <u>10.000</u>	Section <u>10.40 (Special Permit).</u>

Original Signature(s) : *Simon Brighenti*
(Petitioner(s) / Owner)

Simon Brighenti
(Print Name)

Address : 750 West Center St. Fl. 3
West Bridgewater, MA 02379

Tel. No. : (413) 237-1550

E-Mail Address : sbrighenti@cline110.com

Date : _____

OWNERSHIP CERTIFICATE

Project Address: 330 Mount Auburn Street

Application Date: 05/18/18

This form is to be completed by the property owner, signed, and submitted with the Special Permit Application:

I hereby authorize the following Applicant: Adam Wolfrey - Centerline Communications LLC
at the following address: 95 Ryan Drive, STE 1, Raynham MA 02767
to apply for a special permit for: Sprint's proposed modifications at an existing cell site.
on premises located at: 330 Mount Auburn Street
for which the record title stands in the name of: Mount Auburn Hospital
whose address is: 330 MT Auburn Street

by a deed duly recorded in the:

Registry of Deeds of County:

Book: 3094

Page: 337

OR Registry District of the Land Court,
Certificate No.:

Book:

Page:



Signature of Land Owner (If authorized Trustee, Officer or Agent, so identify)

To be completed by Notary Public:

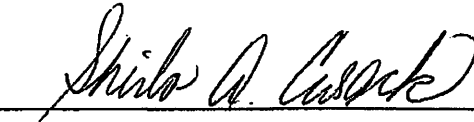
Commonwealth of Massachusetts, County of

Middlesex

The above named Nicholas T. Di Ieso personally appeared before me,

on the month, day and year June 21, 2018 and made oath that the above statement is true.

Notary:



My Commission expires:

July 6, 2018

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 300 Mt Auburn 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:

The existing base station is an eligible support structure pursuant to Section 6409 of the Middle-Class Tax Relief and Job Creation Act of 2012, 47 USC 1455 Section 6409. There will be little to no change to the existing condition.

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:

There will be no additional traffic or congestion created subsequent to the minimal disruption concomitant with the removal and replacement of the subject equipment.

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:

There will be no impact upon the existing cited conditions.

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:

There will be no detriment to the health, safety and/or welfare of the residents of and visitors to the area. To the contrary, enhanced and more robust telecommunication service will supplement the ability to communicate in both emergency and non-emergency situations.

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 supplemental information.

BZA APPLICATION FORM

DIMENSIONAL INFORMATION

APPLICANT: Centerline Communications, LLC **PRESENT USE/OCCUPANCY:** Medical/Telecom

LOCATION: 300 Mt Auburn St Cambridge, MA **ZONE:** Residence C-3 Zone

PHONE: _____ **REQUESTED USE/OCCUPANCY:** Medical/telecom

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

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

Replace existing permitted rooftop equipment with upgraded equipment which will cause little to no additional visual or operational impact.

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
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831 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02139
617 349-6100**

2018 SEP 11 AM 11:33

BZA APPLICATION FORM

Plan No: BZA-016957-2018
OFFICE OF THE CLERK
CAMBRIDGE, MASSACHUSETTS

GENERAL INFORMATION

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- | | |
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| Article <u>4.000</u> | Section <u>4.40 (Footnote 49) (Telecommunication Facility).</u> |
| Article <u>6409</u> | Section <u>47 USC 1455 (a)</u> |
| Article <u>10.000</u> | Section <u>10.40 (Special Permit).</u> |

Original Signature(s) : *Simon Brighenti Jr*
(Petitioner(s) / Owner)

Simon Brighenti
(Print Name)

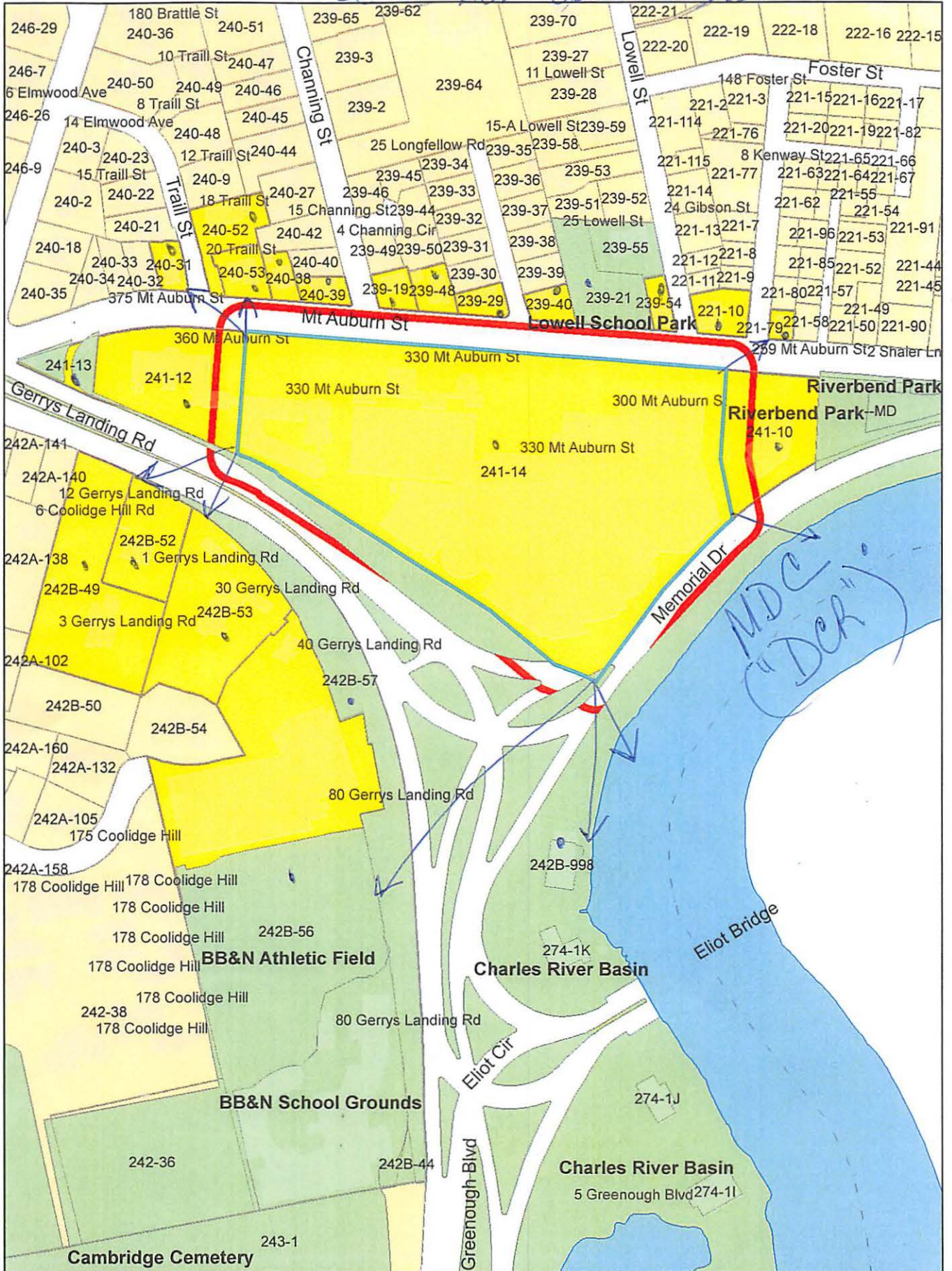
Address : 750 West Center Street Fl. 3
West Bridgewater, MA 02379

Tel. No. : (413) 237-1550

E-Mail Address : sbrighenti@cline11c.com

Date : _____

300 Mt. Auburn St.



300 Mt. Auburn St.

Petitioner

221-10
CATALANO, ADRIAN & ALEJANDRINA CATALANO
TRUSTEES OF THE CATALANO REALTY TRUST
341 HARVARD STREET
CAMBRIDGE, MA 02138

221-79
MESERVEY, DIANA & SARAH MESERVEY
57 FRANCIS AVE
CAMBRIDGE, MA 02138

CENTERLINE COMMUNICATIONS, LLC
C/O SIMON BRIGHENTI
750 WEST CENTER ST.- Floor 3
WEST BRIDGEWATER, MA 02379

239-21
CITY OF CAMBRIDGE
C/O LOUIE DEPASQUEALE
CITY MANAGER

239-21
CITY OF CAMBRIDGE
C/O NANCY GLOWA
CITY SOLICITOR

239-29
HAO WANG & XIAOYU, OLIVIA WANG
1-3 LONGFELLOW RD., UNIT#2
CAMBRIDGE, MA 02138

239-48
SALEHI-ISFAHANI, DJAVAD &
ANDREA L. KAVANAUGH
321 MT AUBURN ST. UNIT#1
CAMBRIDGE, MA 02138

239-48
NOLLMAN, JORDAN & LARISSA BOUTIQUE
321 MT AUBURN ST. UNIT#2
CAMBRIDGE, MA 02138

239-54
BARRY, PAULA
26 ARLENE AVE
WILMINGTON, MA 01887

240-31
MOSELEY, EVA S.
361 MT AUBURN ST #1
CAMBRIDGE, MA 02138

240-31
HOFFMAN, ELIZABETH L.
C/O MILLER, BENJAMIN W. &
361 MT. AUBURN ST., #2
CAMBRIDGE, MA 02138

240-38
KALAVREZOU, IOLI
341 MT. AUBURN ST.
CAMBRIDGE, MA 02138

240-39
STOHLMAN, THOMAS J. JR. &
KATHARINE M. STOHLMAN
19 CHANNING ST
CAMBRIDGE, MA 02138

241-10
1010 MEMORIAL DRIVE TENANTS
CORPORATION
1010 MEMORIAL DRIVE
CAMBRIDGE, MA 02138

241-12
CAMBRIDGE HOME FOR THE AGED PEOPLE
C/O PRESIDENT
360 MT. AUBURN ST
CAMBRIDGE, MA 02138

DEPARTMENT OF CONSERVATION &
RECREATION
251 CAUSEWAY STREET – SUITE 600
BOSTON, MA 02114-2119

242B-49
FORBES, J. MALCOLM & ARIADNE H. FORBES
3 GERRYS LANDING RD
CAMBRIDGE, MA 02138

242B-52
REIMANN, WILLIAM P. & HELEN S. REIMANN
1 GERRYS LANDING
CAMBRIDGE, MA 02138

242B-53
PACE, RYAN D., TRUSTEE THE THIRTY GERRY'S
LANDING RD REALTY TR
C/O ANDERSON & KREIGER LLP
ONE CANAL PARK, SUITE 200
CAMBRIDGE, MA 02141

242B-56
BUCKINGHAM BROWNE AND NICHOLS SCHOOL
80 GERRYS LANDING ROAD
CAMBRIDGE, MA 02138

242B-998
CAMBRIDGE BOAT CLUB % GAIL CROMWELL
2 GERRY'S LANDING
CAMBRIDGE, MA 02138

239-40
STILES, KATHERINE M.
2 LONGFELLOW RD. UNIT#1
CAMBRIDGE, MA 02138

239-40
SONG, TAEMINN
4 LONGFELLOW RD
CAMBRIDGE, MA 02138

242B-57 / 241-13
COMMONWEALTH OF MASSACHUSETTS
STATE HOUSE
BOSTON, MA 02133

241-14
MT. AUBURN HOSPITAL
C/O NICHOLAS DILESCO, CHIEF OPER OFFICER
300 MT AUBURN ST
CAMBRIDGE, MA 02138

239-19
SAFIZADEH, FERAYDOUN & ARLENE DALLALFAR
18 CHANNING STREET
CAMBRIDGE, MA 02138

240-52
SALTER, MALCOLM & BARBARA SALTER
18 TRAILL ST 1
CAMBRIDGE, MA 02138

240-52
TRAILL BLAZERS, LLC
24 BOGLE ST.
WESTON, MA 02493

240-53
SANBORN, JOSEPH S.,
TRUSTEE THE REX REALTY TRUST
20 TRAILL ST
CAMBRIDGE, MA 02138

239-29
WANG, HAO & XIAOYU WANG
11 EMPIRE CIRCLE
SINGERLANDS, NY 12159



City of Cambridge

MASSACHUSETTS

BOARD OF ZONING APPEAL

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

2018 SEP 11 AM 11:33
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 # B7A-016957-2018

Address: 300 rd. Auburn St.

Owner, Petitioner, or Representative: Simon Brighanti
(Print Name)

Hereby waives the Petitioner's and/or Owner's right to a Decision by the Board of Zoning Appeal on the above referenced case 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.

Date: 9-10-2018

Simon Brighanti
Signature



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 300 Mt. Auburn 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)
- 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 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
Relationship to project BZA 16957-2018

Date July 16, 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.**

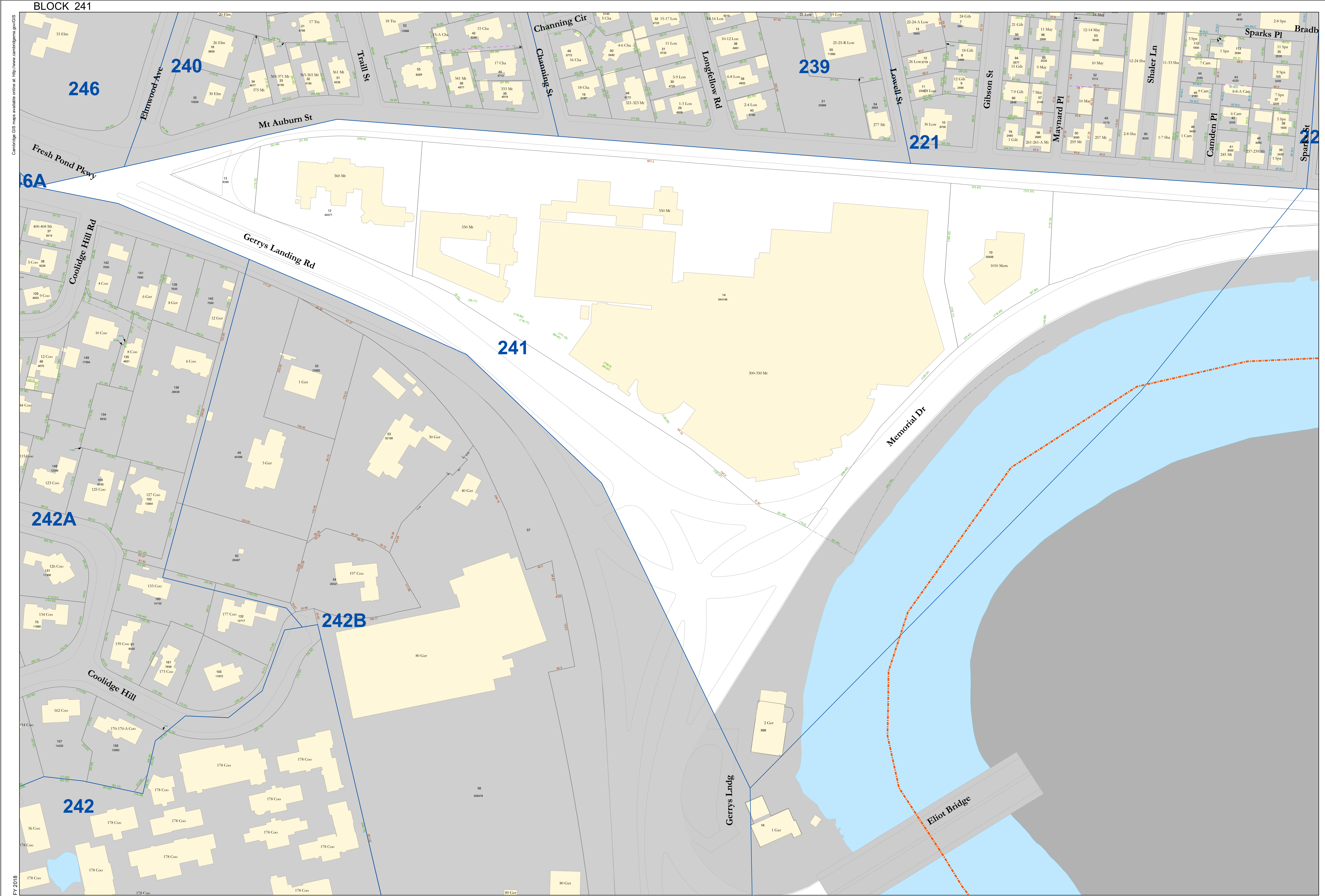
Please contact the building inspector or a staff member of the Historical Commission if you have questions about whether a demolition permit is required for a particular project.

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

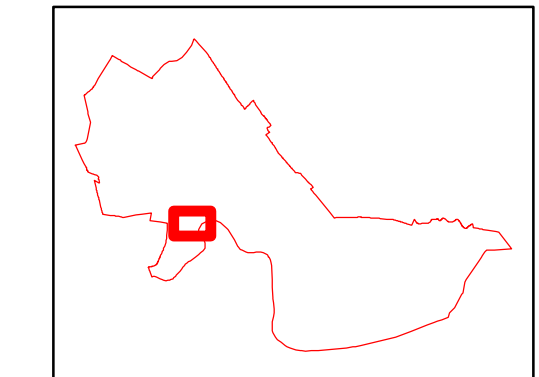
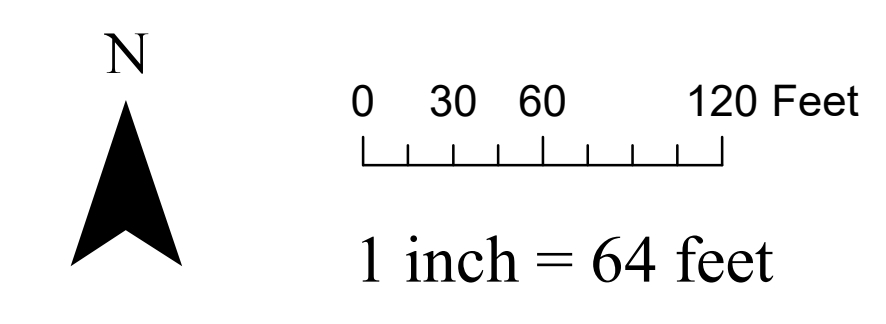
Cambridge Historical Commission
831 Massachusetts Ave., 2nd Fl.
Cambridge, MA 02139
Ph: 617/349-4683 or TTY: 617/349-6112
<http://www.cambridgema.gov/Historic>



City of Cambridge
Assessing Department
795 Massachusetts Ave.
Cambridge, MA 02139

- | | | | |
|---------------|-----------------|------------------------|-----------------------------|
| Buildings | Water | 10 Lot Number | 100 Parcel size in Sq. Ft. |
| Lot Line | Sub-Parcel Line | 241 Block Number | 44.0LC Land Court Dimension |
| Block Line | Easement | 10 Cam Street Number | 65.0 Survey Dimensions |
| City Boundary | Railway | (125.0) Deed Dimension | |

DISCLAIMER:
All Real Property shown on this map was compiled from existing Assessor's Tax Maps dated 1920 to 2017 and maintained by the City Assessor's Office and the Department of Public Works. Subsequent information has been completed using the City of Cambridge Geographic Information System (GIS). Parcels have not been created from survey, and map is suitable for assessing purposes only.
The City of Cambridge assumes no legal responsibility for information shown on this map.



Parcel Block Map
241

SPECIAL CONSTRUCTION NOTE:
 SPRINT TOWER TOP WORK IS CONTINGENT ON THE FOLLOWING:
 * COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS (PROVIDED BY TOWER OWNER OR A&E VENDOR).
 * COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT (PROVIDED BY A&E VENDOR).
 * GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.



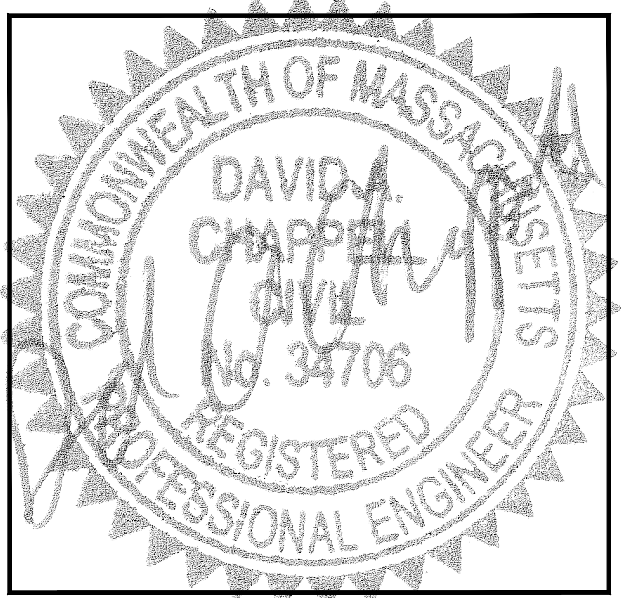
PROJECT: DO MACRO UPGRADE
SITE NAME: MOUNT AUBURN HOSPITAL
SITE CASCADE: BS54XC904
SITE ADDRESS: 300 MT AUBURN STREET
 CAMBRIDGE, MA 02138
SITE TYPE: ROOFTOP

NOTE:
 OWNER AND TENANT MAY, FROM TIME TO TIME AT TENANT'S OPTION, REPLACE THIS EXHIBIT WITH AN EXHIBIT SETTING FORTH THE LEGAL DESCRIPTION OF THE SITE, OR WITH ENGINEERED OR AS-BUILT DRAWING DEPICTING THE SITE OR ILLUSTRATING STRUCTURAL MODIFICATIONS OR CONSTRUCTION PLANS OF THE SITE. ANY VISUAL OR TEXTUAL REPRESENTATION OF THE EQUIPMENT LOCATED WITHIN THE SITE CONTAINED IN THESE OTHER DOCUMENTS IS ILLUSTRATIVE ONLY, AND DOES NOT LIMIT THE RIGHTS OF SPRINT AS PROVIDED FOR IN THE AGREEMENT. THE LOCATIONS OF ANY ACCESS AND UTILITY EASEMENTS ARE ILLUSTRATIVE ONLY. ACTUAL LOCATIONS MAY BE DETERMINED BY TENANT AND/OR THE SERVICING UTILITY COMPANY IN COMPLIANCE WITH LOCAL LAWS AND REGULATIONS.

Sprint VISION
 1 INTERNATIONAL BLVD, SUITE 800
 MAHWAH, NJ 07495
 (800) 357-7641

CENTERLINE COMMUNICATIONS
 95 RYAN DRIVE, SUITE 1
 RAYNHAM, MA 02767
 (844) 748-8878
 www.centerlinecommunications.com

CHAPPELL ENGINEERING ASSOCIATES, LLC
 Civil-Structural-Land Surveying
 R.K. EXECUTIVE CENTRE
 201 BOSTON POST ROAD WEST, SUITE 101
 MARLBOROUGH, MA 01752
 (508) 481-7400
 www.chappellengineering.com



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SITE INFORMATION

PROPERTY OWNER:
 MT AUBURN HOSPITAL
 C/O NICHOLAS DILESCO CEO
 300 MT AUBURN STREET
 CAMBRIDGE, MA 02138-5502

LATITUDE (NAD83):
GOOGLE EARTH 2-C CONFIRMATION
 N 42° 22' 26.40"
 42.374000"

LONGITUDE (NAD83):
GOOGLE EARTH 2-C CONFIRMATION
 W 71° 08' 01.45"
 71.133736"

COUNTY:
 MIDDLESEX

ZONING JURISDICTION:
 CITY OF CAMBRIDGE

ZONING DISTRICT:
 RESIDENCE C-3

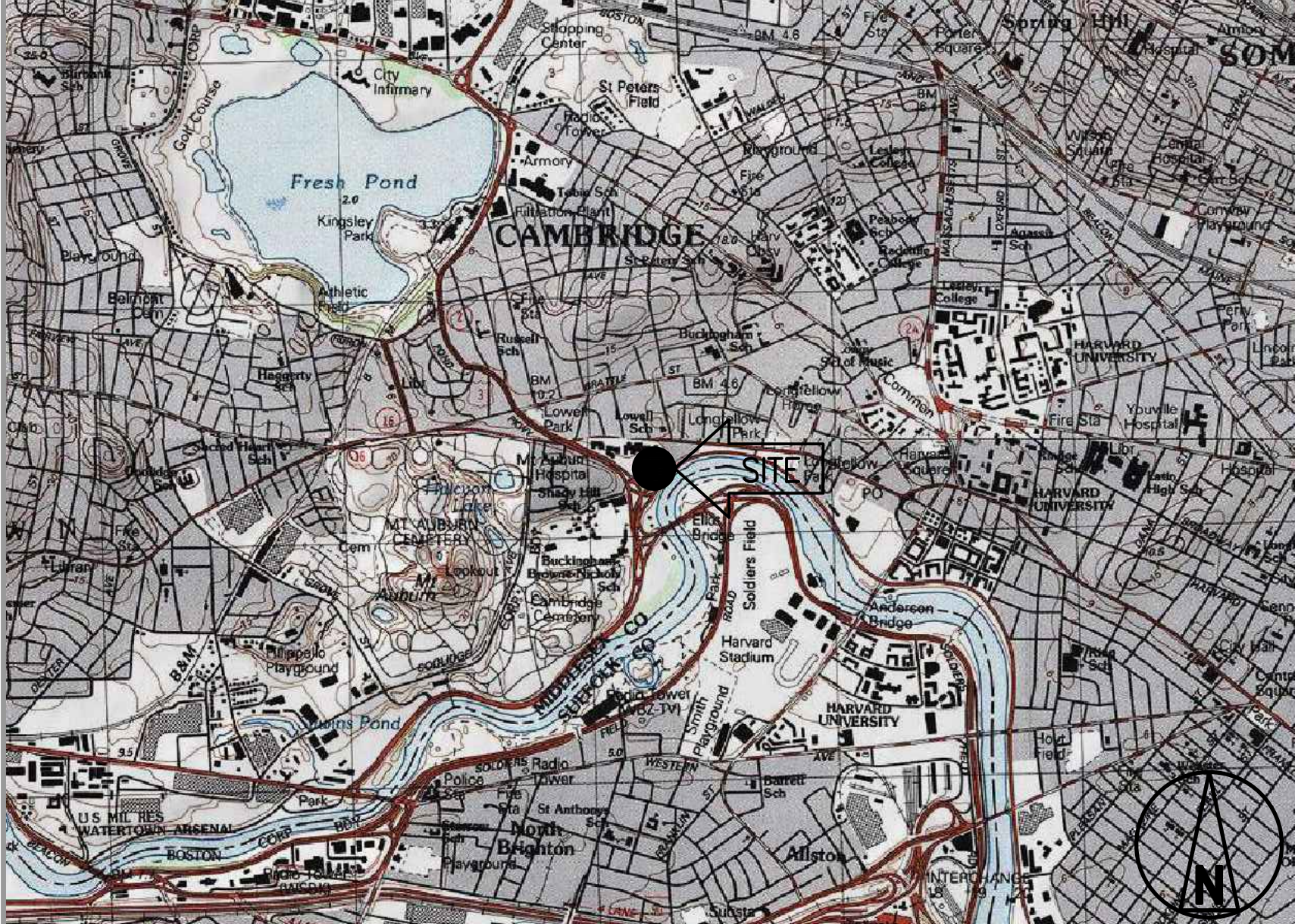
POWER COMPANY:
 PUBLIC SERVICE OF NEW HAMPSHIRE
 PHONE: 1-800-622-7764

AAV PROVIDER:
 COMCAST
 PHONE: 1-800-COMCAST

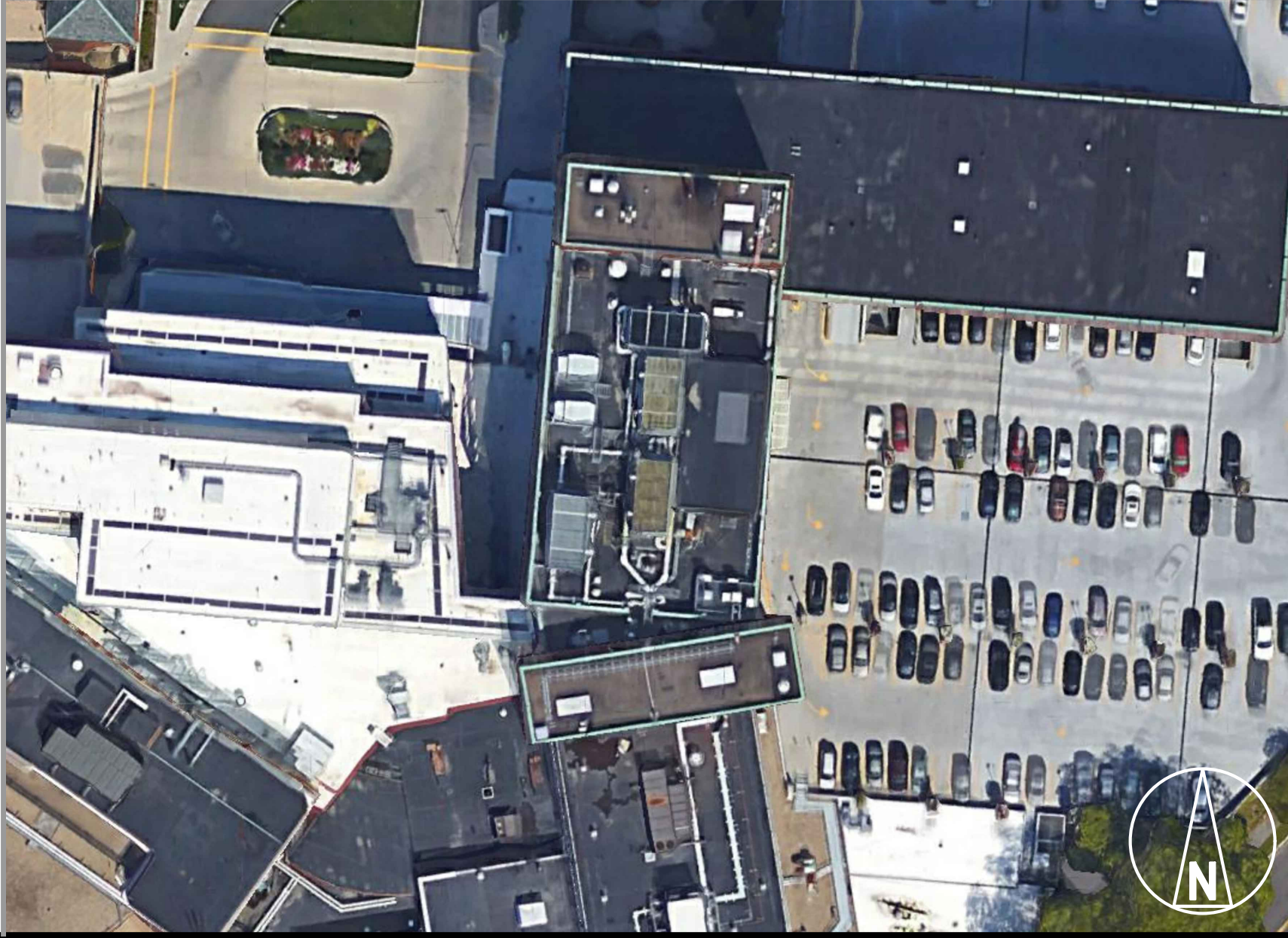
SPRINT CM:
 CHAD WAGNER
 PHONE: 617-529-0973
 Chad.Wagner@sprint.com

EQUIPMENT SUPPLIER:
 ALCATEL-LUCENT
 600 MOUNTAIN AVENUE
 MURRAY HILL, NJ 07974
 (908) 508-8080

AREA MAP



LOCATION MAP - GOOGLE EARTH 2-C CONFIRMATION



PROJECT DESCRIPTION

SPRINT EQUIPMENT MODIFICATIONS REQUIRED TO SUPPORT MODERNIZATION OF AN EXISTING WIRELESS COMMUNICATIONS FACILITY AND UTILIZATION OF FCC BROADBAND SPECTRUM LICENSE FOR 2.5GHz FREQUENCY, INCLUDING INSTALLATION OF:

GROUND-LEVEL RAN EQUIPMENT, CONSISTING OF

- (1) NEW 2.5GHz RETROFIT KIT & RECTIFIERS (AS REQ'D) WITHIN EXISTING MM-BTS EQUIPMENT CABINET
- (1) ADDITIONAL BATTERY STRING(S) WITHIN EXISTING BATTERY CABINET

TOWER-TOP EQUIPMENT, INCLUDING INSTALLATION OF:

- (6) PANEL ANTENNAS TO REPLACE (3) EXIST. SPRINT ANTENNAS
- (3) REMOTE RADIO HEADS (RRH)
- (2) HYBRID (FIBER & POWER) CABLES (AND ASSOCIATED FIBER, DC POWER, COAXIAL CABLE JUMPERS AND ANTENNA REMOTE ELECTRICAL-TILT (RET) CABLE) TO REPLACE EXIST. CABLES

SPECIAL ZONING NOTE:
 BASED ON INFORMATION PROVIDED BY SPRINT REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AND ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, ADMINISTRATIVE REVIEW).

GENERAL NOTES

- THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
 - ADA COMPLIANCE NOT REQUIRED.
 - PORTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
 - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE: MASSACHUSETTS STATE BUILDING CODE 780 CRM-8TH EDITION
 - ELECTRICAL CODE: 2005 NATIONAL ELECTRICAL CODE
 - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811



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APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

SPRINT: _____ DATE: _____

CONSTRUCTION MANAGER: _____ DATE: _____

LEASING/SITE ACQUISITION: _____ DATE: _____

RF ENGINEER: _____ DATE: _____

LANDLORD/TOWER OWNER: _____ DATE: _____

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/02/18	ISSUED FOR CONSTRUCTION	CMC
0	03/20/18	ISSUED FOR REVIEW	JRV

SITE NUMBER:
BS54XC904
 SITE NAME:
MOUNT AUBURN HOSPITAL
 SITE ADDRESS:
 300 MT AUBURN STREET
 CAMBRIDGE, MA 02138

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 - SCOPE OF WORK

PART 1 – GENERAL

1.1 **THE WORK:** THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 **RELATED DOCUMENTS:**

- A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
- B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 **PRECEDENCE:** SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

1.4 **NATIONALLY RECOGNIZED CODES AND STANDARDS:**

- A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 1. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 2. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY -GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
 3. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC") AND NFPA 101 (LIFE SAFETY CODE).
 4. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
 5. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
 6. AMERICAN CONCRETE INSTITUTE (ACI)
 7. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
 8. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
 9. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
 10. PORTLAND CEMENT ASSOCIATION (PCA)
 11. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
 12. BRICK INDUSTRY ASSOCIATION (BIA)
 13. AMERICAN WELDING SOCIETY (AWS)
 14. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
 15. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
 16. DOOR AND HARDWARE INSTITUTE (DHI)
 17. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
 18. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 **DEFINITIONS:**

- A. **WORK:** THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
- B. **COMPANY:** SPRINT 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.
- F. **OFCI:** OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.
- G. **CONSTRUCTION MANAGER –** ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

1.6 **SITE FAMILIARITY:** CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

1.7 **POINT OF CONTACT:** COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

1.8 **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.

1.9 **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 RED 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. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.
- B. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

1.10 **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.

1.11 **UTILITIES SERVICES:** WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

1.12 **PERMITS / FEES:** WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

- 1.14 **METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION:** CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.
- A. TOP HAT
 - B. HOW TO INSTALL A NEW CABINET
 - C. BASE BAND UNIT IN EXISTING UNIT
 - D. INSTALLATION OF BATTERIES
 - E. INSTALLATION OF HYBRID CABLE
 - F. INSTALLATION OF RRR'H'S
 - G. CABLING
 - H. TS-0200 REV 4 – ANTENNA LINE ACCEPTANCE STANDARDS
 - I. SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.
 - J. COMMISSIONING MOPS
 - K. SPRINT CELL SITE ENGINEERING NOTICE – EN-2013-002
 - L. SPRINT ENGINEERING LETTER – EL-0504
 - M. SPRINT ENGINEERING LETTER – EL-0568
 - N. SPRINT TECHNICAL SPECIFICATION – TS-0193

1.15 **USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:**

- A. CONTRACTOR WILL UTILIZE ITS BEST EFFORTS TO WORK WITH SPRINT ELECTRONIC PROJECT MANAGEMENT SYSTEMS. CONTRACTOR UNDERSTANDS THAT SUFFICIENT INTERNET ACCESS, EQUIVALENT TO "BROADBAND" OR BETTER, IS REQUIRED TO TIMELY AND EFFECTIVELY UTILIZE SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS AND AGREES TO MAINTAIN APPROPRIATE CONNECTIONS FOR CONTRACTOR'S STAFF AND OFFICES THAT ARE COMPATIBLE WITH SPRINT DATA AND DOCUMENT MANAGEMENT SYSTEMS

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 **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.

3.2 **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.

3.3 **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.

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

3.5 **EXISTING CONDITIONS:** NOTIFY THE SPRINT CONSTRUCTION MANAGER 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.

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 **THE WORK:** THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 **RELATED DOCUMENTS:**

- A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
- B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 **RECEIPT OF MATERIAL AND EQUIPMENT:**

- A. COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.
- B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 1. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
 4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
 5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

3.2 **DELIVERABLES:**

- A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
- B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.
- C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 - CELL SITE CONSTRUCTION

PART 1 – GENERAL

1.1 **THE WORK:** THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 **RELATED DOCUMENTS:**

- A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
- B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 **NOTICE TO PROCEED:**

- A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.
- B. TOWER OWNER NOTIFICATION: ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED, THE CONTRACTOR WILL CONTACT THE CONSTRUCTION MANAGER OF RECORD (NOTED ON THE FIRST PAGE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED TO NOTIFY THE CARRIER NOC WORK HAS BEGUN.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 **FUNCTIONAL REQUIREMENTS:**

- A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
- B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
- C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
- D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
 2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
 3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
 4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
 5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
 6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
 7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
 8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
 9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
 10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
 11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
 12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
 13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
 14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
 15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
 16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
 17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
 18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
 19. PERFORM ANTENNAL AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
 20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 **GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:**

- A. 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.
- B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS MATERIAL.
 1. 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.
 2. 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.
- D. 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

E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 **DELIVERABLES:**

- A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER
- B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
 1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
 2. PROJECT PROGRESS REPORTS.
 3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).

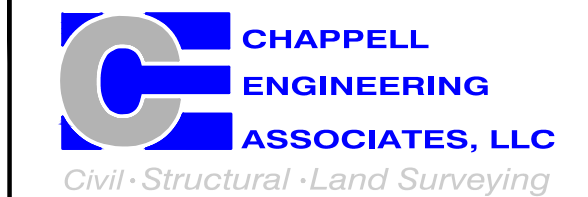
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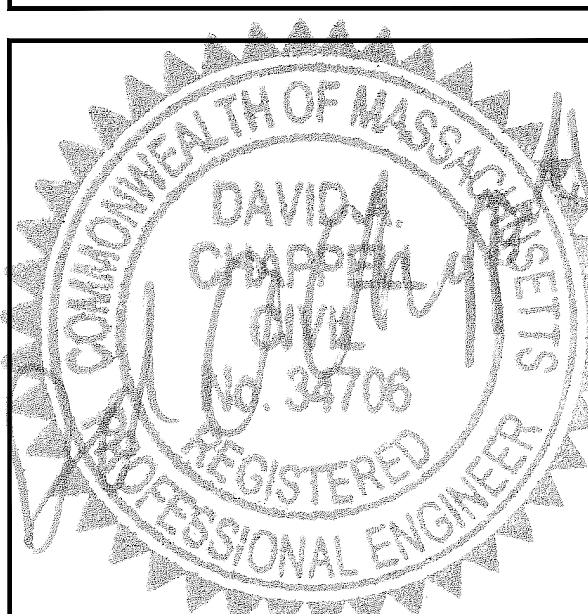
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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	05/02/18	ISSUED FOR CONSTRUCTION	CMC
0	03/20/18	ISSUED FOR REVIEW	JRV

SITE NUMBER:
BS54XC904

SITE NAME:
MOUNT AUBURN HOSPITAL

SITE ADDRESS:
300 MT AUBURN STREET
CAMBRIDGE, MA 02138

SHEET TITLE
OUTLINE SPECIFICATIONS

SHEET NUMBER
SP-1

CONTINUED FROM SP-1:

- 12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
- 13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
- 14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 - SUBMITTALS, TESTS, AND INSPECTIONS

PART 1 - GENERAL

1.1 **THE WORK:** THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 **RELATED DOCUMENTS:**

- A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
- B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.

1.3 **SUBMITTALS:**

- A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
- B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.
 - 1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
 - 2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
 - 3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
 - 4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
 - 5. CHEMICAL GROUNDING DESIGN.
- C. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 **TESTS AND INSPECTIONS:**

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 1. COAX SWEEPS AND FIBER TESTS PER SPRINT TS-0200 CURRENT VERSION ANTENNA LINE ACCEPTANCE STANDARDS.
 - 2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
 - 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
- C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 - 1. AZIMUTH, DOWNTILT, AGL - UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
 - 2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 - 3. ALL AVAILABLE JURISDICTIONAL INFORMATION
 - 4. PDF SCAN OF REDLINES PRODUCED IN FIELD
 - 5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
 - 6. LIEN WAIVERS
 - 7. FINAL PAYMENT APPLICATION
 - 8. REQUIRED FINAL CONSTRUCTION PHOTOS
 - 9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
 - 10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 **COMMISSIONING:** PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPS

1.6 **INTEGRATION:** PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 **REQUIREMENTS FOR TESTING:**

- A. THIRD PARTY TESTING AGENCY: 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.
 - 1. 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.
 - 2. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
 - 3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.

3.2 **REQUIRED TESTS:**

- A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
 - 2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
 - 3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
 - 4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
 - 5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.

- 6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
- 7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- 8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
- 9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 **REQUIRED INSPECTIONS:**

- A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.
- B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 - 2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 - 3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
 - 4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
 - 5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
 - 6. ANTENNA AZIMUTH, DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS - ANTENNALIGN ALIGNMENT TOOL (AAT)
 - 7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
 - 8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
 - 9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
 - 10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 - 11. ALL AVAILABLE JURISDICTIONAL INFORMATION
 - 12. PDF SCAN OF REDLINES PRODUCED IN FIELD
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
- F. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.

3.4 **DELIVERABLES:** TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.

- A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.
 - 1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
 - 2. STRUCTURAL BACKFILL COMPACTION REPORTS.
 - 3. SITE RESISTANCE TO EARTH TEST.
 - 4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
 - 5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
 - 6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".
- B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING:
 - 1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
 - 2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
 - 3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS - PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
 - 4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING - TOP AND BOTTOM; PHOTOS OF COAX GROUNDING--TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 - 5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
 - 6. SITE LAYOUT - PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
 - 7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.
 - 8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
 - 9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 500 - PROJECT REPORTING

PART 1 - GENERAL

1.1 **THE WORK:** THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 **RELATED DOCUMENTS:**

- A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
- B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 **WEEKLY REPORTS:**

- A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.
- B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

3.2 **PROJECT CONFERENCE CALLS:**

- A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

3.3 **PROJECT TRACKING IN SMS:**

- A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.

3.4 **ADDITIONAL REPORTING:**

- A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.

3.5 **PROJECT PHOTOGRAPHS:**

- A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:
 - 1. SHELTER AND TOWER OVERVIEW.
 - 2. TOWER FOUNDATION(S) - FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
 - 3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
 - 4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
 - 5. PHOTOS OF TOWER SECTION STACKING.
 - 6. CONCRETE TESTING / SAMPLES.
 - 7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
 - 8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
 - 9. SHELTER FOUNDATION--FORMS AND STEEL BEFORE POURING.
 - 10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
 - 11. COAX CABLE ENTRY INTO SHELTER.
 - 12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 - 13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
 - 14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
 - 15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
 - 16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
 - 17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
 - 18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
 - 19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 - 20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
 - 21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 - 22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
 - 23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
 - 24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
 - 25. ALL BTS GROUND CONNECTIONS.
 - 26. ALL GROUND TEST WELLS.
 - 27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
 - 28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
 - 29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
 - 30. GPS ANTENNAS.
 - 31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
 - 32. DOGHOUSE/CABLE EXIT FROM ROOF.
 - 33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
 - 34. MASTER BUS BAR.
 - 35. TELCO BOARD AND NIU.
 - 36. ELECTRICAL DISTRIBUTION WALL.
 - 37. CABLE ENTRY WITH SURGE SUPPRESSION.
 - 38. ENTRANCE TO EQUIPMENT ROOM.
 - 39. COAX WEATHERPROOFING--TOP AND BOTTOM OF TOWER.
 - 40. COAX GROUNDING --TOP AND BOTTOM OF TOWER.
 - 41. ANTENNA AND MAST GROUNDING.
 - 42. LANDSCAPING - WHERE APPLICABLE.

3.6 **FINAL PROJECT ACCEPTANCE:** COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

SECTION 07 500 - ROOF CUTTING, PATCHING AND REPAIR

SUMMARY:

THIS SECTION SPECIFIES CUTTING AND PATCHING EXISTING ROOFING SYSTEMS WHERE CONDUIT OR CABLES EXIT THE BUILDING ONTO THE ROOF OR BUILDING-MOUNTED ANTENNAS, AND AS REQUIRED FOR WATERTIGHT PERFORMANCE. ROOFTOP ENTRY OPENINGS IN MEMBRANE ROOFTOPS SHALL BE CONSTRUCTED TO COMPLY WITH LANDLORD, ANY EXISTING WARRANTY, AND LOCAL JURISDICTIONAL STANDARDS.

1.4 **SUBMITTALS:**

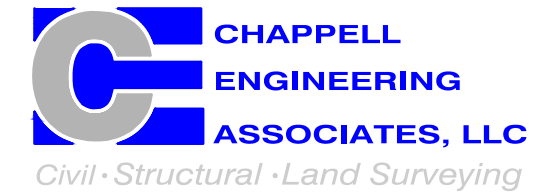
- A. **PRE-CONSTRUCTION ROOF PHOTOS:** COMPLETE A ROOF INSPECTION PRIOR TO THE INSTALLATION OF SPRINT EQUIPMENT ON ANY ROOFTOP BUILD. AT A MINIMUM INSPECT AND PHOTOGRAPH (MINIMUM 3 EA.) ALL AREAS IMPACTED BY THE ADDITION OF THE SPRINT EQUIPMENT.
- B. PROVIDE SIMILAR PHOTOGRAPHS SHOWING ROOF CONDITIONS AFTER CONSTRUCTION (MINIMUM 3 EA.)
- C. ROOF INSPECTION PHOTOGRAPHS SHOULD BE UPLOADED WITH CLOSEOUT PHOTOGRAPHS.



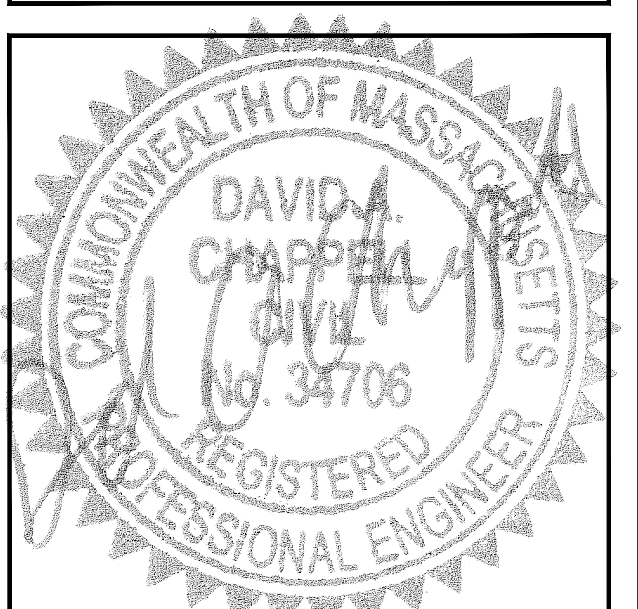
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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/02/18	ISSUED FOR CONSTRUCTION	CMC
0	03/20/18	ISSUED FOR REVIEW	JRV

SITE NUMBER:
BS54XC904

SITE NAME:
MOUNT AUBURN HOSPITAL

SITE ADDRESS:
300 MT AUBURN STREET
CAMBRIDGE, MA 02138

SHEET TITLE
OUTLINE SPECIFICATIONS

SHEET NUMBER
SP-2

CONTINUE SHEET SP-3

CONTINUED FROM SP-2:

SECTION 09 900 - PAINTING

QUALITY ASSURANCE:

- A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- B. COMPLY WITH ALL ENVIRONMENTAL REGULATIONS FOR VOLATILE ORGANIC COMPOUNDS.

MATERIALS:

- A. MANUFACTURERS: BENJAMIN MOORE, ICI DEVOE COATINGS, PPG, SHERWIN WILLIAMS OR APPROVED EQUAL. PROVIDE PREMIUM GRADE, PROFESSIONAL-QUALITY PRODUCTS FOR COATING SYSTEMS.

PAINT SCHEDULE:

- A. EXTERIOR ANTENNAE AND ANTENNA MOUNTING HARDWARE: ONE COAT OF PRIMER AND TWO FINISH COATS. PAINT FOR ANTENNAE SHALL BE NON-METALLIC BASED AND CONTAIN NO METALLIC PARTICLES. PROVIDE COLORS AND PATTERNS AS REQUIRED TO MASK APPEARANCE OF ANTENNAE ON ADJACENT BUILDING SURFACES AND AS ACCEPTABLE TO THE OWNER. REFER TO ANTENNA MANUFACTURER'S INSTRUCTIONS WHENEVER POSSIBLE.

- B. ROOF TOP CONSTRUCTION: TOUCH UP -- PREPARE SURFACES TO BE REPAIRED. FOLLOW INDUSTRY STANDARDS AND REQUIREMENTS OF OWNER TO MATCH EXISTING COATING AND FINISH.

PAINTING APPLICATION:

1. INSPECT SURFACES, REPORT UNSATISFACTORY CONDITIONS IN WRITING; BEGINNING WORK MEANS ACCEPTANCE OF SUBSTRATE.
2. COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS FOR PREPARATION, PRIMING AND COATING WORK. COORDINATE WITH WORK OF OTHER SECTIONS.
3. MATCH APPROVED MOCK-UPS FOR COLOR, TEXTURE, AND PATTERN. RE-COAT OR REMOVE AND REPLACE WORK WHICH DOES NOT MATCH OR SHOWS LOSS OF ADHESION.
4. CLEAN UP, TOUCH UP AND PROTECT WORK.

TOUCHUP PAINTING:

1. GALVANIZING DAMAGE AND ALL BOLTS AND NUTS SHALL BE TOUCHED UP AFTER TOWER ERECTION WITH "GALVANOX," "DRY GALV," OR "ZINC-IT."
2. FIELD TOUCHUP PAINT SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. ALL METAL COMPONENTS SHALL BE HANDLED WITH CARE TO PREVENT DAMAGE TO THE COMPONENTS, THEIR PRESERVATIVE TREATMENT, OR THEIR PROTECTIVE COATINGS.

SECTION 11 700 - ANTENNA ASSEMBLY, REMOTE RADIO HEADS AND CABLE INSTALLATION

SUMMARY:

THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRR'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE.

ANTENNAS AND RRR'S:

THE NUMBER AND TYPE OF ANTENNAS AND RRR'S TO BE INSTALLED IS DETAILED ON THE CONSTRUCTION DRAWINGS.

HYBRID CABLE:

HYBRID CABLE WILL BE DC/FIBER AND FURNISHED FOR INSTALLATION AT EACH SITE. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS.

JUMPERS AND CONNECTORS:

FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRR'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12-50, CR 540, OR FXL 540. SUPER-FLEX CABLES ARE NOT ACCEPTABLE. JUMPERS BETWEEN THE RRR'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE. DO NOT USE SUPERFLEX OUTDOORS. JUMPERS SHALL BE FACTORY FABRICATED IN APPROPRIATE LENGTHS WITH A MAXIMUM OF 4 FEET EXCESS PER JUMPER AND HAVE CONNECTORS AT EACH END, MANUFACTURED BY SUPPLIER. IF JUMPERS ARE FIELD FABRICATED, FOLLOW MANUFACTURER'S REQUIREMENTS FOR INSTALLATION OF CONNECTORS

REMOTE ELECTRICAL TILT (RET) CABLES:

MISCELLANEOUS:

INSTALL SPLITTERS, COMBINERS, FILTERS PER RF DATA SHEET, FURNISHED BY SPRINT.

ANTENNA INSTALLATION:

THE CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ONSITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER. ANTENNA HEIGHT, AZIMUTH, AND FEED ORIENTATION INFORMATION SHALL BE A DESIGNATED ON THE CONSTRUCTION DRAWINGS.

- A. THE CONTRACTOR SHALL POSITION THE ANTENNA ON TOWER PIPE MOUNTS SO THAT THE BOTTOM STRUT IS LEVEL. THE PIPE MOUNTS SHALL BE PLUMB TO WITHIN 1 DEGREE.
- B. ANTENNA MOUNTING REQUIREMENTS: PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.

HYBRID CABLES INSTALLATION:

- A. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- B. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADII.
- C. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.
 1. FASTENING MAIN HYBRID CABLES: ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE COAX LADDER AT 4'-0" OC USING NON-MAGNETIC STAINLESS STEEL CLIPS.
 2. FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE MMBTS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:
 - a. FIBER: SUPPORT FIBER BUNDLES USING 1/2" VELCRO STRAPS OF THE REQUIRED LENGTH @ 18" OC. STRAPS SHALL BE UV, OIL AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR APPROVED EQUAL.
 - b. DC: SUPPORT DC BUNDLES WITH ZIP TIES OF THE ADEQUATE LENGTH. ZIP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH AT 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.

3. FASTENING JUMPERS: SECURE JUMPERS TO THE SIDE ARMS OR HEAD FRAMES USING STAINLESS STEEL TIE WRAPS OR STAINLESS STEEL BUTTERFLY CLIPS.
4. CABLE INSTALLATION:
 - a. INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION MANAGER.
 - b. CABLE ROUTING: CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN THE CABLE ENVELOP AS INDICATED ON THE DRAWINGS. AVOID TWISTING AND CROSSOVERS.
 - c. HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURES RECOMMENDED MAXIMUM BEND RADIUS.
5. GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON DRAWINGS.
6. HYBRID CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED PER SPRINT TS-0200 CURRENT VERSION.
7. HYBRID CABLE LABELING: INDIVIDUAL HYBRID AND DC BUNDLES SHALL BE LABELED ALPHA-NUMERICALLY ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE -- EN 2012-001, REV 1

WEATHERPROOFING EXTERIOR CONNECTORS AND HYBRID CABLE GROUND KITS:

- A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.
- B. WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.
 1. COLD SHRINK: ENCOMPASS CONNECTOR IN COLD SHRINK TUBING AND PROVIDE A DOUBLE WRAP OF 2" ELECTRICAL TAPE EXTENDING 2" BEYOND TUBING. PROVIDE 3M COLD SHRINK CXS SERIES OR EQUAL.
 2. SELF-AMALGAMATING TAPE: CLEAN SURFACES. APPLY A DOUBLE WRAP OF SELF-AMALGAMATING TAPE 2" BEYOND CONNECTOR. APPLY A SECOND WRAP OF SELF-AMALGAMATING TAPE IN OPPOSITE DIRECTION. APPLY DOUBLE WRAP OF 2" WIDE ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF-AMALGAMATING TAPE.
 3. 3M SLIM LOCK CLOSURE 716: SUBSTITUTIONS WILL NOT BE ALLOWED.
 4. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE

SECTION 11 800 - INSTALLATION OF MULTIMODAL BASE STATIONS (MMBTS) AND RELATED EQUIPMENT

SUMMARY:

- A. THIS SECTION SPECIFIES MMBTS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).
- B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRE BY THE APPLICABLE INSTALLATION MOPS.
- C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS

DC CIRCUIT BREAKER LABELING

- A. LABEL CIRCUIT BREAKERS ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE -- EN 2012-001, REV 1.

SECTION 11 800 - INSTALLATION OF MULTIMODAL BASE TRANSCEIVER STATIONS (MMBTS) AND RELATED EQUIPMENT

SUMMARY:

- A. THIS SECTION SPECIFIES MMBTS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).
- B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRE BY THE APPLICABLE INSTALLATION MOPS.
- C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS

SUPPORTING DEVICES:

- A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
 1. ALLIED TUBE AND CONDUIT
 2. B-LINE SYSTEM
 3. UNISTRUT DIVERSIFIED PRODUCTS
 4. THOMAS & BETTS
- B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
 1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
 2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
 3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
 4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
 5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
 6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.
 7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
 8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
 9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

SUPPORTING DEVICES:

- A. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.
- B. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.
- C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
- D. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.
- E. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:

- A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.
- B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANELBOARD.

SECTION 26 200 - ELECTRICAL MATERIALS AND EQUIPMENT

CONDUIT:

- A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80.1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED -- SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.
- B. UNDERGROUND CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.
- C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG SWEEP RADIUS ELBOWS.
- D. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILINGS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL. FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE.
- E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT. FITTINGS SHALL BE METALLIC GLAND TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6- FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRE BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE OR UNIVERSAL METAL HOSE, OR APPROVED EQUAL.
- F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

HUBS AND BOXES:

- A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O-RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.
- B. CABLE TERMINATION FITTINGS FOR CONDUIT
 1. CABLE TERMINATORS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL.
 2. CABLE TERMINATORS FOR LFMC SHALL BE ETCO -- CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.
- C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.
- D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKETED COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM 8 OR EQUAL.
- E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM

- A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS AS INDICATED.
- B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUGS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER; AT GROUND BARS USE TWO HOLE SPADES WITH NO OX.
- C. STOLEN GROUND-BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

EXISTING STRUCTURE:

- A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

CONDUIT AND CONDUCTOR INSTALLATION:

- A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.



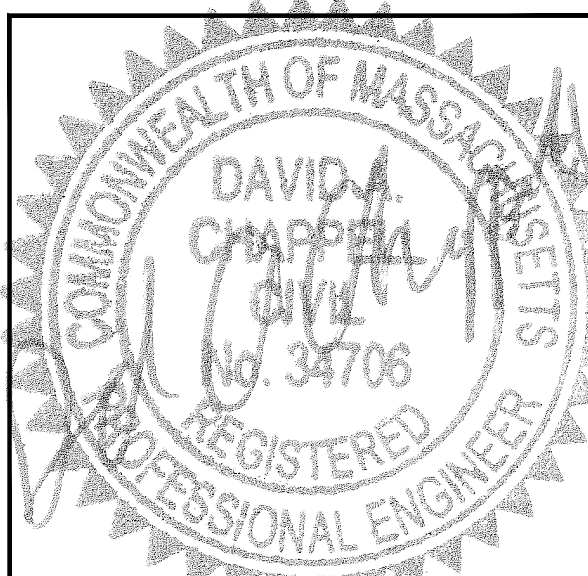
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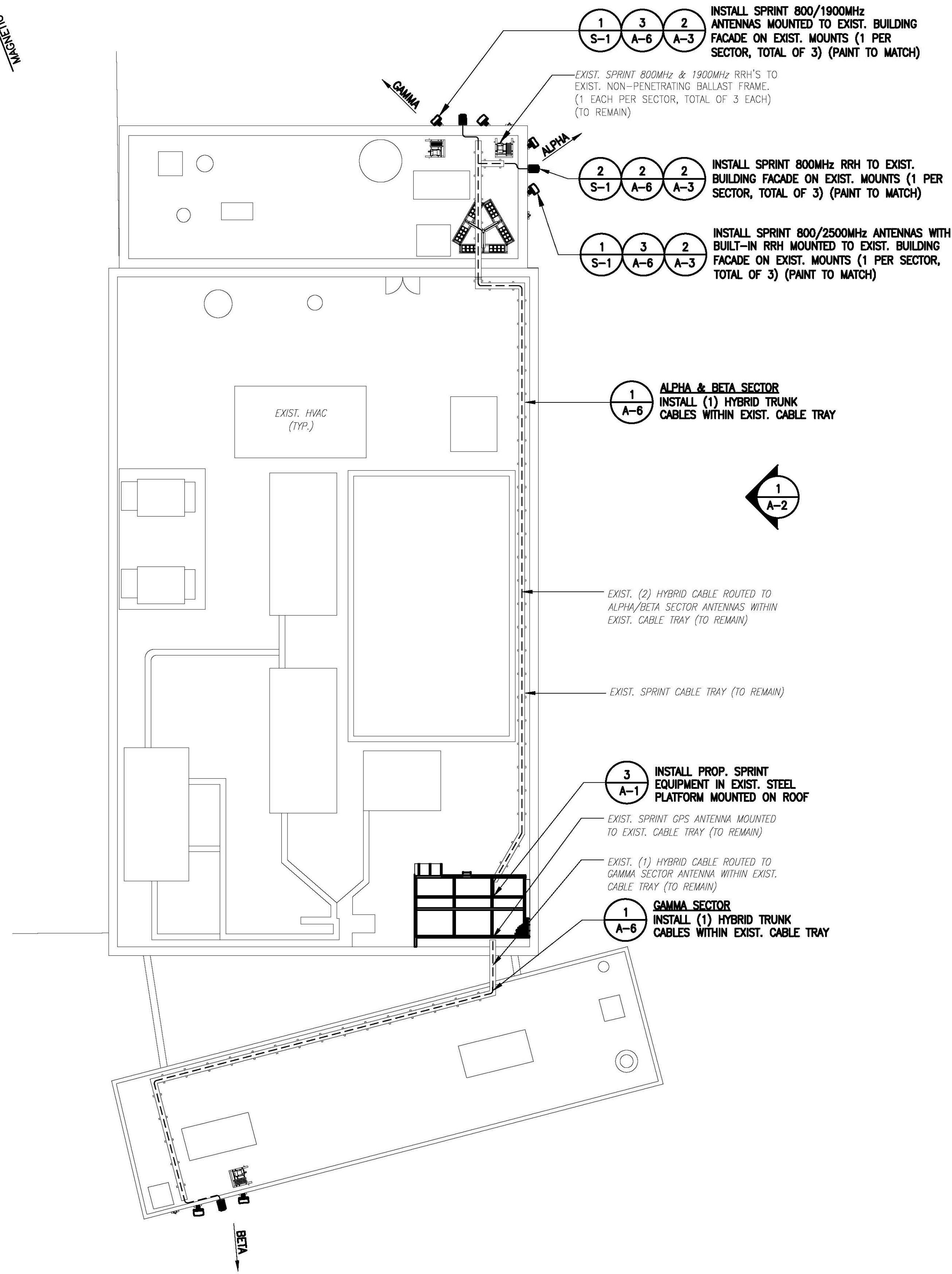
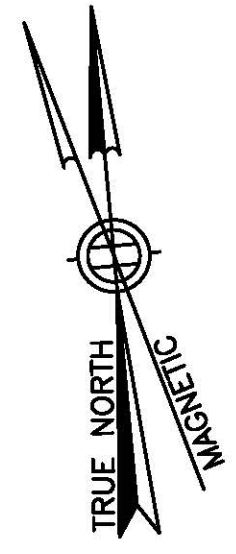
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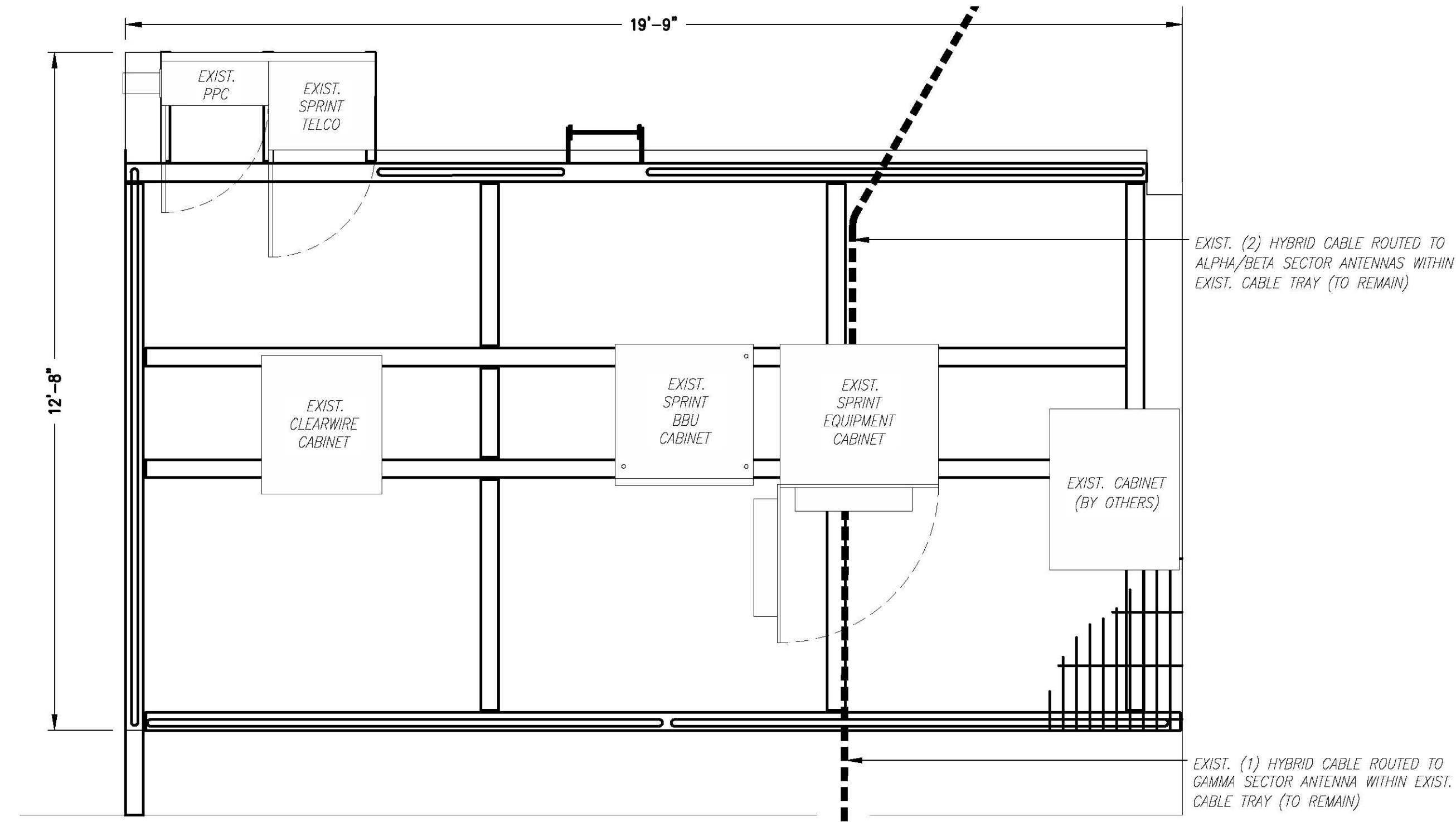
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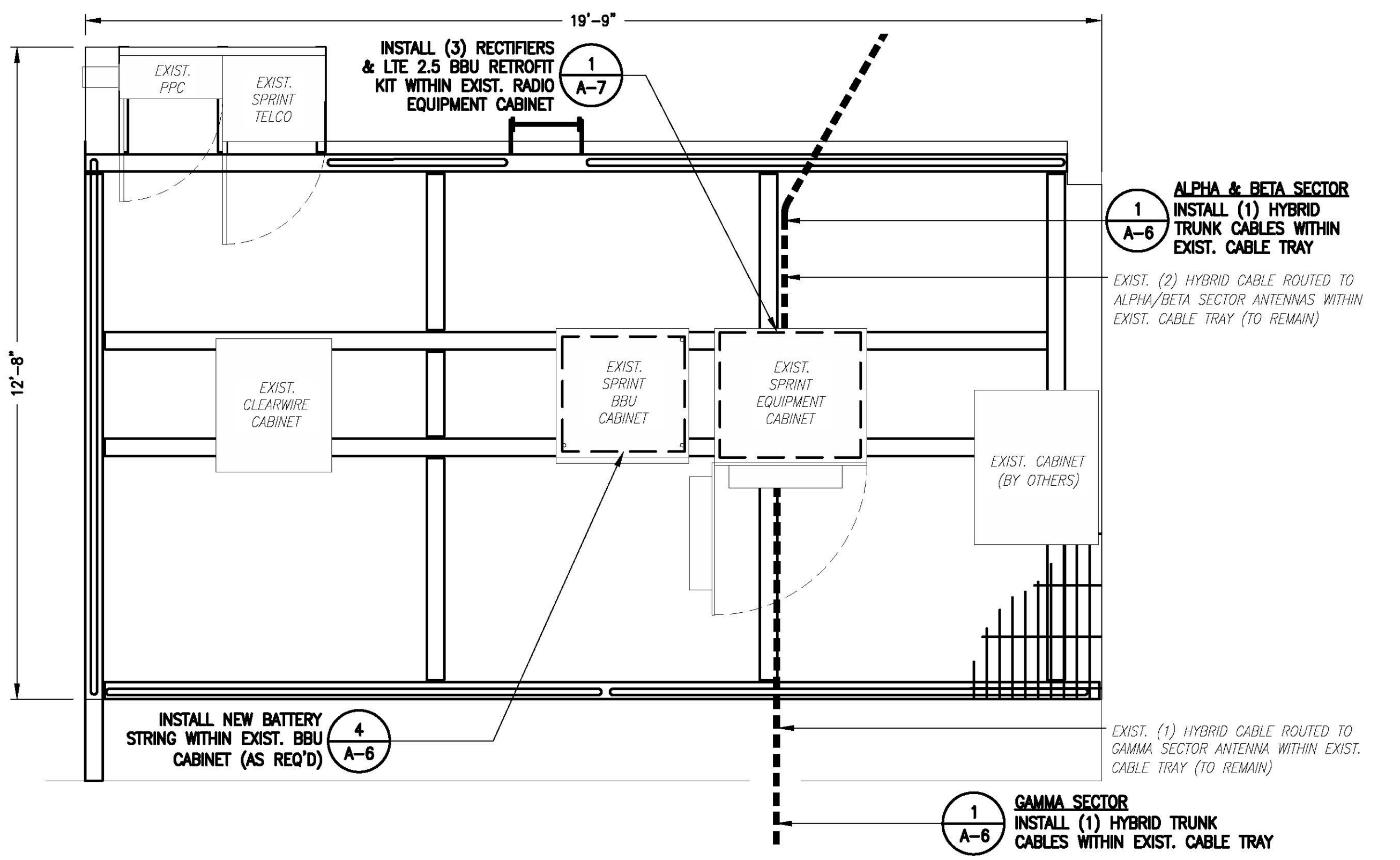
SHEET NUMBER
SP-3



COMPOUND PLAN
SCALE: 1" = 12'-0"
0 6' 12' 24' 36'



EXISTING EQUIPMENT PLAN
SCALE: 1/2" = 1'-0"
0 1' 2' 4' 6'

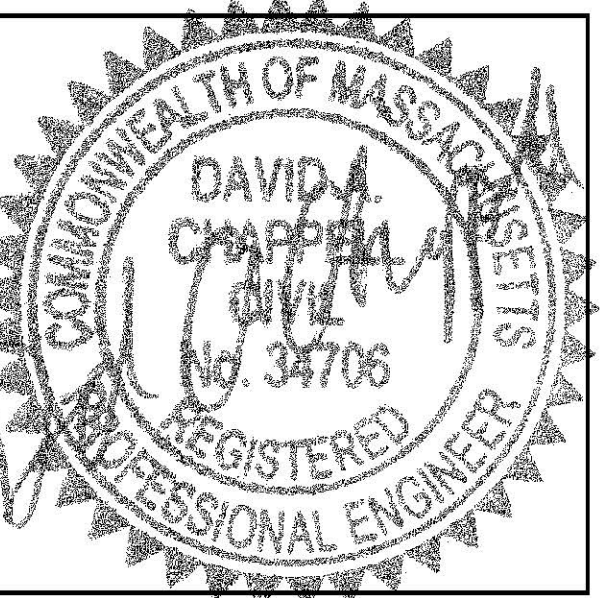


PROPOSED EQUIPMENT PLAN
SCALE: 1/2" = 1'-0"
0 1' 2' 4' 6'

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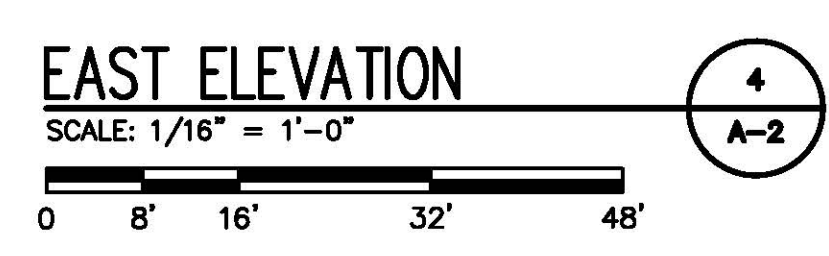
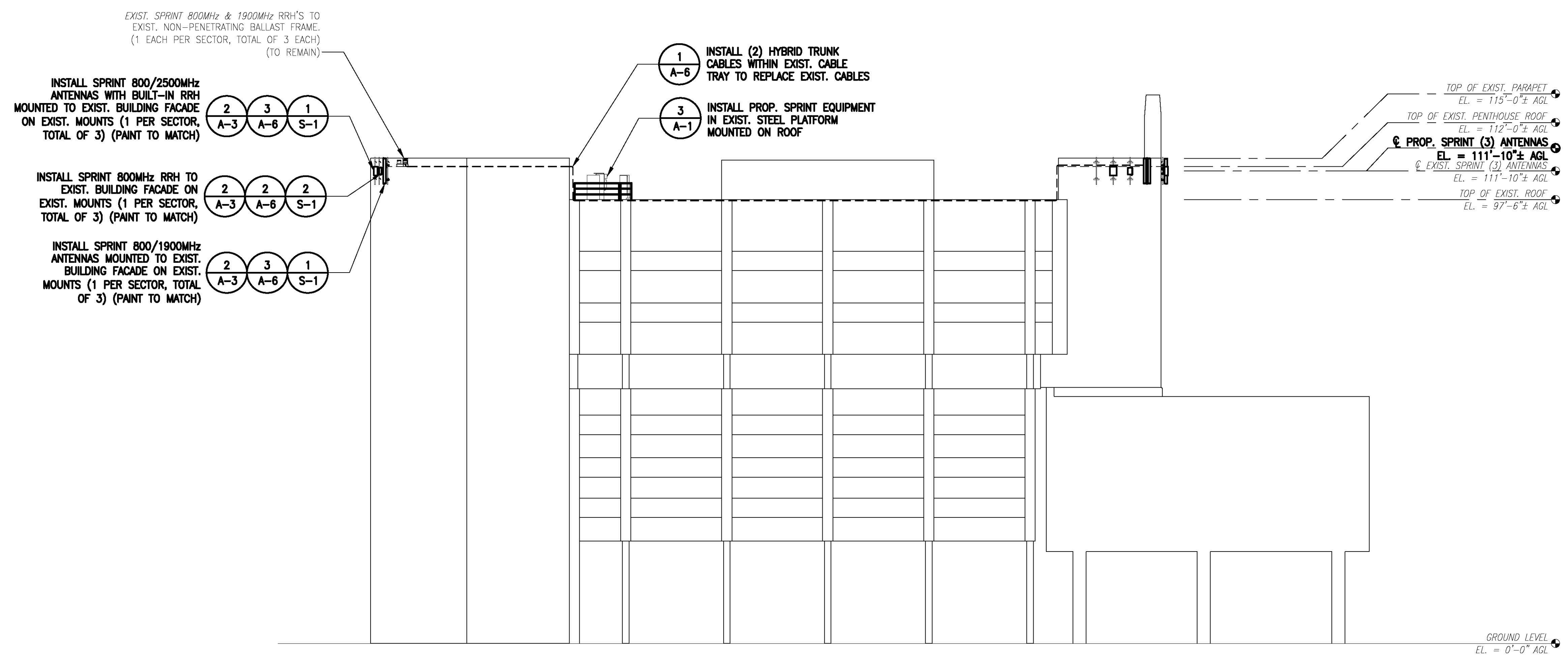
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SHEET TITLE
ROOF & EQUIPMENT PLANS

SHEET NUMBER
A-1

SPECIAL CONSTRUCTION NOTE:
 SPRINT TOWER TOP WORK IS CONTINGENT ON THE FOLLOWING:
 * COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS (PROVIDED BY TOWER OWNER OR A&E VENDOR).
 * COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT (PROVIDED BY A&E VENDOR).
 * GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.

STRUCTURAL NOTE:
 ADDITIONAL TOWER MAPPING AND STRUCTURAL ANALYSIS ARE REQUIRED PRIOR TO CONSTRUCTION. DRAWINGS ARE SUBJECT TO CHANGE PENDING OUTCOME OF STRUCTURAL ANALYSIS.



Sprint VISION

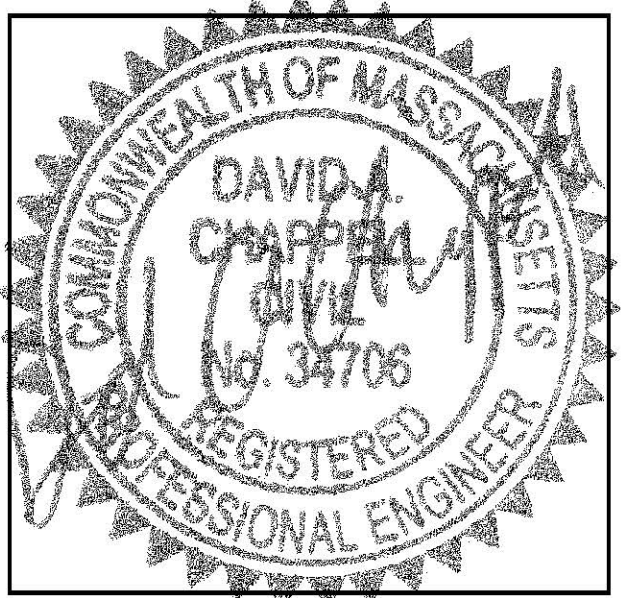
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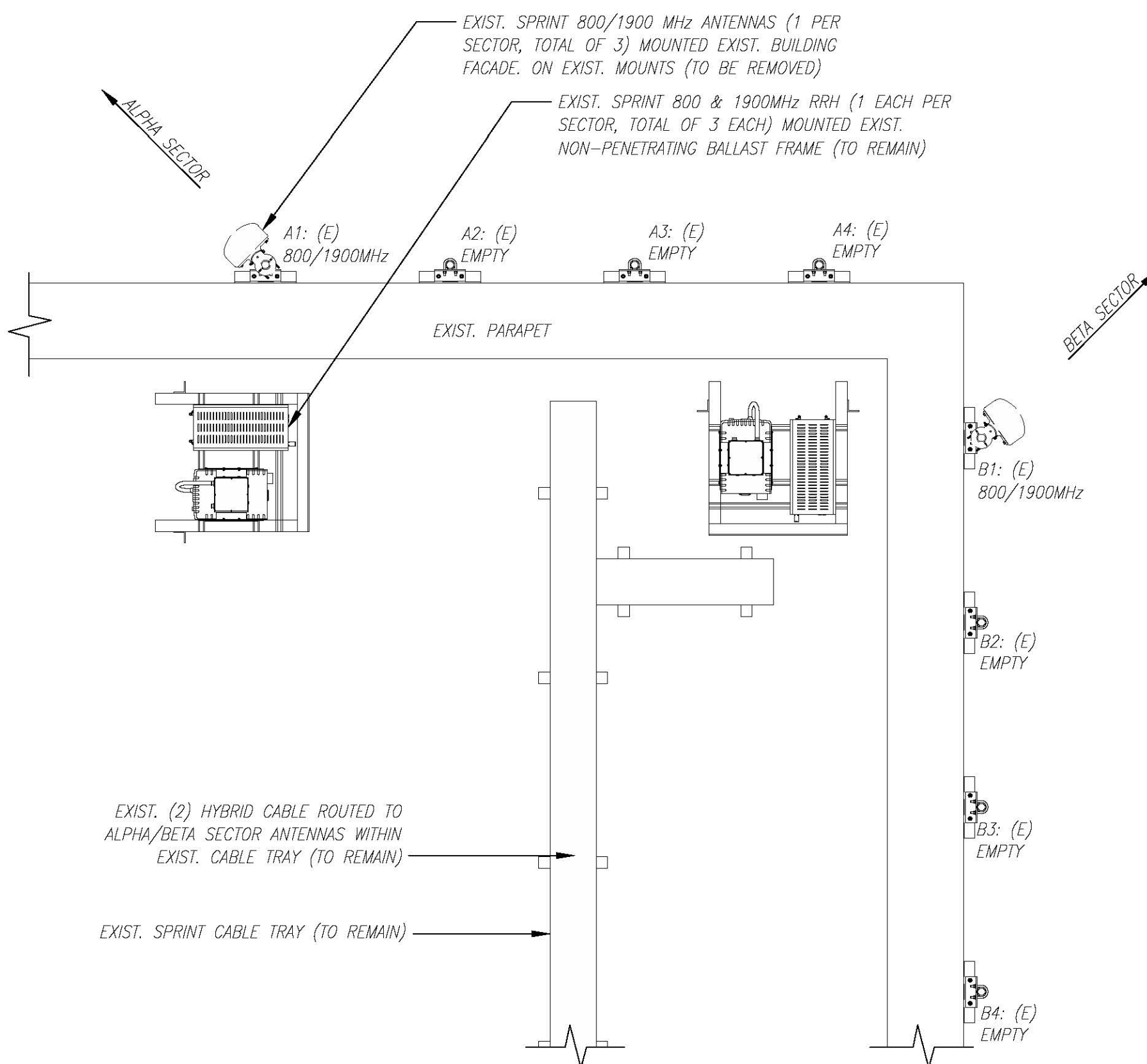
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SPECIAL CONSTRUCTION NOTE:
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 * COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT (PROVIDED BY A&E VENDOR).
 * GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.

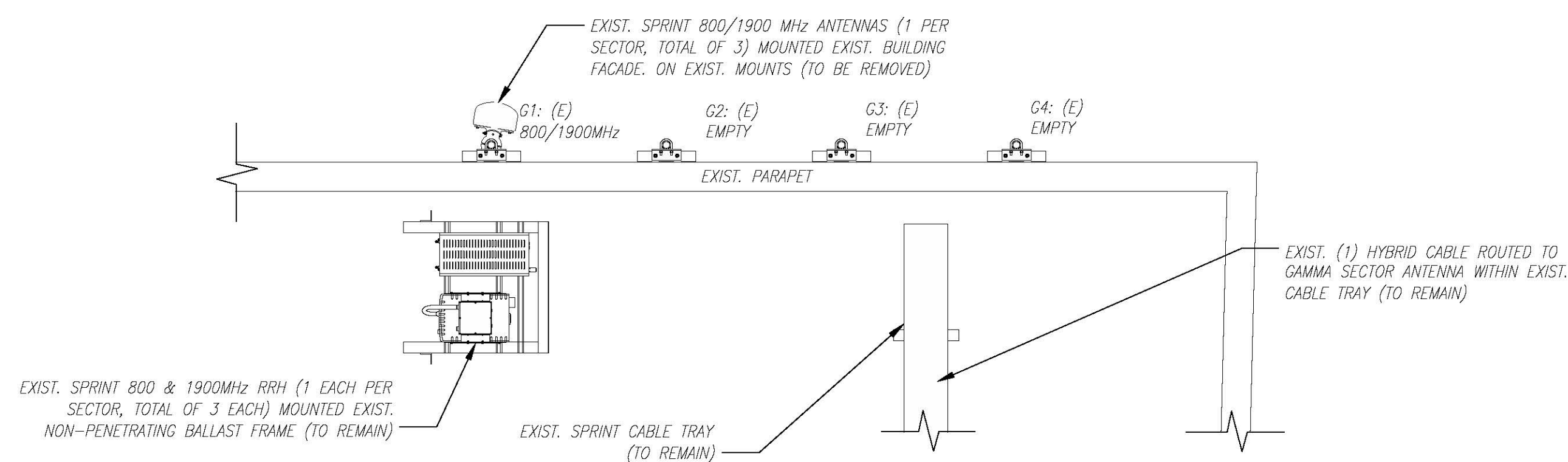
STRUCTURAL NOTE:
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ANTENNA STATUS LEGEND:

- EMPTY - EMPTY PIPE
- (E) - EXISTING
- (P) - INSTALL
- NW - SPRINT ANTENNA
- 2.5 - SPRINT ANTENNA

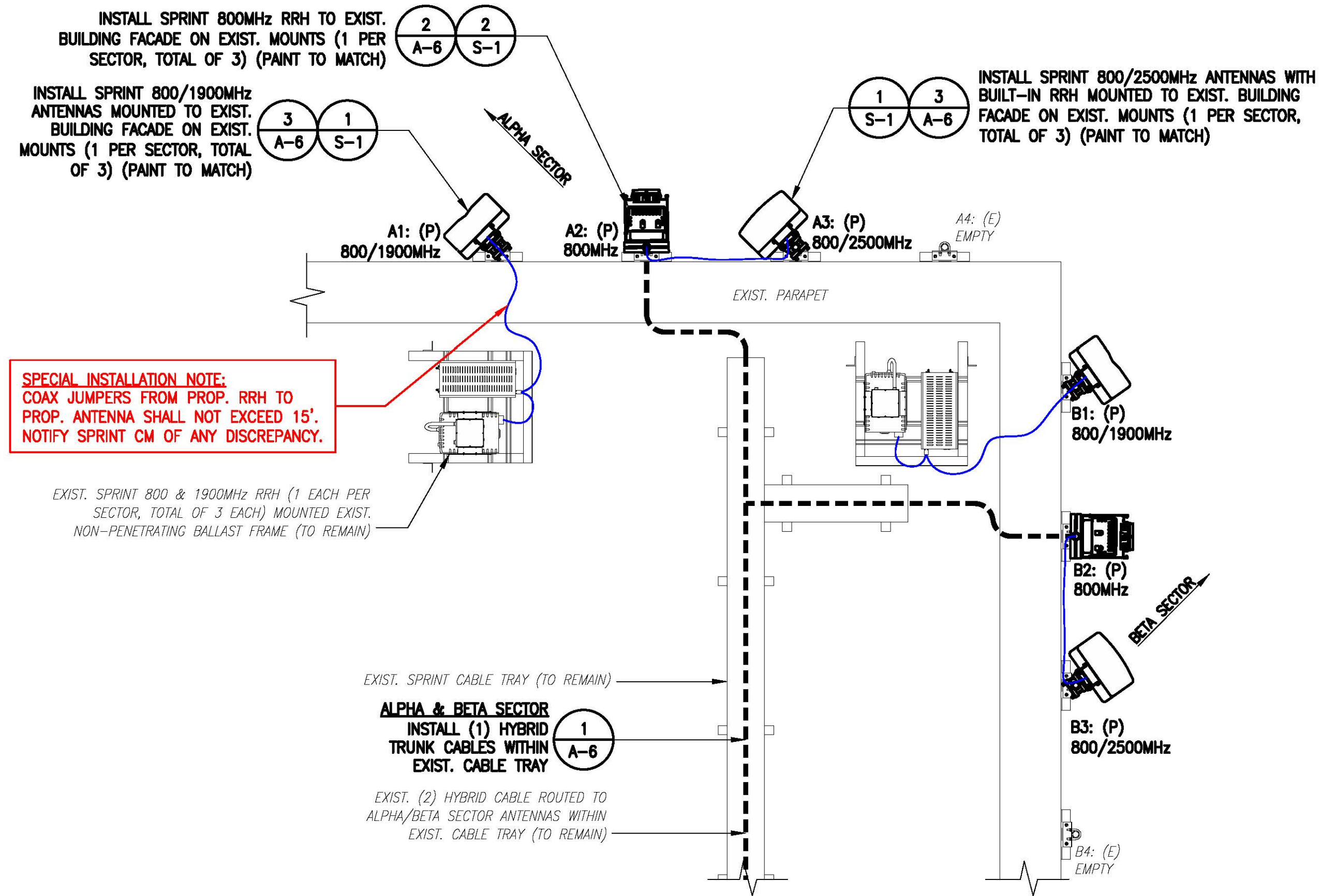


ALPHA & BETA SECTOR EXISTING ANTENNA PLAN
 SCALE: N.T.S.



GAMMA SECTOR EXISTING ANTENNA PLAN
 SCALE: N.T.S.

NOTE:
 EXISTING AZIMUTHS FROM SPRINT SITE AUDIT, DATED 09/25/2017.



ALPHA & BETA SECTOR PROPOSED ANTENNA PLAN
 SCALE: N.T.S.

SPECIAL INSTALLATION NOTE:
 COAX JUMPERS FROM PROP. RRH TO PROP. ANTENNA SHALL NOT EXCEED 15'. NOTIFY SPRINT CM OF ANY DISCREPANCY.

EXIST. SPRINT 800 & 1900MHz RRH (1 EACH PER SECTOR, TOTAL OF 3 EACH) MOUNTED EXIST. NON-PENETRATING BALLAST FRAME (TO REMAIN)

GAMMA SECTOR PROPOSED ANTENNA PLAN
 SCALE: N.T.S.

NOTE:
 VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.



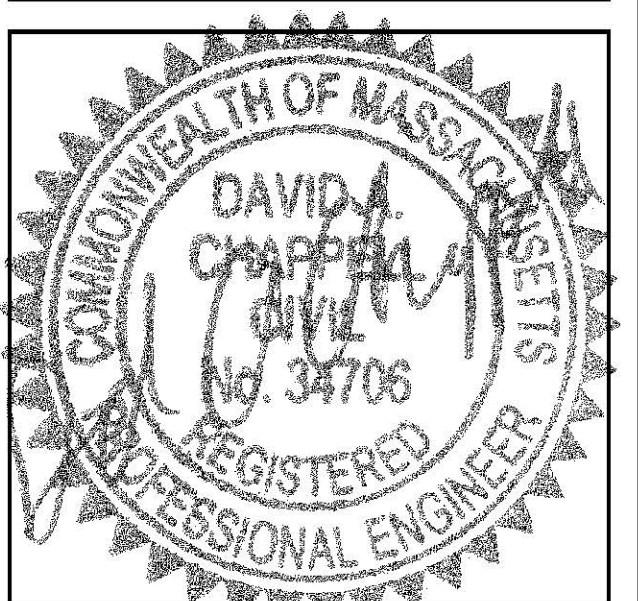
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 ANTENNA PLANS

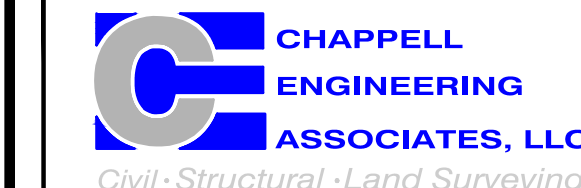
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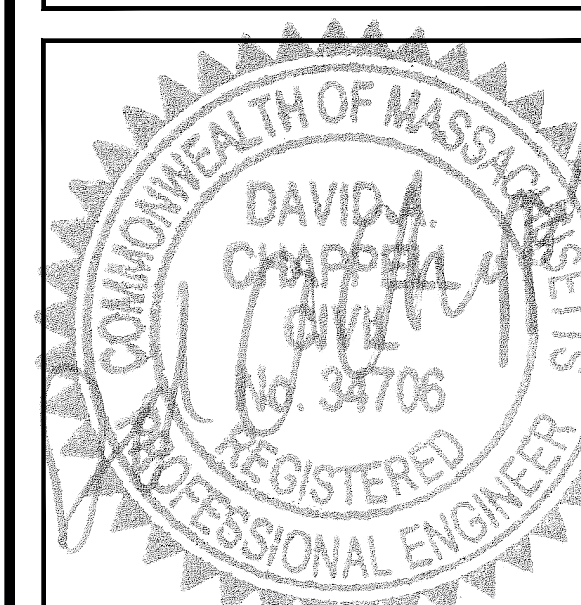
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SHEET TITLE
RF DATA SHEET

SHEET NUMBER
A-4

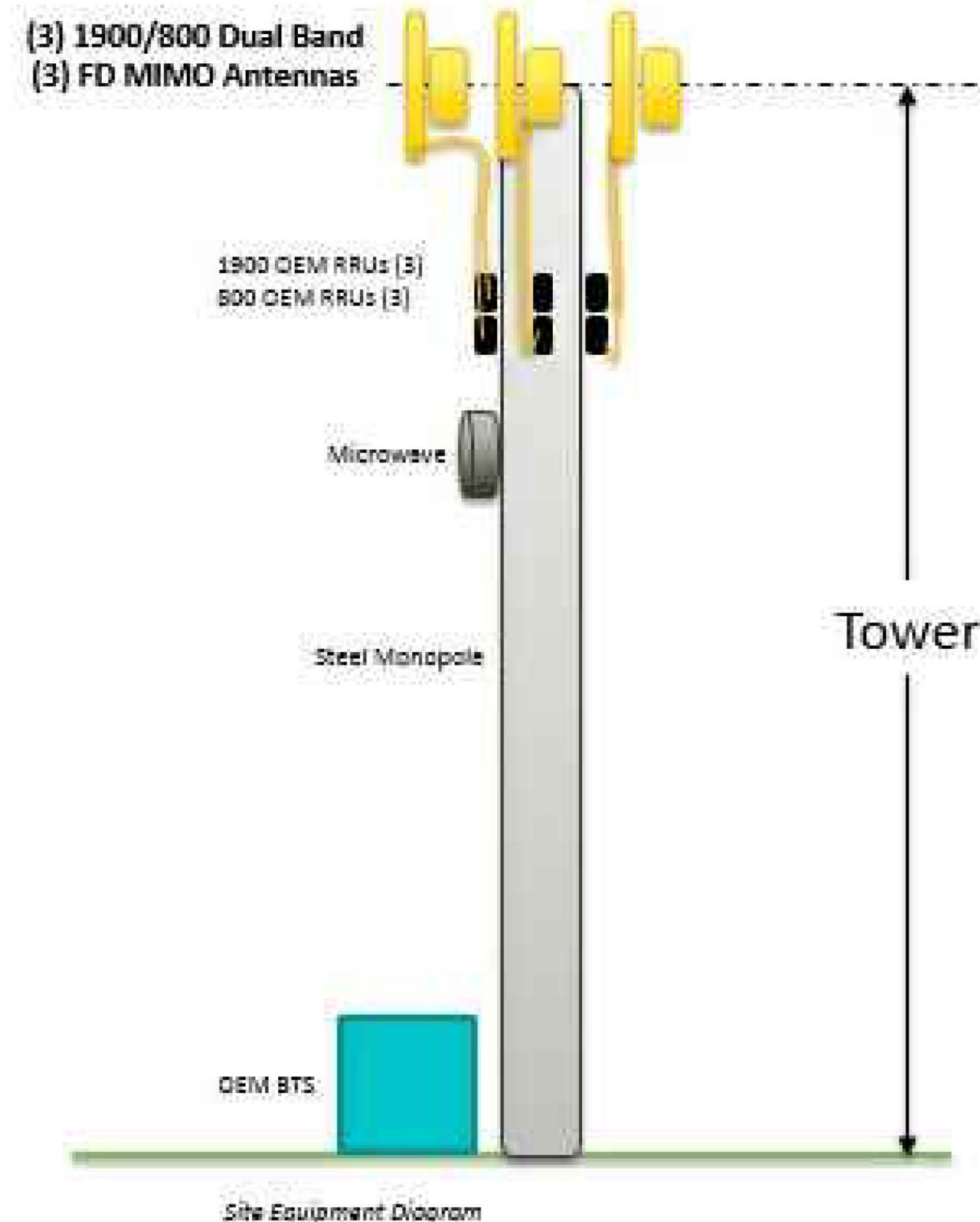
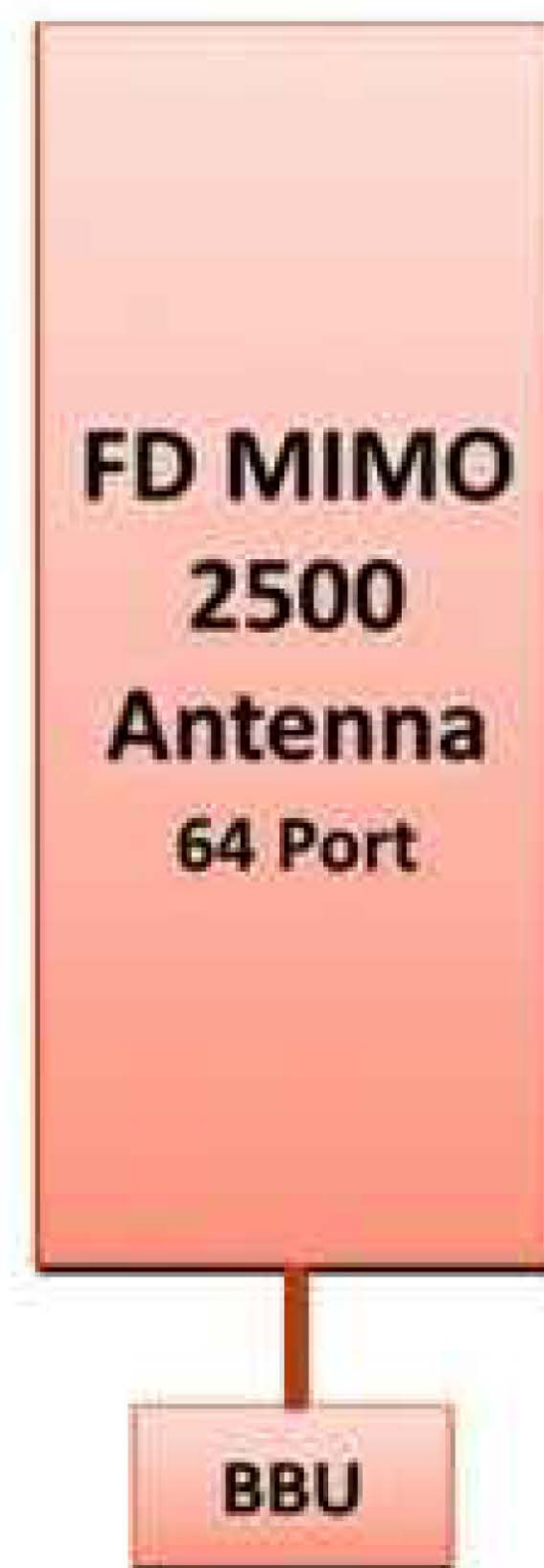
Region:	Market	Boston	Revision 3.0	Rev Date: 6-Mar-2018
Cascade ID	BS54XC904	BTS OEM: ALU, Nokia	RFDS Type: Preliminary	
Augment Import Code: SPDOMU01_DO_Macro_Upgrade	Augment: DO Macro Upgrade	Structure Type: Rooftop		
Address: 330 Mt. Auburn Street, Cambridge, MA, 02238	Sprint Eng. Name: Bill Hastings	Eng. Phone: 978-590-9700		
Latitude: 42.37396596 Longitude: -71.13398291	Manager Name: Jonathan Hull	Manager Phone: 617-233-2920		
Detailed RFDS Description:	RFE: Praveen Meesarapu	Praveen.Meesarapu@sprint.com	RFE Phone: 301-728-0006	
Triband final config swap existing antenna to 8-port 800/1900 antenna. Add 2nd 800 RRHs and 2.5 Massive MIMO Antenna System.	Filter Analysis Complete: YES	Border Analysis Complete: YES	Channel Plan Complete: YES	
	Alpha	Beta	Gamma	
1900MHz_Azimuth	320	60	180	
1900MHz_No_of_Antennas	1	1	1	
1900MHz_RADCenter(ft)	111.9	111.9	111.9	
1900MHz_Antenna_Make	Commscope	Commscope	Commscope	
1900MHz_Antenna_Model	NNVV-65B-R4	NNVV-65B-R4	NNVV-65B-R4	
1900MHz_Horizontal_Beamwidth	60	60	60	
1900MHz_Vertical_Beamwidth	6.4	6.4	6.4	
1900MHz_Antenna_Dimensions (in) & Weight (lbs)	72 x 19.6 x 7.8 77.4 (lbs)	72 x 19.6 x 7.8 77.4 (lbs)	72 x 19.6 x 7.8 77.4 (lbs)	
1900MHz_AntennaGain(dBi)	17.7	17.7	17.7	
1900MHz_E_Tilt	0	0	0	
1900MHz_M_Tilt	0	0	0	
1900_Effective_Tilt	0	0	0	
1900MHz_Carrier_Forecast_Year_2017				
1900MHz_RRH_Manufacturer	ALU	ALU	ALU	
1900MHz_RRH_Model	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz	
1900MHz_RRH_Count	1	1	1	
1900MHz_RRH_Specs	25 x 11.1 x 11.4 (60 lbs)	25 x 11.1 x 11.4 (60 lbs)	25 x 11.1 x 11.4 (60 lbs)	
1900MHz_RRH_Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower	
1900MHz_Combiner_Model	No Combiner Required	No Combiner Required	No Combiner Required	
1900MHz_Power_Split_Ratio (Main/Split)				
1900MHz_Splitter_Manufacturer				
1900MHz_Splitter_Model	No Splitter Required	ok	No Splitter Required	
1900MHz_Number_of_Splitters	0	0	0	
1900MHz_Top_Jumper #1_Length (RRH or Combiner-to-Antenna for TT or Main Coax to Antenna for Ground Mount, ft)	8	8	8	
1900MHz_Top_Jumper #1_Cable_Model (RRH or Combiner-to-Antenna for TT or Main Coax to Antenna for Ground Mount)	LCF12-50J	LCF12-50J	LCF12-50J	
1900MHz_Top_Jumper #2_Length (RRH to Combiner for TT if applicable, ft)				
1900MHz_Top_Jumper #2_Cable_Model (RRH to Combiner for TT if applicable)				
1900MHz_Main_Cable_Length (ft)	136.9	136.9	136.9	
1900MHz_Main_Cable_Model	HB114-1-08U4-M5F	HB114-1-08U4-M5F	HB114-1-08U4-M5F	
1900MHz_Bottom_Jumper #1_Length (Ground based RRH to Combiner-OR-Main Coax, ft)				
1900MHz_Bottom_Jumper #1_Cable_Model (Ground based RRH to Combiner-OR-Main Coax)				
1900MHz_Bottom_Jumper #2_Length (Ground based-Combiner to Main Coax, ft)				
1900MHz_Bottom_Jumper #2_Cable_Model (Ground based-Combiner to Main Coax)				

NOTES:
1. COMMENTS IN RED TEXT PROVIDED BY A&E VENDOR.
2. ANTENNA RAD CENTER BASED ON EQUIPMENT DATABASE AND STRUCTURAL ANALYSIS.
3. SPRINT CM SHALL CONFIRM HYBRID CABLE LENGTH, COAX JUMPER LENGTH AND AISG CABLE LENGTH BEFORE PREPARING BOM. A&E RECOMMENDED HYBRID CABLE LENGTH BASED ON NV 2.5 EQUIPMENT AUDIT PLUS 20 FEET FOR (2) 10-FOOT COILS AT EACH END OF THE FIBER TRUNK.

NOTE:
GENERAL CONTRACTOR/TOWER CREW SHALL VERIFY THAT THE LATEST RF DATA SHEET IS USED FOR EQUIPMENT INSTALLATION.

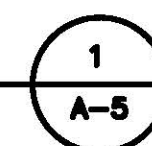
SPECIAL WORK NOTE:
JUMPERS (COAX/AISG) FROM THE 2.5 RRH TO THE 2.5 ANTENNA CANNOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY.

800MHz_Azimuth	320	60	180
800MHz_No_of_Antennas	1	1	1
800MHz_RADCenter(ft)	111.9	111.9	111.9
800MHz_Antenna_Make	NA	NA	NA
800MHz_Antenna_Model	Antenna assigned on a different band	Antenna assigned on a different band	Antenna assigned on a different band
800MHz_Horizontal_Beamwidth	NA	NA	NA
800MHz_Vertical_Beamwidth	NA	NA	NA
800MHz_Antenna_Dimensions (in) & Weight (lbs)	NA NA	NA NA	NA NA
800MHz_AntennaGain(dBi)	NA	NA	NA
800MHz_E_Tilt	0	0	0
800MHz_M_Tilt	0	0	0
800MHz_Effective_Tilt (degrees)	0	0	0
800MHz_RRH_Manufacturer	ALU	ALU	ALU
800MHz_Combiner_Model	No Combiner Required	No Combiner Required	No Combiner Required
800MHz_RRH_Model	RRH 800 MHz 2x50W	RRH 800 MHz 2x50W	RRH 800 MHz 2x50W
800MHz_RRH_Specs	15.8 x 13.0 x 14.0 (64 lbs)	15.8 x 13.0 x 14.0 (64 lbs)	15.8 x 13.0 x 14.0 (64 lbs)
800MHz_RRH_Count	2	2	2
800MHz_RRH_Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
800MHz_BILT_Border_Filter	na	na	na
800MHz_Splitter_Manufacturer			
800MHz_Splitter_Model			
800MHz_Number_of_Splitters	0	0	0
800_Top_Jumper #1_Length (RRH to Antenna for TT or Main Coax to Antenna for GM)	8	8	8
800_Top_Jumper_Cable_Model (RRH to Antenna for TT or Main Coax to Antenna for GM)	LCF12-50J	LCF12-50J	LCF12-50J
800MHz_Main_Coax_Cable_Length (ft)	NA	NA	NA
800MHz_Main_Coax_Cable_Model	NA	NA	NA
800_Bottom_Jumper #1_Length (Ground based RRH to Main Coax)			
800_Bottom_Jumper #1_Cable_Model (Ground based RRH to Main Coax)			
2500MHz_Azimuth	320	60	180
2500MHz_No_of_Antennas	1	1	1
2500MHz_RADCenter(ft)	111.9	111.9	111.9
2500MHz_Antenna_Make	Nokia	Nokia	Nokia
2500MHz_Antenna_Model	AAHC	AAHC	AAHC
2500MHz_Horizontal_Beamwidth	68.6	68.6	68.6
2500MHz_Vertical_Beamwidth	9.6	9.6	9.6
2500MHz_AntennaHeight (in)	25.6 x 19.7 x 9.9 99.2 (lbs)	25.6 x 19.7 x 9.9 99.2 (lbs)	25.6 x 19.7 x 9.9 99.2 (lbs)
2500MHz_AntennaGain (dBi)	15.4	15.4	15.4
2500MHz_E_Tilt	0	0	0
2500MHz_M_Tilt	0	0	0
2500MHz_Effective_Tilt (degrees)	0	0	0
2500MHz_RRH_Manufacturer	Nokia	Nokia	Nokia
2500MHz_Combiner_Model	comb model	comb model	comb model
2500MHz_RRH_Model	AAHC	AAHC	AAHC
2500MHz_RRH_Count	1	1	1
2500MHz_RRH_Location	Built into Antenna	Built into Antenna	Built into Antenna
2500MHz_Power_Split_Ratio (Main/Split)			
2500MHz_Splitter_Manufacturer			
2500MHz_Splitter_Model			
2500MHz_Number_of_Splitters	0	0	0
2500_Top_Jumper #1_Length (RRH to Antenna for TT or Main Coax to Antenna for GM)	8	8	8
2500_Top_Jumper_Cable_Model (RRH to Antenna for TT or Main Coax to Antenna for GM)	LCF12-50J	LCF12-50J	LCF12-50J
2500MHz_Main_Cable_Length (ft)	136.9		136.9
2500MHz_Main_Cable_Model	HB114-08U3M12-xxxF		HB114-08U3M12-xxxF
2500_Bottom_Jumper #1_Length (Ground based RRH to Main Coax)			
2500_Bottom_Jumper #1_Cable_Model (Ground based RRH to Main Coax)			



PLUMBING DIAGRAM

SCALE: N.T.S.



SPRINT CONSTRUCTION STANDARDS:

GENERAL CONTRACTOR SHALL ADHERE TO THE FOLLOWING SPRINT CONSTRUCTION STANDARDS.

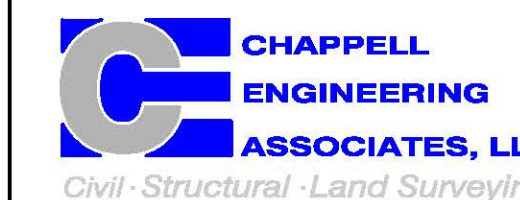
- CONSTRUCTION STANDARDS: INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES - (CURRENT VERSION), INCLUDING EXHIBITS A-M.
- CONSTRUCTION SPECIFICATIONS: CONSTRUCTION STANDARDS EXHIBIT A - STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES (CURRENT VERSION).
- GROUNDING STANDARDS: EXTERIOR GROUNDING SYSTEM DESIGN.
- GROUNDING STANDARDS (SUPPLEMENT): ANTI-THEFT UPDATE TO SPRINT GROUNDING 082412 AND SPRINT ENGINEERING LETTER EL-0504 DATED 04.20.12.
- WEATHER PROOFING STANDARDS: EXCERPT FROM CONSTRUCTION STANDARDS EXHIBIT A, SECTION 3.6 WEATHERPROOFING CONNECTORS AND GROUND KITS.
- COLOR CODING: SPRINT NEXTEL ANT AND LINE COLOR CODING PER SPRINT TS-0200 CURRENT VERSION.
- GENERAL CONTRACTOR TO FIELD VERIFY AZIMUTH AND CL HEIGHT AND MECHANICAL DOWNTILT. IF DIFFERENT THAN CALLED OUT IN RFDS, HALT ANTENNA WORK FOR WORK FOR ONE HOUR, CALL SPRINT RF ENGINEER (OR MANAGER IF RF ENGINEER DOES NOT ANSWER, BUT STILL LEAVE A MESSAGE TO RF ENGINEER) USING SPRINT-PROVIDED CONTACT INFORMATION FOR FURTHER INSTRUCTIONS. IF SPRINT DOES NOT RESPOND WITHIN ONE HOUR, PLACE 2.5GHz ANTENNA AT SAME CL AS 1.9GHz ANTENNA AND EMAIL CORRECT CL HEIGHT AND AZIMUTH TO SPRINT RF ENGINEER. UPDATE AS-BUILT DRAWING WITH CORRECT CL HEIGHT. ALSO EMAIL CORRECT 1900MHz AND 800MHz ANTENNA CL HEIGHT, AZIMUTH AND MECHANICAL DOWNTILT TO RF ENGINEER.
- AISG TESTS TO VERIFY OPERATION IS TO BE PERFORMED AFTER FINAL INSTALLATION OF ANTENNAS AND AISG CABLES HAVE BEEN CONNECTED. VERIFY OPERATION OF ALL EXISTING SPRINT AISG EQUIPMENT INCLUDING 800MHz, 1.9GHz, AND 2.5GHz. TEST INCLUDE COMPLETE DOWNTILT, AZIMUTH (IF APPLICABLE) AND BEAMWIDTH SWINGS (IF APPLICABLE). DOCUMENT AISG TEST RESULTS IN COAX SWEEP TEST SPREADSHEET.
- GENERAL CONTRACTOR MUST INSURE THAT NO OBJECT IS LOCATED IN FRONT OF ANTENNA. THIS MEANS NO OBJECT IS TO BE LOCATED 45 DEGREES LEFT AND RIGHT OF FRONT OF ANTENNA OR 7 DEGREES UP AND DOWN FROM CENTER OF ANTENNA. IF THIS IS NOT POSSIBLE, CONTACT RF ENGINEER FOR FURTHER INSTRUCTION. IN ADDITION, 2.5GHz ANTENNA IS NOT TO BE PLACED IN FRONT OF ANY OTHER ANTENNA USING THE SAME 45 DEGREE RULE. THIS INCLUDES SPRINT AND NON-SPRINT ANTENNAS.
- GENERAL CONTRACTOR IS REQUIRED TO USE A DIGITAL ALIGNMENT TOOL TO SET AZIMUTH, ROLL AND DOWNTILT. AZIMUTH ACCURACY IS TO BE WITHIN 1 DEGREES. DOWNTILT AND ROLL (LEFT TO RIGHT TILT) IS TO BE WITHIN 0.1 DEGREES. IF FOR SOME REASON THIS ACCURACY CANNOT BE ACHIEVED, UPDATE AS-BUILT DRAWINGS AND EMAIL SPRINT RF ENGINEER WITH AS-BUILTS SETTINGS. USE 3Z RF ALIGNMENT TOOL OR EQUIVALENT TOOL. [HTTP://WWW.3ZTELECOM.COM/ANTENNA-ALIGNMENT-TOOL/](http://www.3ztelem.com/antenna-alignment-tool/).



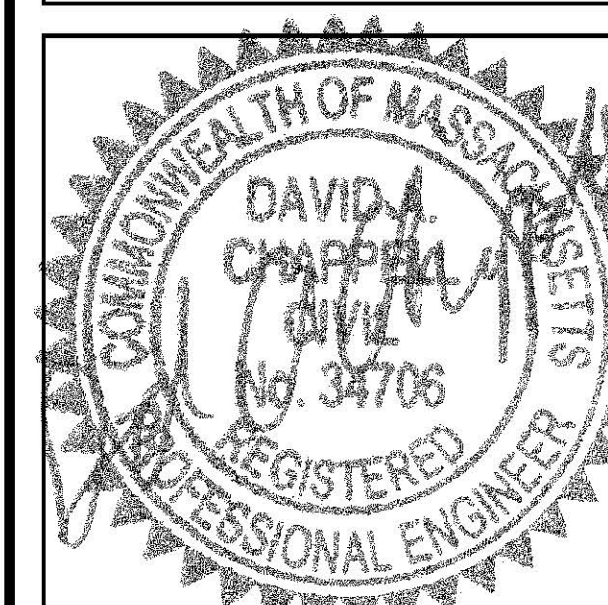
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SUBMITTALS

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1	05/02/18	ISSUED FOR CONSTRUCTION	CMC
0	03/20/18	ISSUED FOR REVIEW	JRV

SITE NUMBER:
BS54XC904

SITE NAME:
MOUNT AUBURN
HOSPITAL

SITE ADDRESS:
300 MT AUBURN STREET
CAMBRIDGE, MA 02138

SHEET TITLE

RAN WIRING
DIAGRAMS

SHEET NUMBER

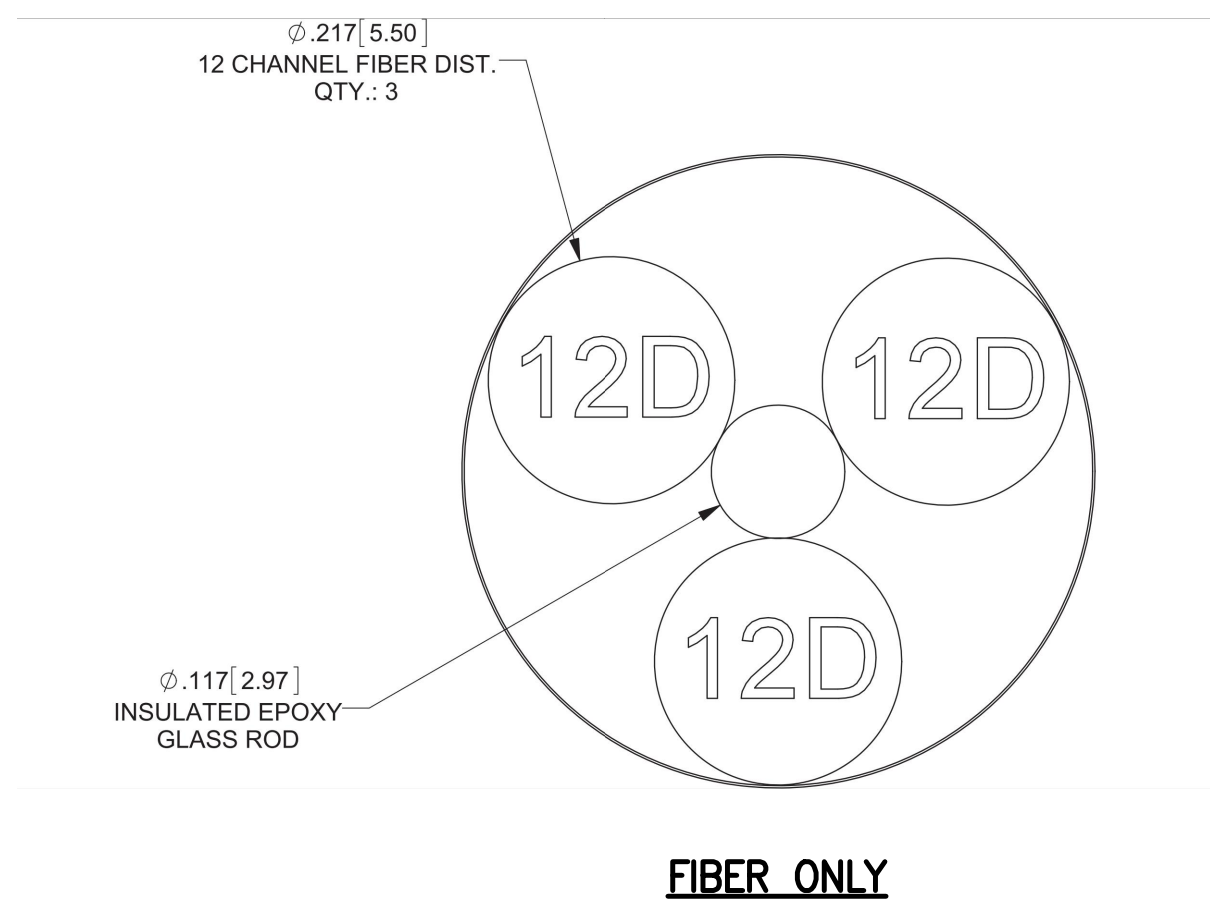
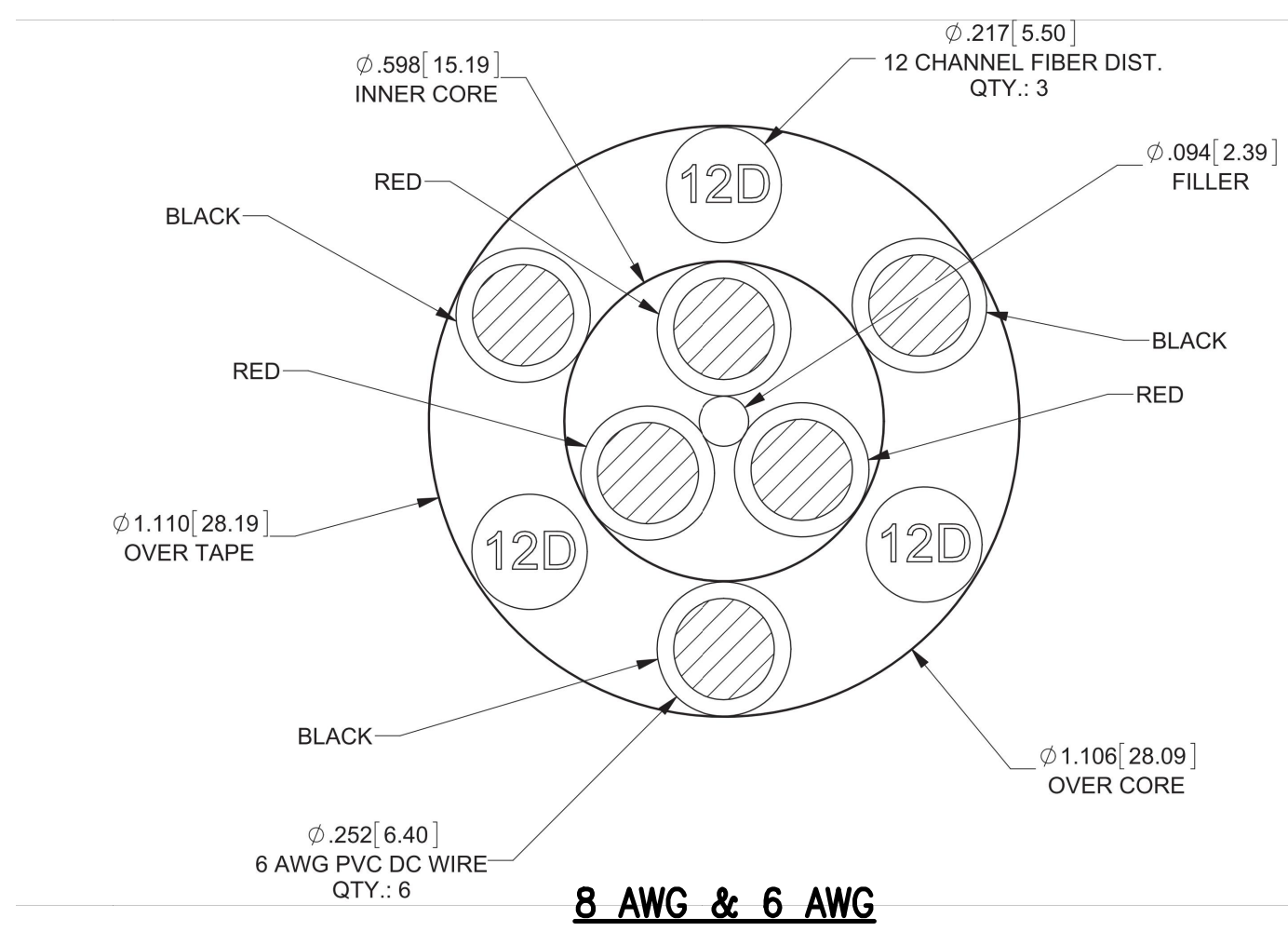
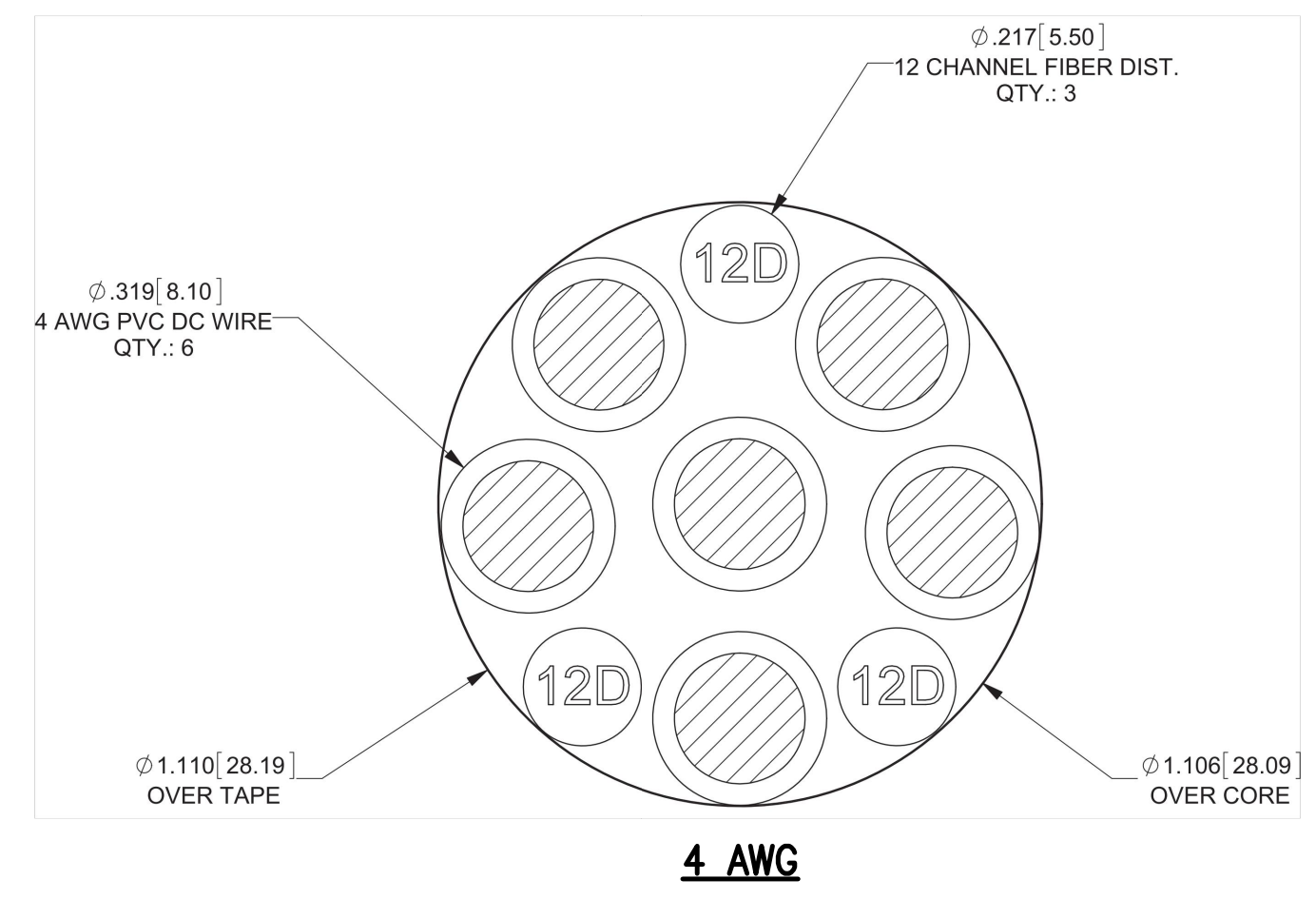
A-5

HYBRID CABLE DC CONDUCTOR SIZE GUIDELINE

CABLE	LENGTH	DC CONDUCTOR	CABLE DIAMETER
FIBER ONLY	VARIES	USE NV HYBRIFLEX	5/8"
HYBRIFLEX	<200'	8 AWG	1-1/4"
HYBRIFLEX	225-300'	6 AWG	1-1/4"
HYBRIFLEX	325-375'	4 AWG	1-1/4"

RFS HYBRIFLEX RISER CABLE SCHEDULE

Power	Hybrid cable	Length
Fiber Only (Existing DC Power)	MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
8 AWG Power	MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
6 AWG Power	MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft



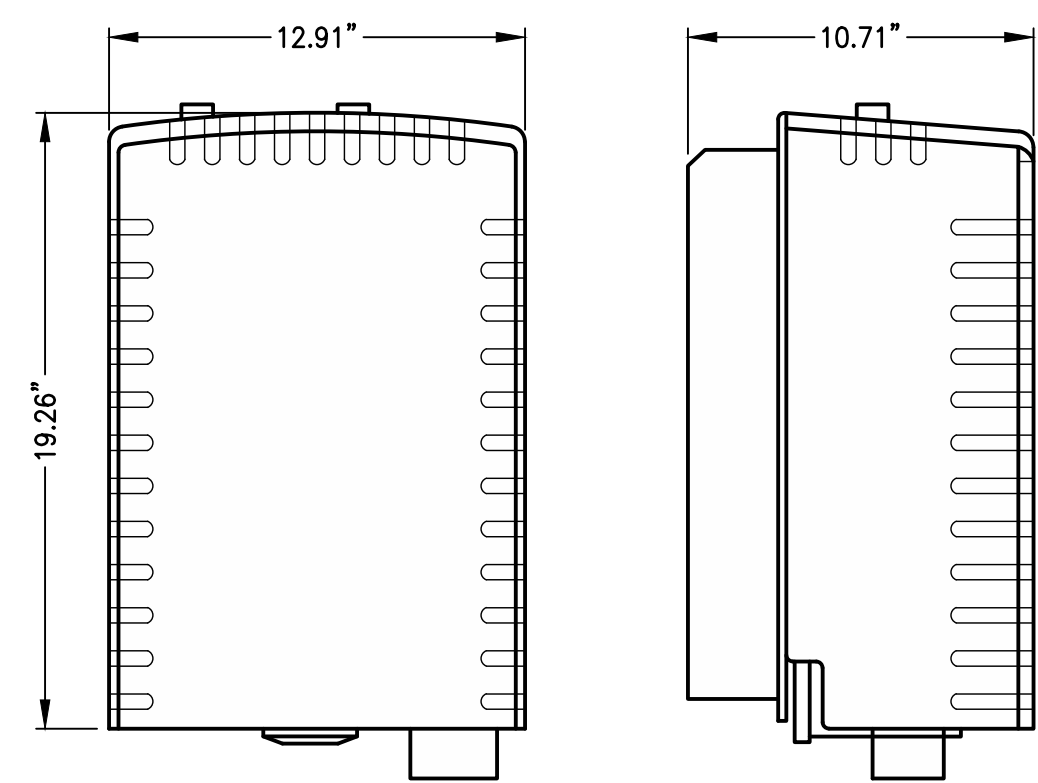
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

Power	Hybrid Jumper cable	Length
Fiber Only	MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
8 AWG Power	MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
6 AWG Power	MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
4 AWG Power	MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft

* NOTE: SPRINT CM TO CONFIRM HYBRID RISER CABLE AND HYBRID JUMPER CABLE MODEL NUMBERS BEFORE PREPARING BOM.

2500MHz HYBRID CABLE X-SECTION & DATA

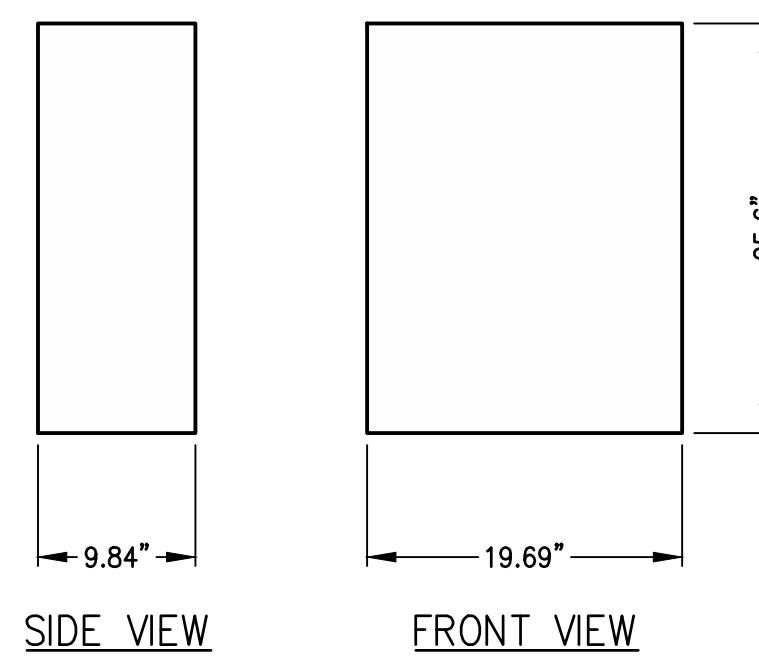
1
A-6



FRONT SIDE
DIMENSIONS: 12.91"x10.71"x19.26"
WEIGHT: 53 LBS

800MHz RRH

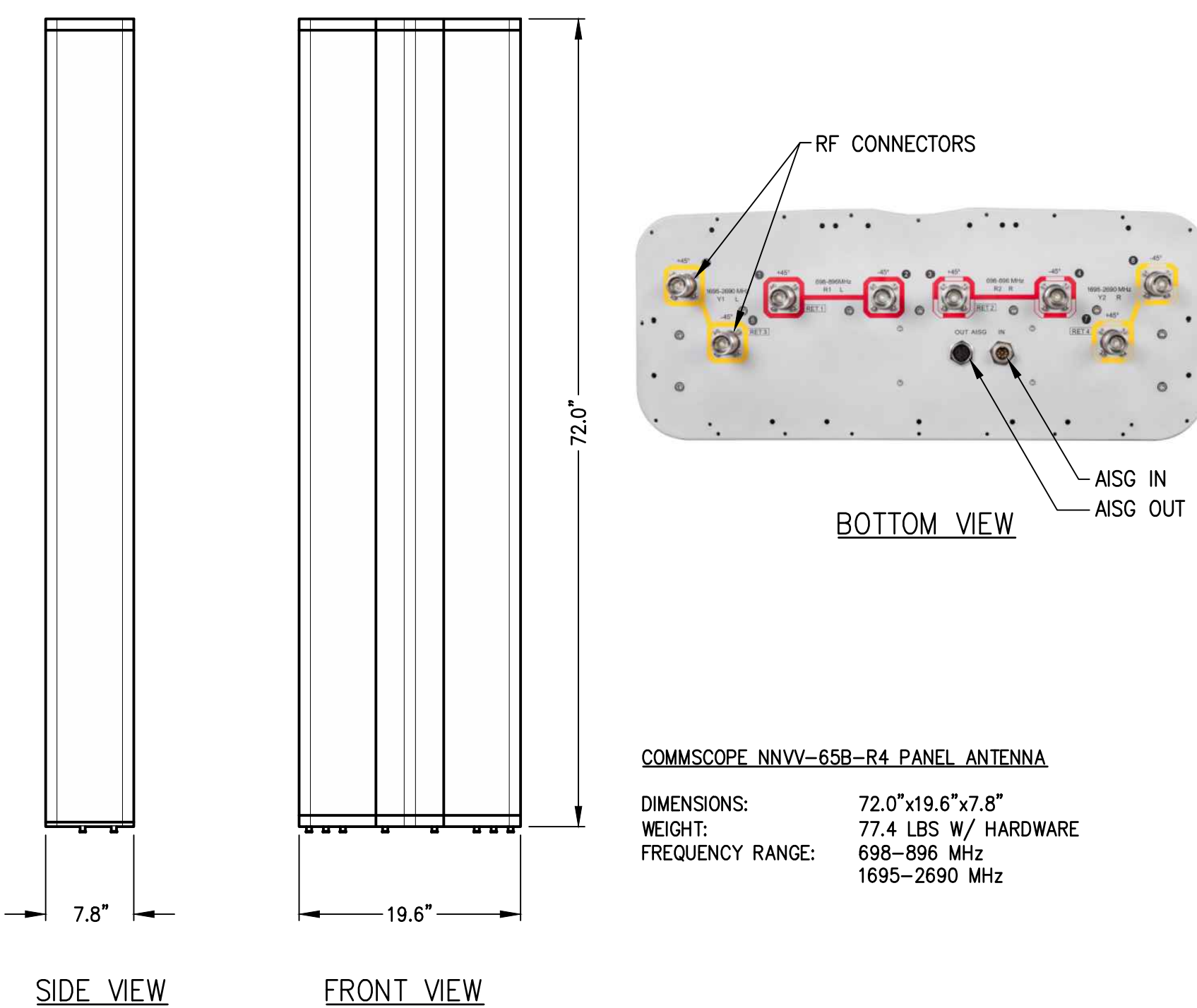
RRH DETAILS 2
N.T.S. A-6



NOKIA AAHC PANEL ANTENNA
DIMENSIONS: 25.6"x19.69"x9.84"
WEIGHT: 99.2 LBS W/ HARDWARE
FREQUENCY RANGE: 2496-2690 MHz

2500MHz ANTENNA

ANTENNA DETAILS 3
N.T.S. A-6



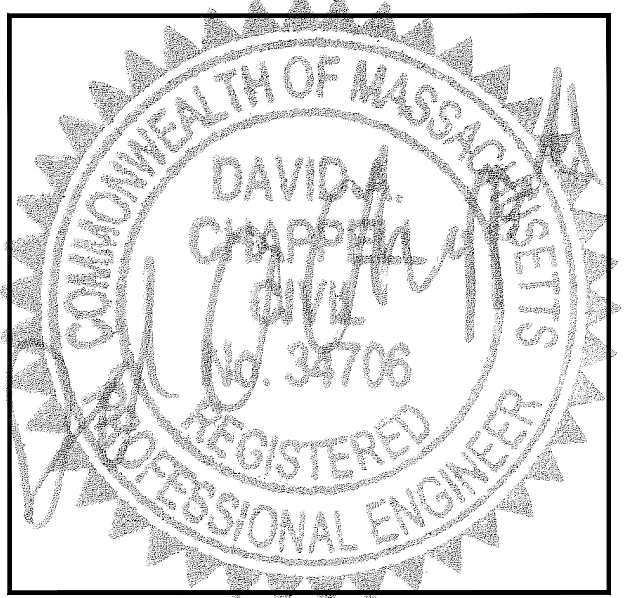
COMMSCOPE NNVV-65B-R4 PANEL ANTENNA
DIMENSIONS: 72.0"x19.6"x7.8"
WEIGHT: 77.4 LBS W/ HARDWARE
FREQUENCY RANGE: 698-896 MHz

2500MHz ANTENNA

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SITE NUMBER: BS54XC904
SITE NAME: MOUNT AUBURN HOSPITAL
SITE ADDRESS: 300 MT AUBURN STREET CAMBRIDGE, MA 02138

SHEET TITLE
EQUIPMENT DETAILS

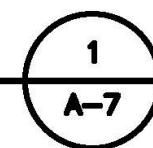
SHEET NUMBER
A-6



SOURCE: SPRINT SITE AUDIT 05.21.14

FRONT VIEW

EXISTING MMBTS 9928 CABINET
SCALE: NTS



INSTALL NEW LTE BBU 2.5 GHz IN EXIST. MM-BTS 9928 EQUIPMENT CABINET

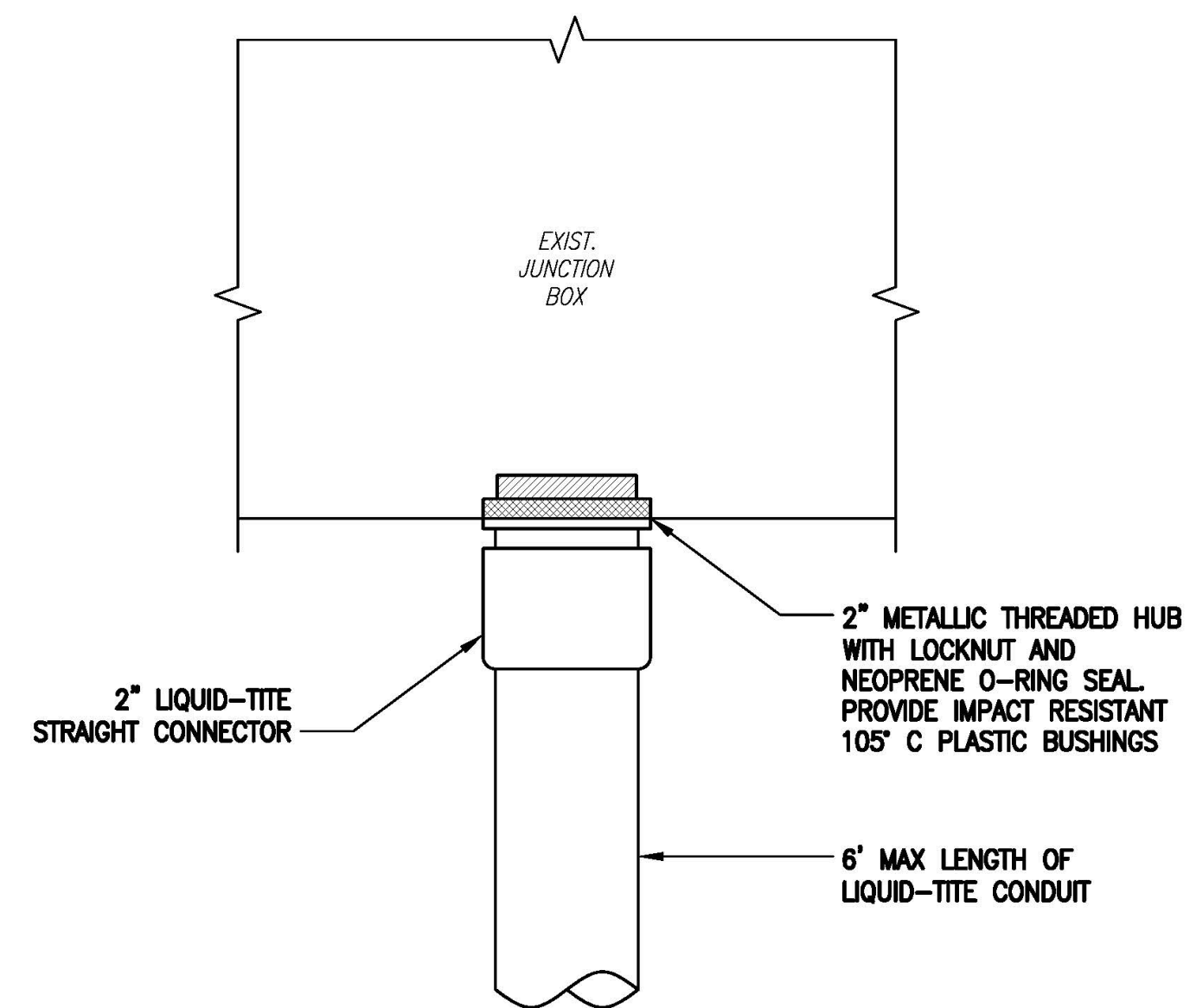
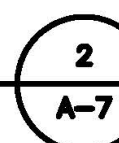
INSTALL NEW RECTIFIER SHELF & (3) RECTIFIERS IN EXIST. MM-BTS 9928 EQUIPMENT CABINET



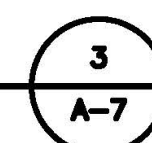
SOURCE: SPRINT SITE AUDIT 04.25.14

INSTALL NEW BATTERY STRING WITHIN EXIST. BBU CABINET (AS REQ'D)

EXISTING 2.5 POWER BBU CABINET
SCALE: NTS



FIBER JUNCTION BOX PENETRATION
SCALE: NTS



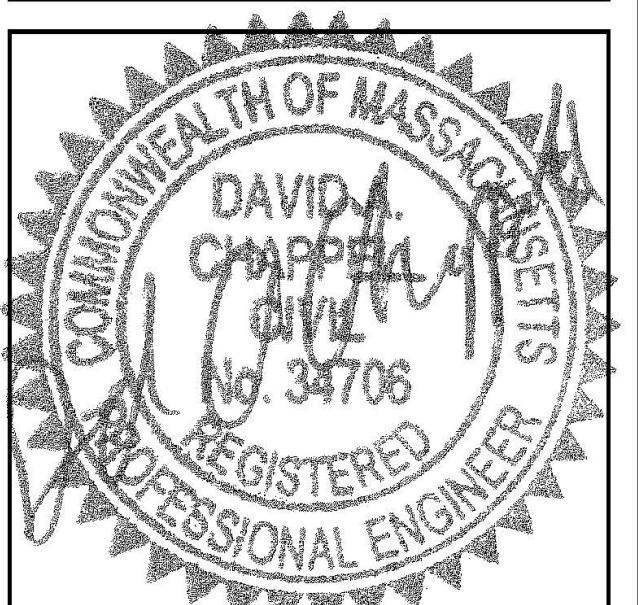
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SITE NUMBER:
BS54XC904
SITE NAME:
MOUNT AUBURN HOSPITAL
SITE ADDRESS:
300 MT AUBURN STREET
CAMBRIDGE, MA 02138

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-7



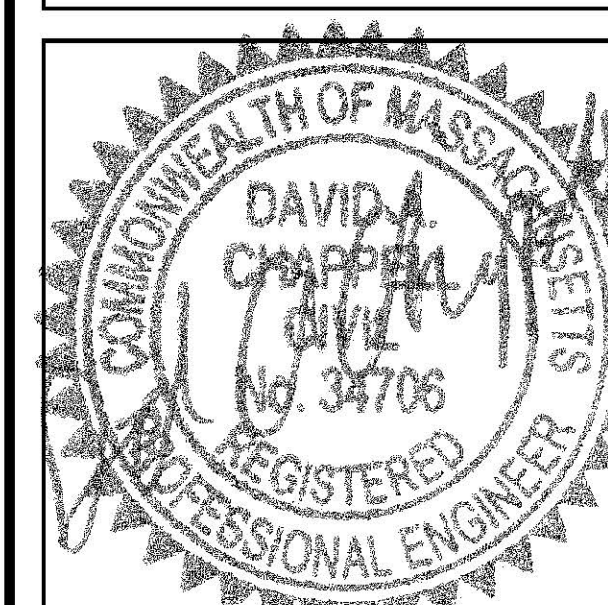
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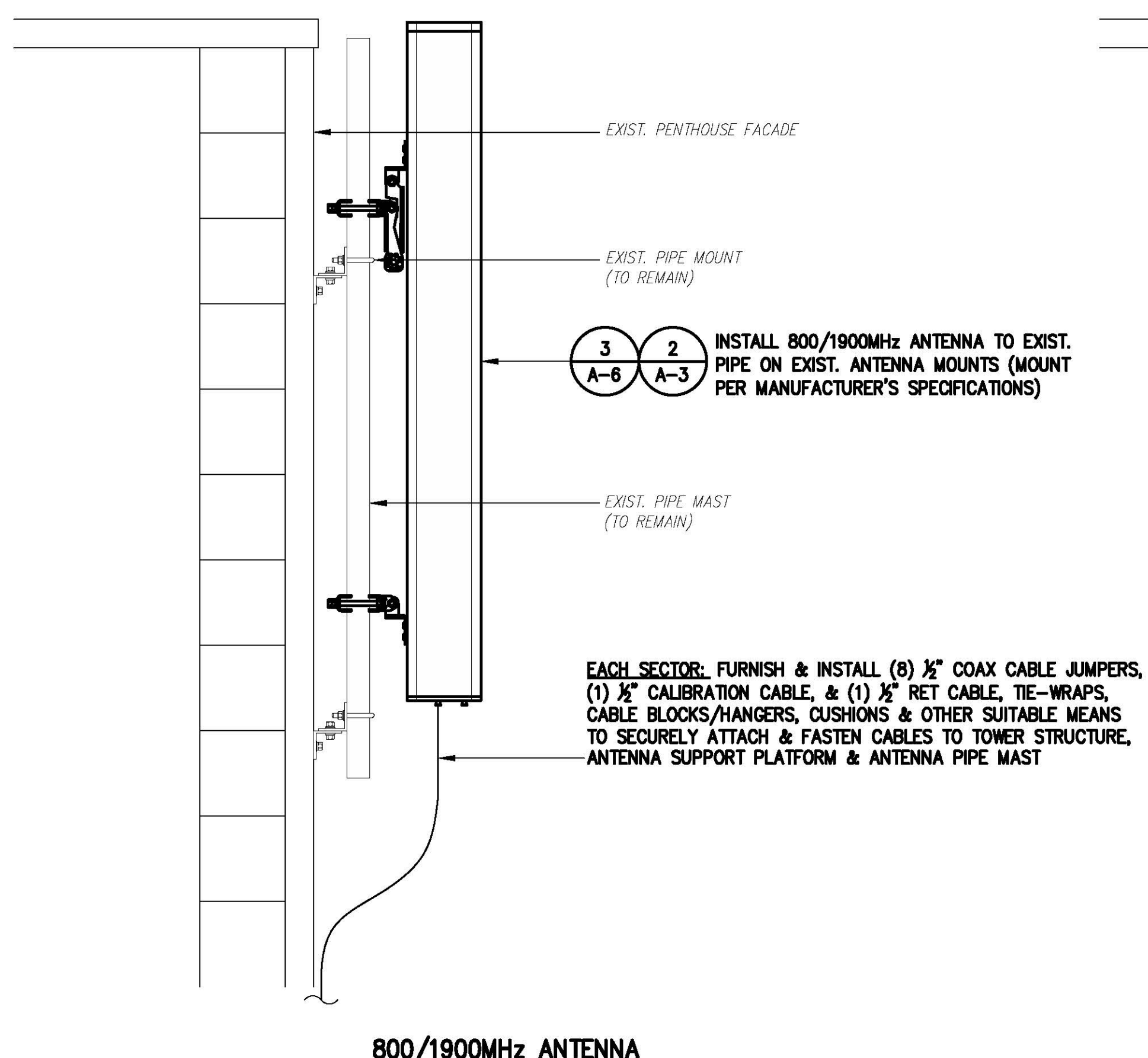
SITE NUMBER:
BS54XC904
SITE NAME:
MOUNT AUBURN HOSPITAL
SITE ADDRESS:
300 MT AUBURN STREET
CAMBRIDGE, MA 02138

SHEET TITLE
STRUCTURAL
DETAILS

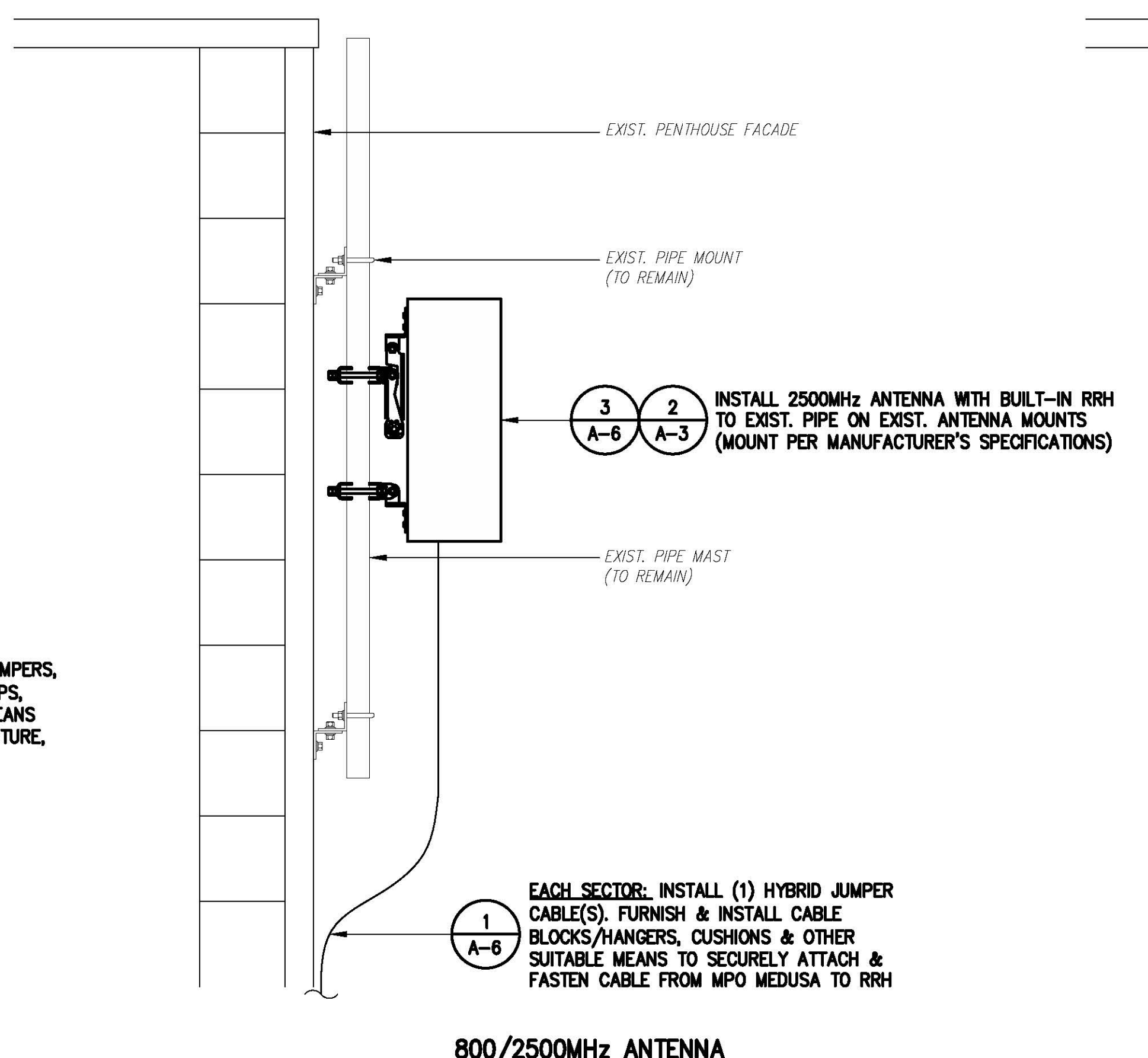
SHEET NUMBER
S-1

- INSTALLATION NOTES:**
- CONTRACTOR TO ENSURE THAT RRH MOUNTING DOES NOT INTERFERE WITH CLIMBING LADDER, CABLE CLIMB, OR COAX PORTS. MONOPOLE: COLLAR-MOUNT RRH CLUSTER SHALL PROVIDE OPENING BETWEEN ADJACENT RRH AT LEAST 30" WIDE CENTERED ON THE EXISTING SAFETY-CLIMB AND 30" DEEP FROM THE FACE OF THE POLE. SELF-SUPPORT: RRH LEG-MOUNT OR FACE-MOUNT SHALL PROVIDE AN UNOBSTRUCTED VERTICAL CLIMBING PASSAGE AT LEAST 30" WIDE AND 30" DEEP CENTERED ON THE LEG WITH THE CLIMBING PEGS.
 - CONTRACTOR TO VERIFY DIAMETER OF EXISTING MONOPOLE BEFORE ORDERING PARTS.
 - CONTRACTOR TO VERIFY IN FIELD SIZE OF EXISTING MOUNTING PIPE TO BE 2 1/2" STD (2.88 O.D.) PIPE MAST (6'-0" LONG).
 - VERIFY EXACT RRH AND ANTENNA MODEL & AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.
 - ROTATE EXISTING ANTENNA FRAME AS NEEDED TO ACCOMMODATE INSTALL ANTENNAS.
 - RRH PLACEMENT FOR REFERENCE ONLY. CONTRACTOR SHALL PLACE RRH IN CORRECT ORDER MATCHING INSTALL ANTENNA PLACEMENT AND ENSURE THAT THERE IS ENOUGH CLEARANCE FOR RRH'S TO BE PLACED ON THE INSIDE ON THE ANTENNA FRAME.
 - INSTALL EQUIPMENT TO BE MOUNTED PER MANUFACTURERS SPECIFICATIONS.

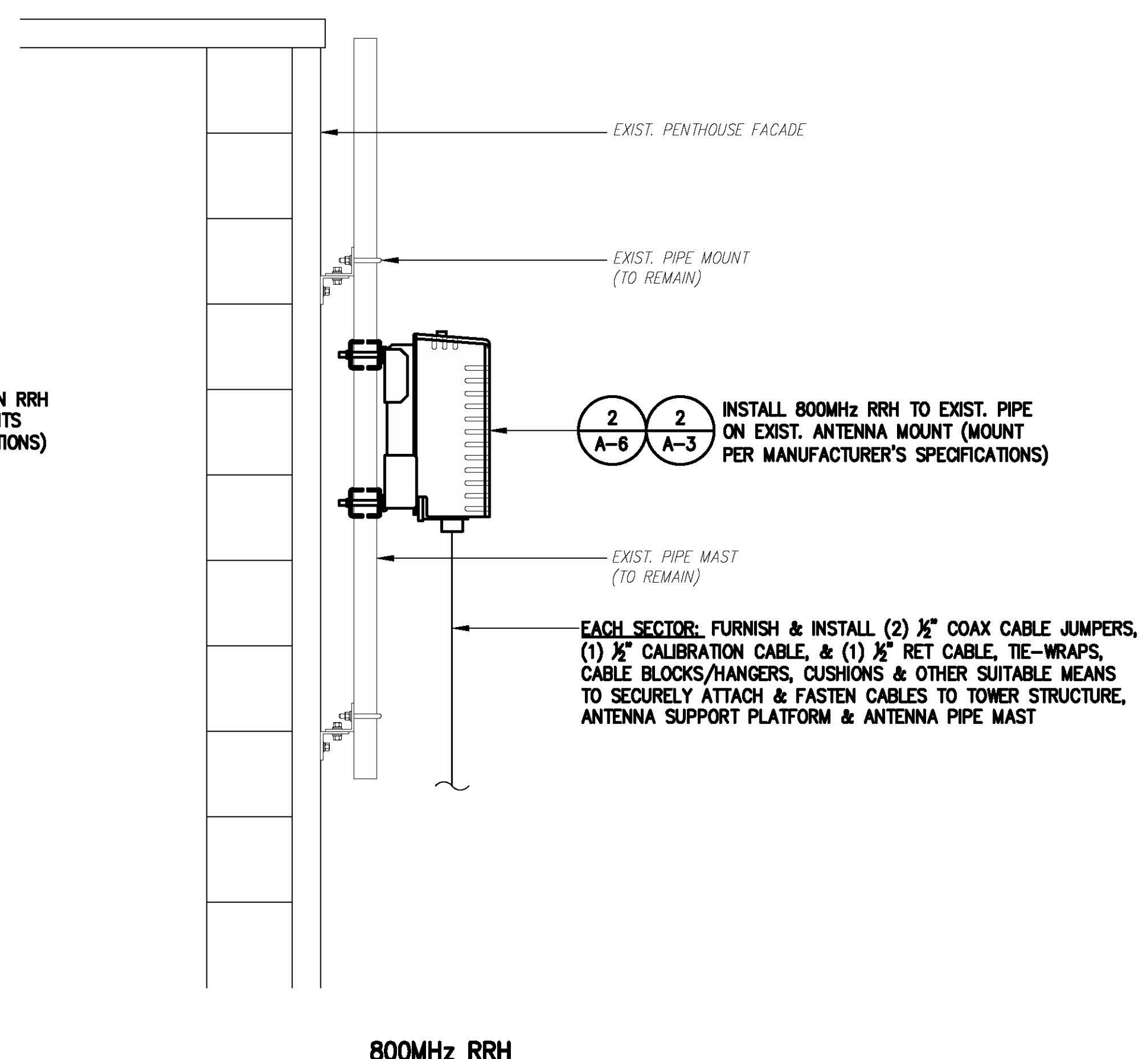
- SPECIAL CONSTRUCTION NOTE:**
SPRINT TOWER TOP WORK IS CONTINGENT ON THE FOLLOWING:
- * COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS (PROVIDED BY TOWER OWNER OR A&E VENDOR).
 - * COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT (PROVIDED BY A&E VENDOR).
 - * GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.



800/1900MHz ANTENNA



800/2500MHz ANTENNA



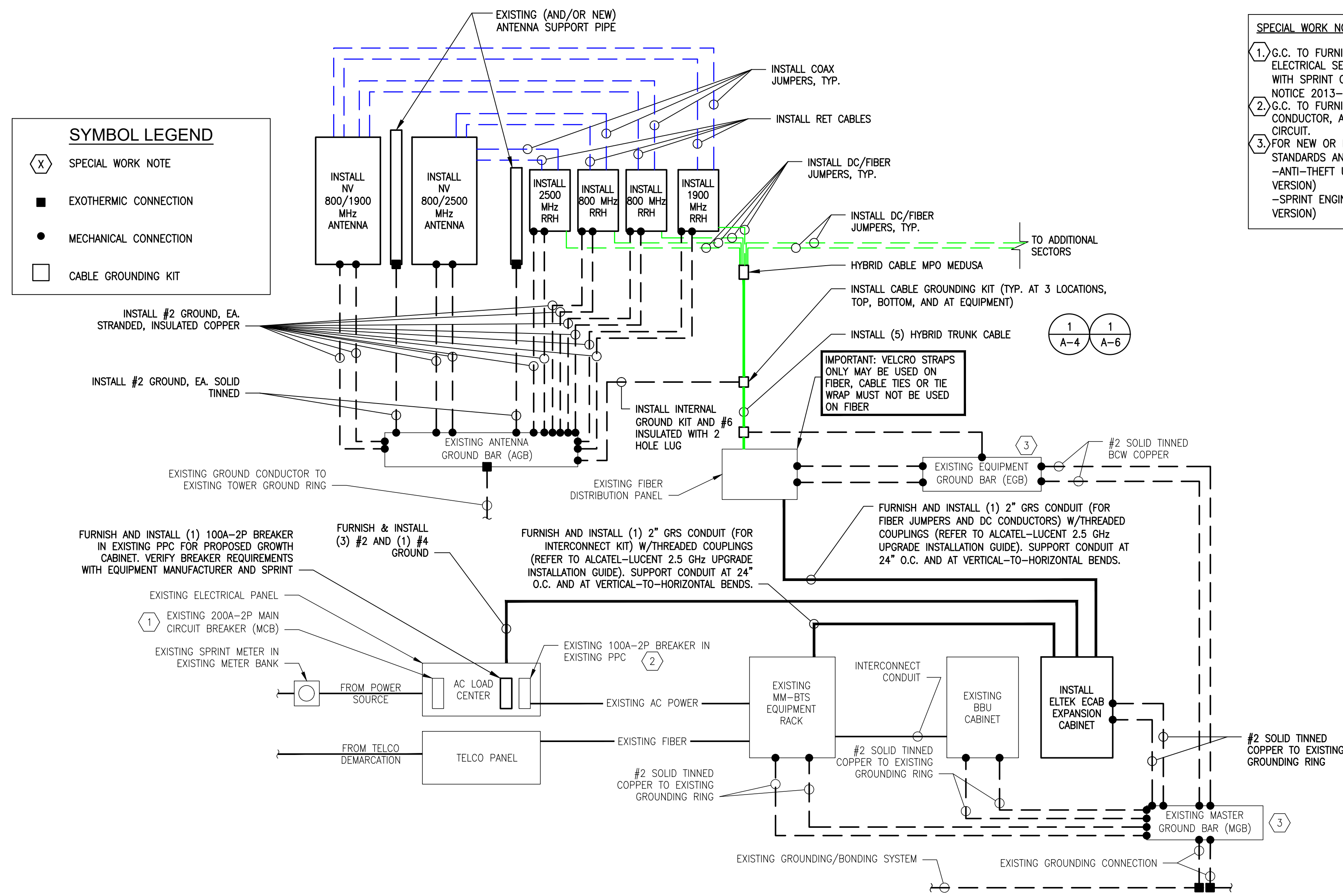
800MHz RRH

NOTE:
EXISTING SPRINT ANTENNAS &
RRH'S NOT SHOWN, FOR CLARITY.

NOTE: ONE SECTOR SHOWN FOR CLARITY
TYPICAL ANTENNA MOUNTING DETAILS

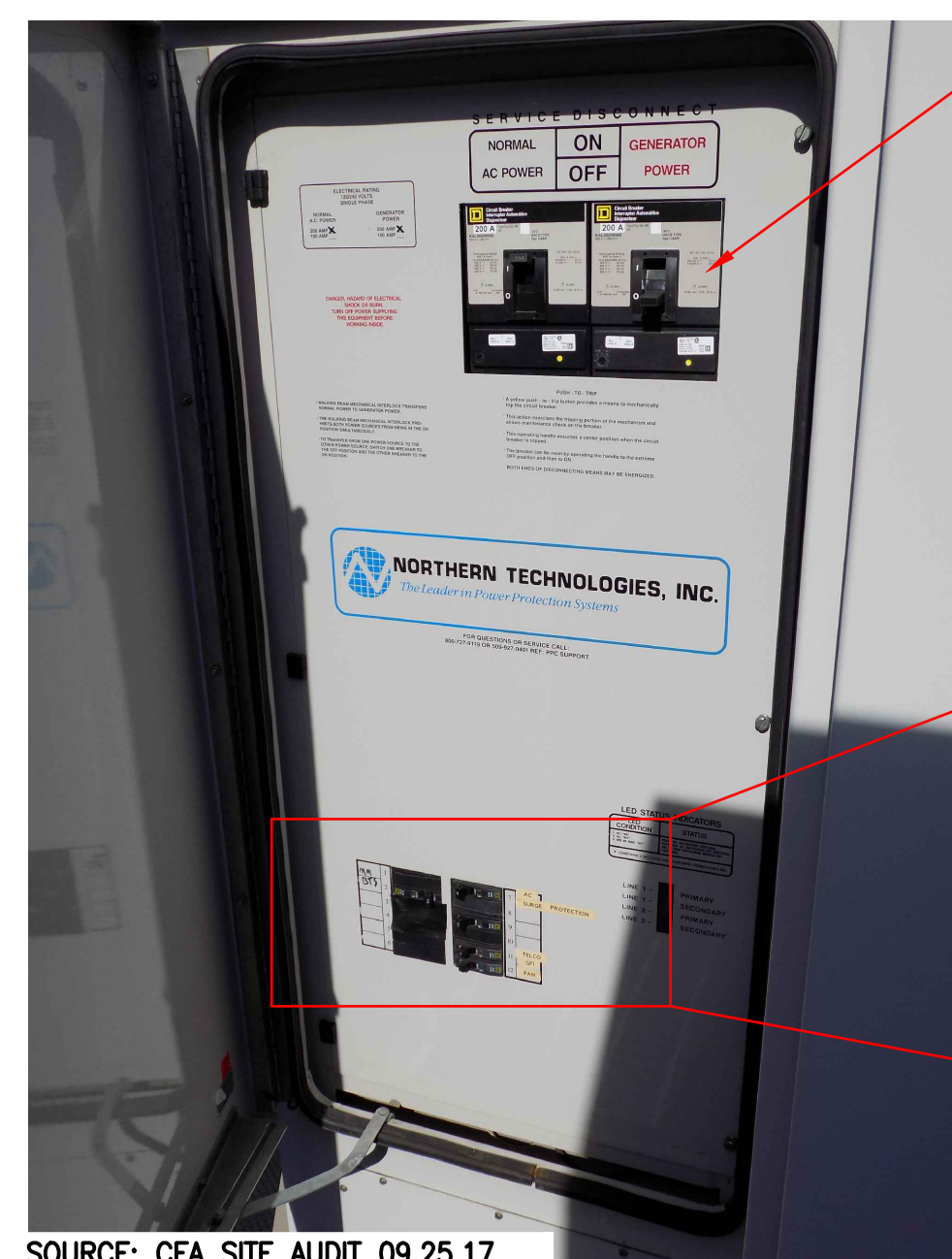
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1
S-1



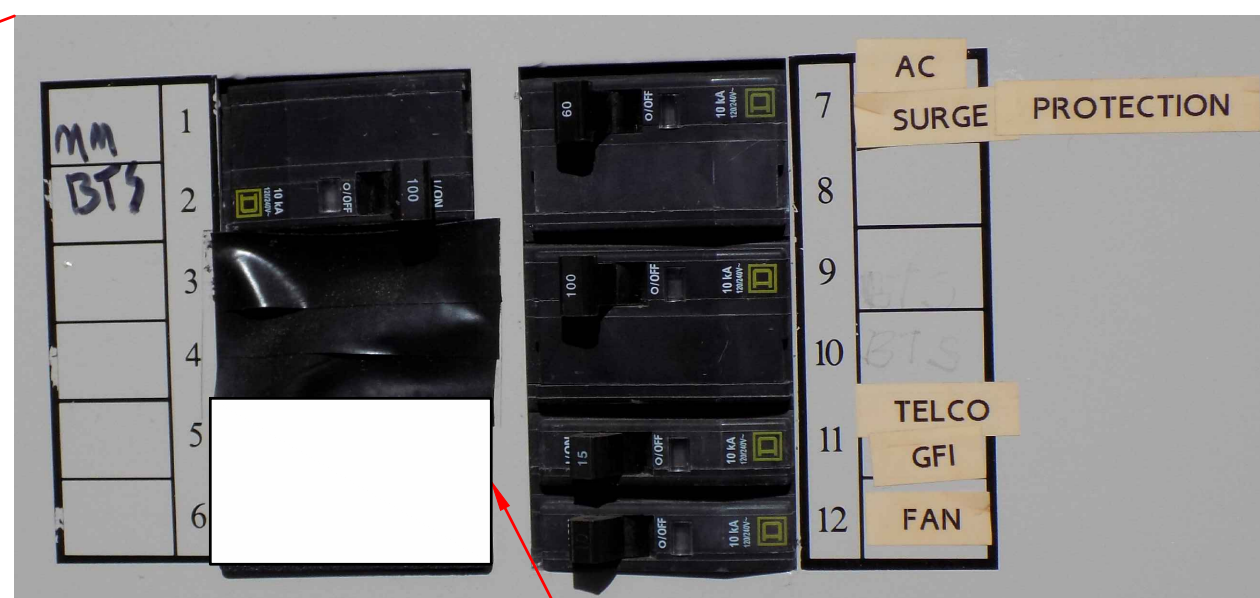
TYPICAL POWER & GROUNDING ONE-LINE
SCALE: NTS

1
E-1



EXIST. PPC BREAKER PANEL
SCALE: NTS

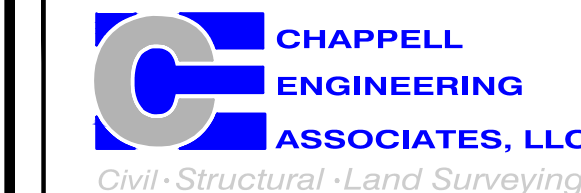
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E-1



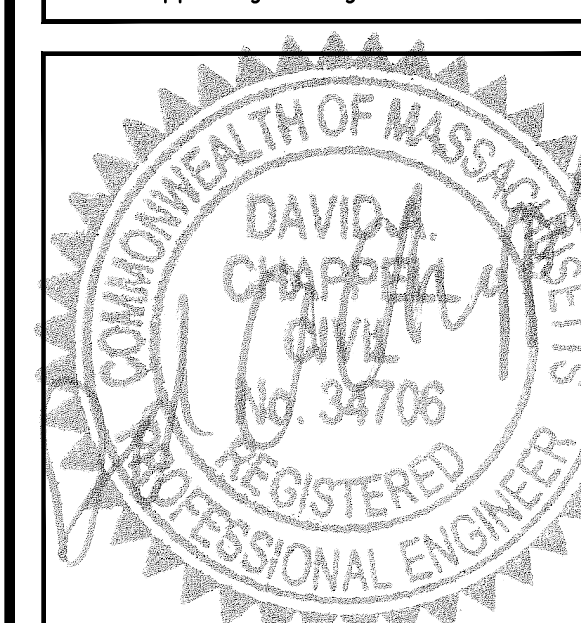
1 INTERNATIONAL BLVD, SUITE 800
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0	03/20/18	ISSUED FOR REVIEW	JRV

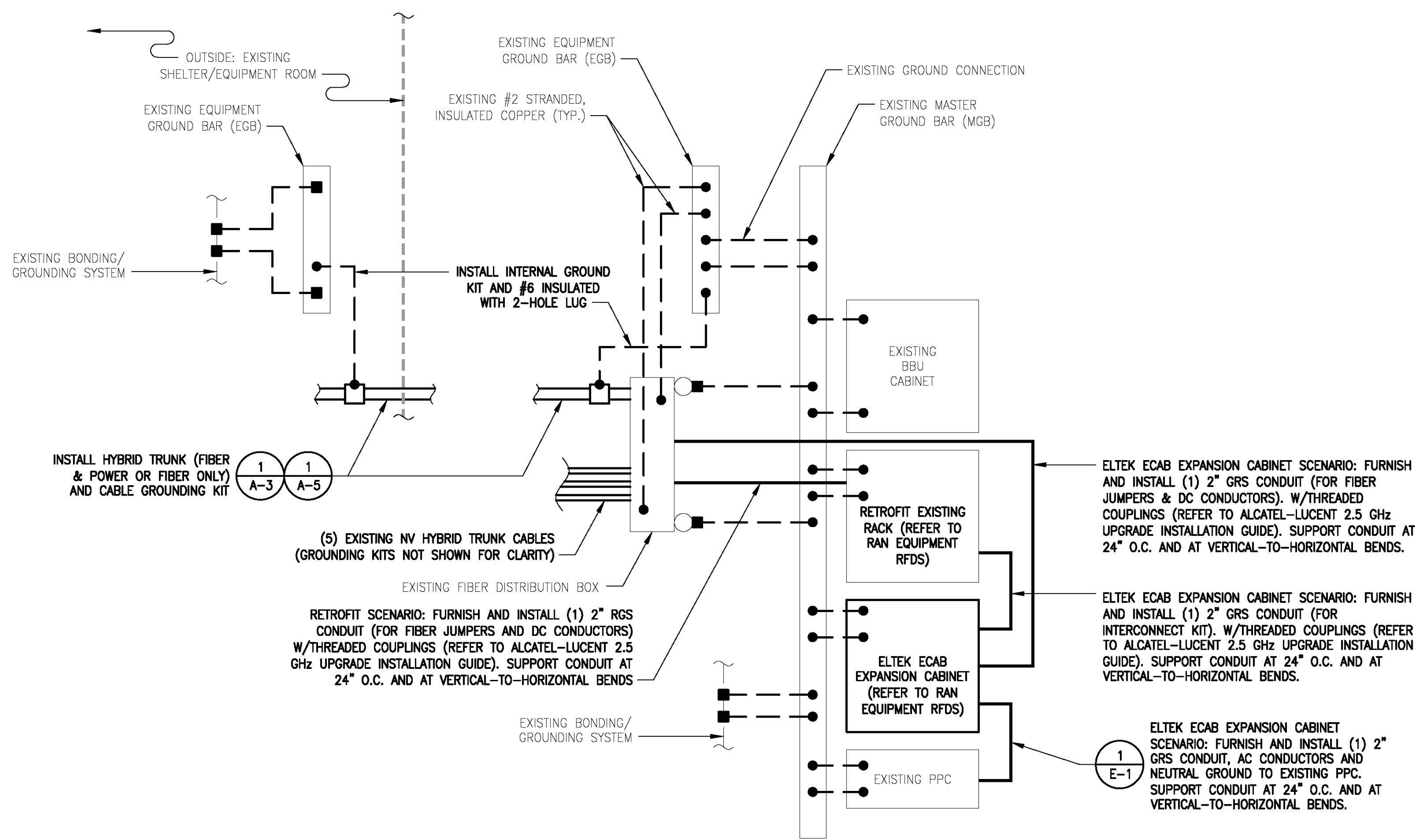
SITE NUMBER:
BS54XC904

SITE NAME:
MOUNT AUBURN HOSPITAL

SITE ADDRESS:
300 MT AUBURN STREET
CAMBRIDGE, MA 02138

SHEET TITLE
ONE-LINE DIAGRAM & PPC DETAILS

SHEET NUMBER
E-1

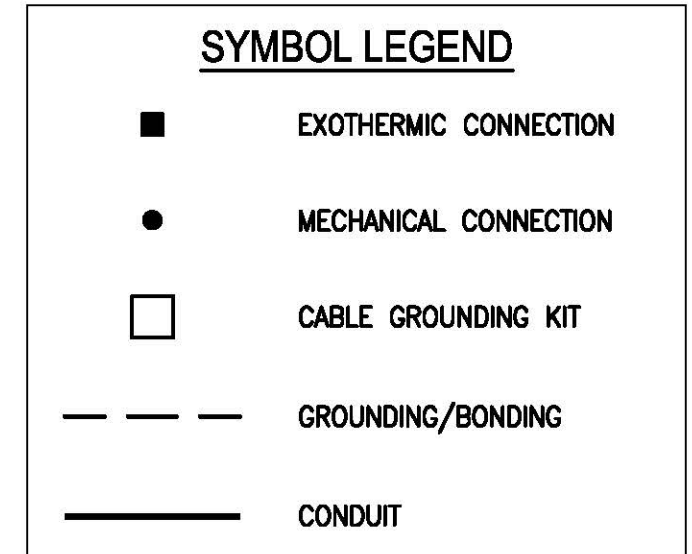


NOTE: HYBRIFLEX (FIBER & POWER) AND HYBRIFLEX (FIBER-ONLY) SHOWN. REFER TO RAN EQUIPMENT RFDS FOR SITE-SPECIFIC SCENARIO.

2.5 RAN EQUIPMENT GROUNDING SCHEMATIC

SCALE: N.T.S.

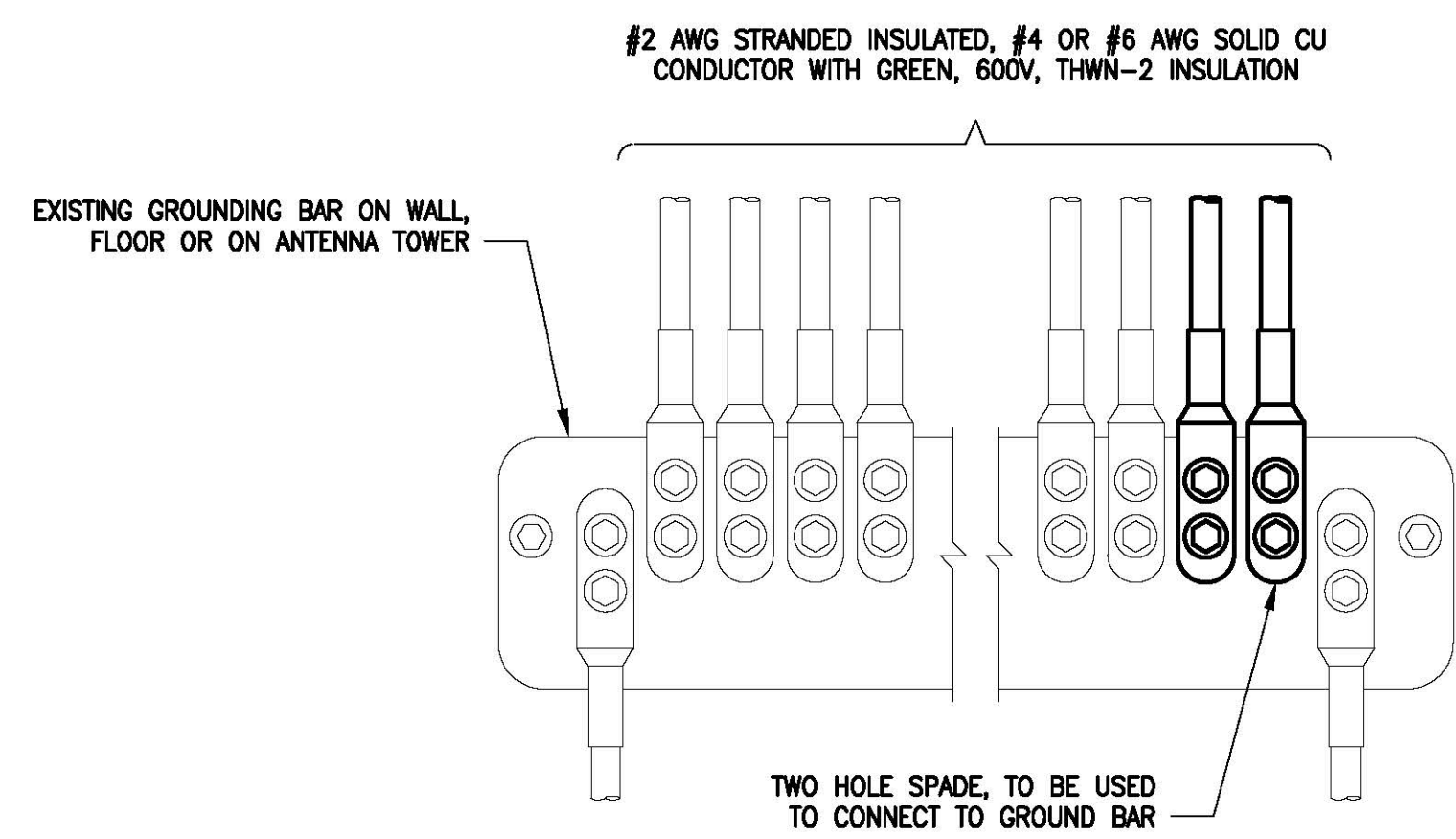
1
E-2



UNLESS NOTED OTHERWISE, ALL BONDING CONDUCTORS ARE 2# SOLID TINNED BCW.

NOTE: EXISTING NV EQUIPMENT CONDUITS NOT SHOWN FOR CLARITY. REFER TO RECORD AS-BUILT NV PHOTOS AND NV AS-BUILT DRAWINGS.

- PROTECTIVE GROUNDING SYSTEMS GENERAL NOTES:**
- GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250—GROUNDING AND BONDING.
 - GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES" AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING".
 - PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTED ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
 - GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, REMOVE THE COATING, APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX" OR EQUAL.
 - ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
 - ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
 - ALL GROUND WIRES SHALL BE #2 SOLID TINNED BCW UNLESS NOTED OTHERWISE.
 - PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
 - GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
 - EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 SOLID TINNED BCW EQUIPMENT CABINETS WILL HAVE (2) CONNECTIONS.
 - GROUND HYBRIFLEX SHIELD AT TOP, BOTTOM AND AT TRANSITION TO HYBRIFLEX JUMPER CABLES AT EQUIPMENT CABINET ENTRANCE USING MANUFACTURER'S GUIDELINES. WHEN HYBRIFLEX CABLE EXCEEDS 200', GROUND AT INTERVALS NOT EXCEEDING 100'.
 - THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
 - EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI-OXIDANT (THOMAS BETTS KOPR-SHIELD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
 - AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING. CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.
 - THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
 - ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
 - ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH SPRINT CONSTRUCTION MANAGER.
 - FOR NEW OR REPAIRED GROUNDING EQUIPMENT. REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
-ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12 (OR CURRENT VERSION)
-SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12 (OR CURRENT VERSION)

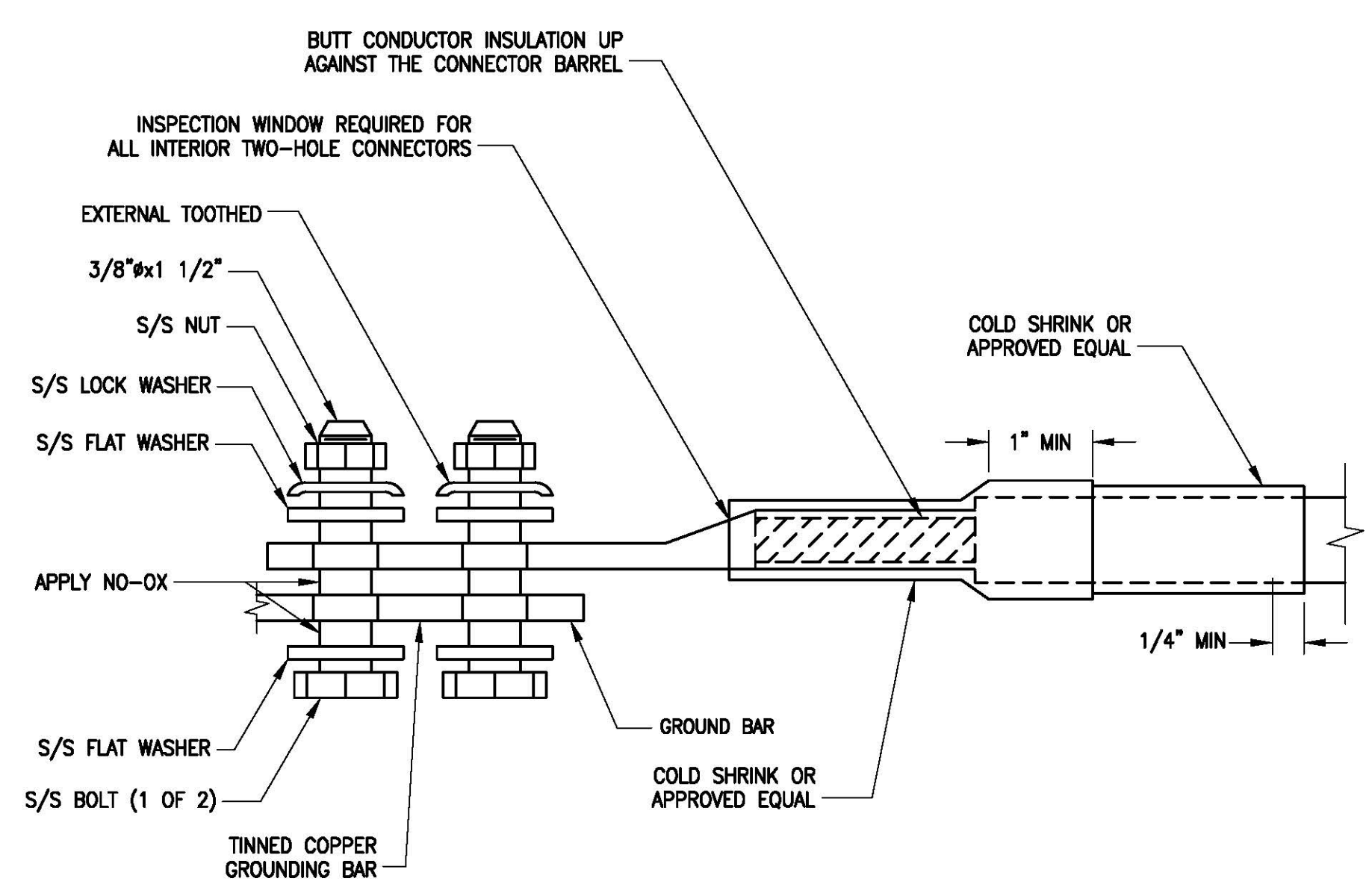


- NOTES**
- APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
 - IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

SCALE: N.T.S.

2
E-2



TWO HOLE LUG

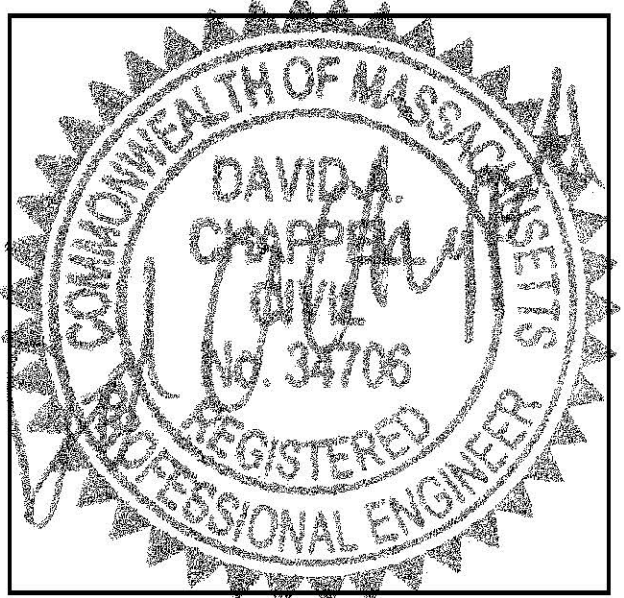
SCALE: N.T.S.

3
E-2

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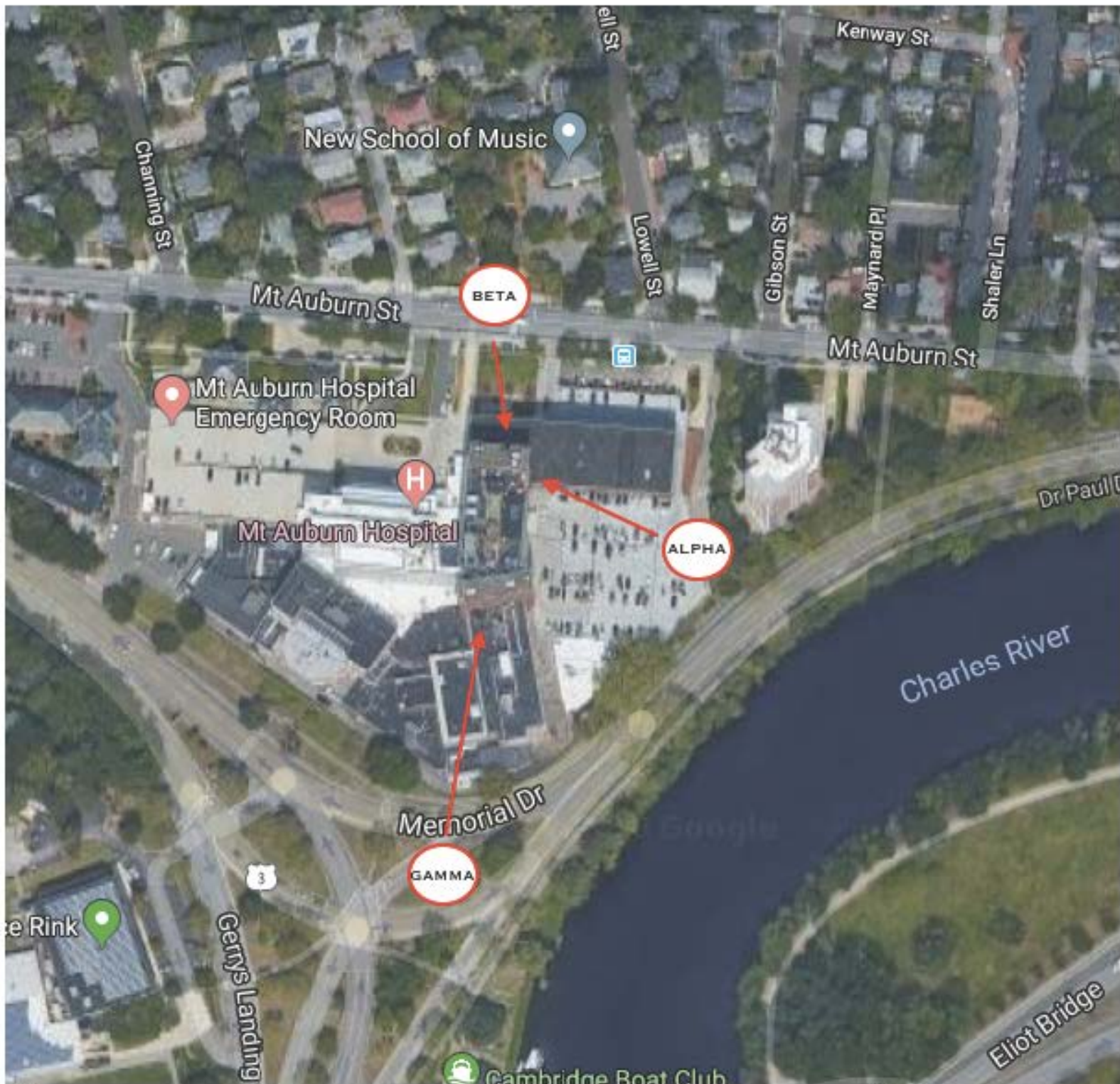
SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/02/18	ISSUED FOR CONSTRUCTION	CMC
0	03/20/18	ISSUED FOR REVIEW	JRV

SITE NUMBER:
BS54XC904
 SITE NAME:
MOUNT AUBURN HOSPITAL
 SITE ADDRESS:
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SHEET TITLE
GROUNDING DETAILS & NOTES

SHEET NUMBER
E-2



		SITE NUMBER:	BS54XC904
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ALPHA, INSTALL SPRINT
800/2500MHZ ANTENNA WITH
BUILT-IN RRH MOUNTED TO
EXIST BUILDING FACADE ON
EXIST. MOUNT


ALPHA, INSTALL SPRINT
800MHZ RRH TO EXIST.
BUILDING ON EXIST.
MOUNT

ALPHA, INSTALL
SPRINT 800/1900MHZ
ANTENNA MOUNTED TO
EXIST. BUILDING
FACADE ON EXIST.
MOUNT



SITE NUMBER:	BS54XC904
SITE NAME:	MT. AUBURN HOSPITAL
DATE:	7/1/2018
ADDRESS:	300 MT AUBURN STREET
VIEW FROM:	ALPHA
	CAMBRIDGE, MA 02138

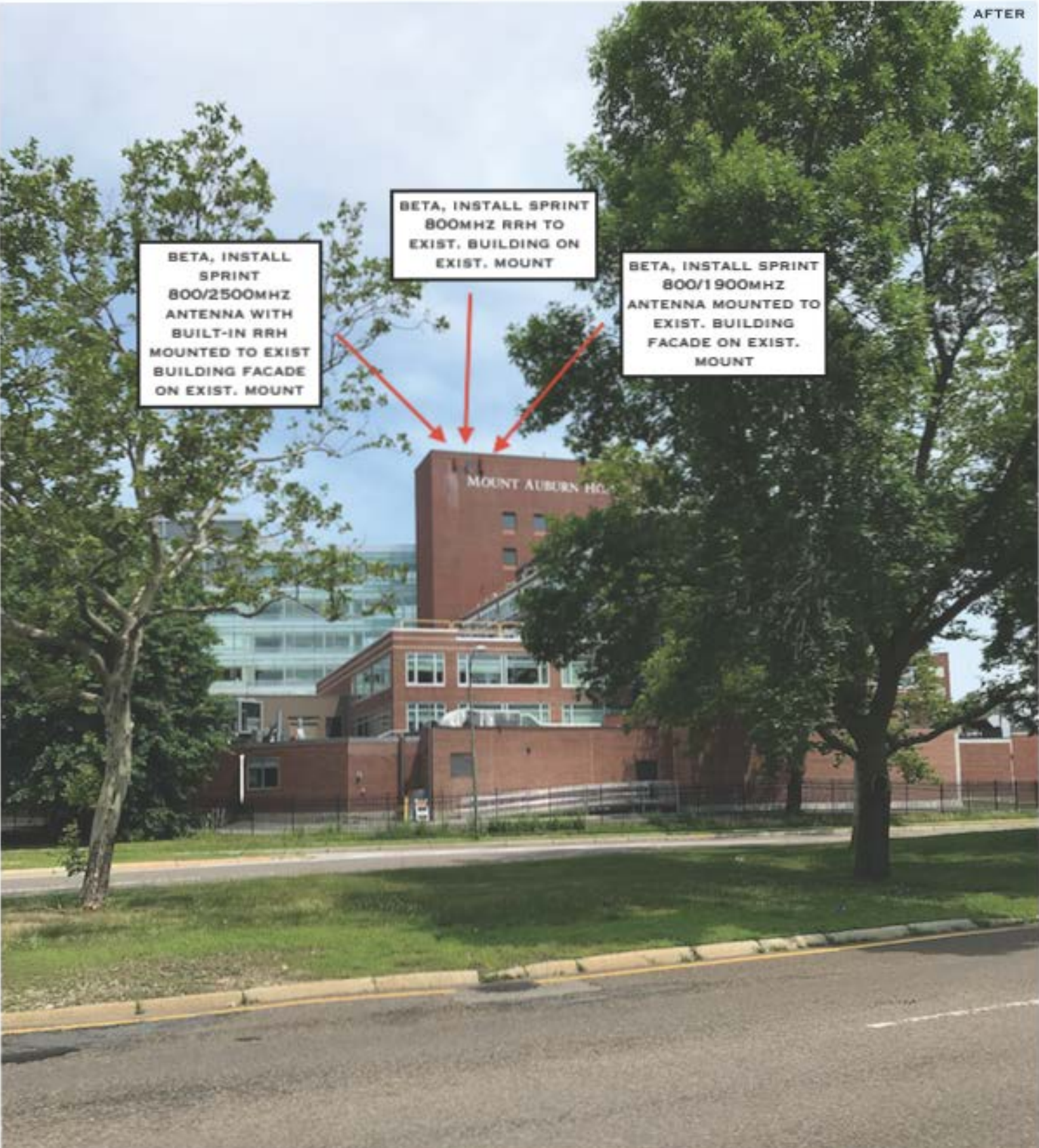



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		SITE NAME:	MT. AUBURN HOSPITAL
DATE:	7/1/2018	ADDRESS:	300 MT AUBURN STREET
VIEW FROM:	BETA		CAMBRIDGE, MA 02138

BETA, INSTALL SPRINT 800/2500MHZ ANTENNA WITH BUILT-IN RRH MOUNTED TO EXIST BUILDING FACADE ON EXIST. MOUNT

BETA, INSTALL SPRINT 800MHZ RRH TO EXIST. BUILDING ON EXIST. MOUNT

BETA, INSTALL SPRINT 800/1900MHZ ANTENNA MOUNTED TO EXIST. BUILDING FACADE ON EXIST. MOUNT



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DATE:	7/1/2018	ADDRESS:	300 MT AUBURN STREET
VIEW FROM:	BETA		CAMBRIDGE, MA 02138



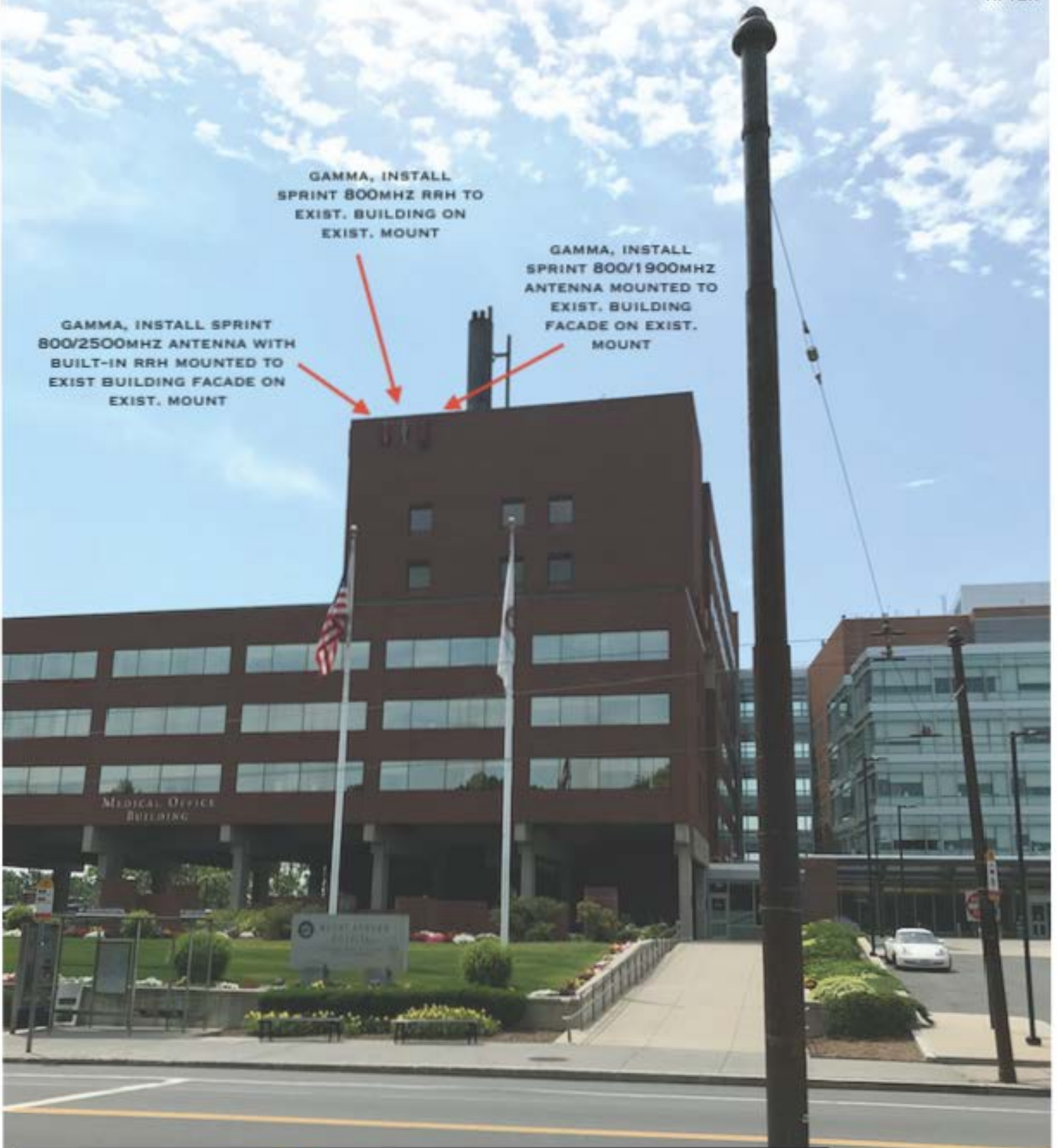
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GAMMA, INSTALL SPRINT 800MHZ RRH TO EXIST. BUILDING ON EXIST. MOUNT

GAMMA, INSTALL SPRINT 800/1900MHZ ANTENNA MOUNTED TO EXIST. BUILDING FACADE ON EXIST. MOUNT

GAMMA, INSTALL SPRINT 800/2500MHZ ANTENNA WITH BUILT-IN RRH MOUNTED TO EXIST BUILDING FACADE ON EXIST. MOUNT



	SITE NUMBER:	BS54XC904
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DATE: 7/1/2018	ADDRESS:	300 MT AUBURN STREET
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