Case No.:_____

Town of Ashland
Planning Department
101 Main St.
Ashland, MA 01721
508.881.0101
ashlandmass.com/316/Zoning-Board-of-Appeals

Application to Zoning Board of Appeals

Note: Application must be complete, with a certified plot plan and all application fees to be accepted.

1. Property Information:

Street Address: 400 Cedar Street

Zoning District: Residential A Overlay District: _____

Assessor's Map: 29 Lot: 132 Deed Book: _____ Page: _____

Current Property Owner*: Town of Ashland

2. Permit/Approval Sought:

✓ Special Permit (Section 9.3) ____ Amendment to Special Permit (Section 9.3) ____ Variance (Section 9.2.2.2)

____ Appeal of Building Inspector Decision (M.G.L. Ch. 40A) ____ Comprehensive Permit (M.G.L. Ch. 40B)

Use Type: Residential:____ Commercial:✓ Industrial:____

3. Applicant Information:

Owner:____ Tenant:✓ Prospective Purchaser/Tenant:____

Name: New Cingular Wireless PCS, LLC dba AT+T

Address: c/o TerraSearch 157 Riverside Drive, Norwell, MA 02061

Phone: 617-877-2950 Email: tgreene@terrasearchllc.com

Agent's Name: Timothy Greene

Agent's Address: 157 Riverside Drive, Norwell, MA 02061

Agent's Phone: 617-877-2950 Agent's Email: tgreene@terrasearchllc.com

4. Additional Information:

Are all real estate taxes and other assessments to the Town current?: Yes

Is the parcel on a scenic road?: Yes

Is this an amendment to a previously issued Special Permit? (attach approved permit): Yes

Date structure was built? (Buildings built before 1940 may need review by Historical Commission.): —

Is the property within 100 ft. of a wetland, within 200 ft. of a stream, or in a floodplain?: NO

Case No._____

5. Description of the Relief Sought: (Attach Letter of Denial of Building Permit.)

Special Permit for continued use of facility for wireless telecommunications. See attached plans

What specific zoning bylaws is this application associated with?: 3.3.2, 3.3.3, 6.4, 9.3 and any other relief the board deems necessary

6. Justification for why the application should be approved:

See attached Narrative

7. Existing use and condition of the property and surrounding neighborhood: (Please list all relevant non-conformities.)

Town owned water tank with existing wireless telecommunication equipment located on it

By signing below you assert this application is complete and accurate to the best of your knowledge:

Signatures:

Applicant/Agent: _____ Applicant's Name: Timothy Greene

Email Address: tgreene@terrasearch llc.com Phone Number: 617-877-2950

Agent's Relationship to Applicant: consultant Firm: SAI Communications

Owner:_____ Owner's Name:_____

*Note: If the applicant is not the owner, the owner MUST sign above or submit a letter of permission with the application.

From:	Doug Small
To:	Tim Greene
Cc:	Amanda Molina Dumas; Daniel Maurer; Gregory Eldridge; Mike Crisafulli
Subject:	AT&T Cedar Upgrade - Site MA1306
Date:	Wednesday, February 13, 2019 10:47:45 AM

Tim

As per our discussion, consider this email notification that the Town is okay with you moving forward with the Zoning Permit Process for the upgrades proposed on the Towns Water Tank located on Cedar St.

Also - as you know, the Structural Analysis has not been completed / approved yet.

The building permit and the notice to proceed will not be approved until all of our requirements have been satisfied.

Regards

Doug
--

Doug Small
Director of Public Works
Town of Ashland
a: 20 Ponderosa Road, Ashland, MA 01721
p: 508-532-7941
e. dsmall@ashlandmass.com

RE:	Wireless Telecommunications Facility Special Permit
Applicant:	New Cingular Wireless PCS, LLC d/b/a AT&T Mobility ("AT&T" or "Applicant")
Facility Locations:	400 Cedar Street
Facility Upgrade:	Add three (3) antennas (one antenna per sector) for new network service upgrade with associated antenna and electronic equipment, fiber and coax conduits, and install additional equipment inside an existing fenced area at the base of the facility (the "Facility").
Relief Requested:	Special Permit per Section 9.3 and 6.4 of the Town of Ashland Zoning By-Laws (hereinafter the "Ordinance") and any other relief the board deems necessary.

Dear Honorable Members of the Ashland Zoning Board of Appeals:

On behalf of AT&T, we are pleased to submit this memorandum to the Town of Ashland Zoning Board (the "Board") in support of AT&T's Special Permit application (the "Application") for the operation and maintenance of this Facility. The following provides background information regarding proposal.

BACKGROUND

AT&T proposes to install three additional (3) panel antennas to the existing facility. In addition, AT&T will add associated antenna equipment, new fiber and coax conduits and related wireless communications equipment. The electronic equipment will be located inside the existing fenced area located at the base of the Facility. The Facility is shown in detail on the plans (the "Plans") attached hereto and submitted with this Application.

This facility has previously been granted a special permit relating to the existing wireless telecommunications facility. A copy of the most recent special permit for this facility is in this package. Pursuant to Section 6.4.2 of the Ordinance, a Special Permit is required for any changes to the site. The Application complies with the terms of above section of the Ordinance.

AT&T operates a nationwide wireless communications system that offers enhanced features such as caller ID, voice mail, e-mail, and superior call clarity. AT&T is in the process of building out a national network as required by AT&T's license issued by the Federal Communications Commission (the "FCC"). By filling a significant coverage gap and upgrading technology, these Facilities will aid in reaching AT&T's

goal of providing adequate and reliable wireless communications services in and around Ashland and to all of Massachusetts. AT&T is designing a new network to provide high speed data services commonly referred to as "long term evolution" or "4G" service ("LTE"). LTE operates in the 700 and 2100 MHz frequencies under license from the FCC. AT&T uses its 700 MHz frequency to provide a coverage footprint because the 700 MHz frequency generally covers a greater geographic area than the footprint provided by higher frequencies. Additionally, AT&T uses its 2100 MHz frequency to add capacity in support of the network as the 2100 MHz frequency generally covers a smaller geographic area than that provided by the 700 MHz frequency. Currently, LTE is designed as a high speed data services network and is separate and apart from AT&T's existing voice and data networks. Additionally, LTE is not integrated into AT&T's existing network or antenna facilities. AT&T is using its best efforts, to the maximum extent possible, to install the new LTE network utilizing existing AT&T sites and facilities to avoid the need to construct new tower sites and antenna facilities.

A reliable communications system depends on a grid of antennae arranged in a geographical pattern, similar to a honeycomb. Each "site" is created by an antenna and serves as a link between the customer and the telephone system, while that caller is within proximity to the site. Each site can handle a finite number of telephone calls. As the number of customers increase, more sites must be added to handle the increased volume. If this is not accomplished, calls are dropped or customers' calls are blocked and they will get a busy signal. A new antenna installation must be constructed each time a new site is created.

AT&T submits and will demonstrate through the Application materials and the written and oral evidence at the public hearing(s) in connection with the Application that the proposed Facilities meet with all applicable requirements of the Ordinance, to the extent possible. The Facilities will not adversely impact adjacent properties and neighborhoods as AT&T's Facilities will not change the height of the tower. The Facilities will not be a threat to public health, safety and welfare. In fact, Applicant submits that the proposed upgrades to the Facilities will aid in public safety by providing and improving wireless communications services to the residents, businesses, commuters, and emergency personnel utilizing wireless communications in the immediate vicinity.

Consistent with the Ordinance, the existing wireless installation already functions as a wireless communications services facility within a local, regional, and national communications system. This system operates under license from the FCC and AT&T is mandated and authorized to provide adequate service to the general public. These Sites were selected after a careful screening process and was found useful to AT&T. These upgrades will not generate noise, odor, fumes, glare, smoke, or dust or require additional lighting or signage. The Facilities will have no negative impact on property values in the area. No increased traffic or hindrance to pedestrian movements will result from the Facilities. On average, only one round trip visit per month is required to service and maintain the Facilities. These are unmanned Facilities and will have minimal negative effect on the adjoining lots. The Facilities does not require police or fire protection because the installation has its own monitoring equipment that can detect malfunction and/or tampering.

APPROVAL REQUESTED

AT&T respectfully requests that the Board grant, to the extent necessary, a Special Permit for the, operation and maintenance of the Facility as provided in the Plans submitted with the Application, all rights reserved. As will be further demonstrated by the Applicant by evidence submitted to the Board at the public hearing(s) in connection herewith, such approval is appropriate as the Facility satisfies all pertinent provisions and standards contained in the Ordinance for the granting of the special permit, to the extent required, all rights reserved, as enumerated below.

The Facility will not have any adverse effect on property values in the area. The Facilities will not be dangerous to the public health or safety as it is designed to comply with all applicable FCC requirements relating to radio frequency emissions and will comply with all applicable requirements of the Massachusetts building code. Indeed, the maximum radio frequency output per channel for this facility will be well below the maximum radio frequency exposure levels established by the FCC. Each Facility is a passive use, and will not cause any nuisance such as noise, vibration, smoke, odor or dust. Further, the Facility will improve communication coverage to residents, commercial establishments and travelers through the area and improves call connections in this area of the Town of Ashland. These Facilities will greatly improve emergency communications for police and fire personnel by reducing the number and frequency of dropped and incomplete calls due to weak signals and adding an additional layer of communication to traditional land lines. In fact, published reports have highlighted the fact that during and after adverse major weather events, including ice storms, wireless telecommunications has been the only form of reliable communication. Lastly, the upgrades of the Facilities at each Site will assist the Town of Ashland in complying with its obligations under the federal Telecommunications Act of 1996 (the "1996 Act").

Applicant respectfully requests that the Board grant all necessary approvals to install and operate the Facility. For the foregoing reasons, as well as to satisfy the mandate of the Federal Government to facilitate competition in the telecommunications industry as set forth in the 1996 Act, Applicant respectfully requests that the Board grant the foregoing approval. We respectfully submit that the standards for approval as set forth in the Ordinance as well as Massachusetts law relating to zoning must be interpreted and applied such that the decision issued by the Board is in conformance with the 1996 Act. Accordingly, a denial of the foregoing petition would effectively prohibit AT&T from providing adequate service to the Town of Ashland, would unreasonably discriminate among providers of substantially equivalent services and thus would be contrary to the purpose and intent of the 1996 Act.

Book: 11502
Pg: 262

BK31087PG128

COMMONWEALTH OF MASSACHUSETTS
ASHLAND ZONING BOARD OF APPEALS

RECEIVED
TOWN CLERK
ASHLAND, MA

00 JAN -6 AM 8:44

HEARING NUMBER: 99-14

I. APPLICANT: The applicant in this matter is AT&T Wireless Services. Ruth H. Silman, Esq., represents the applicant For Anderson & Kreiger LLP.

II. APPLICATION: The applicant seeks a Special Permit pursuant to terms of Sections 282-46, of the Code, Town of Ashland, to allow one set of three wireless communication antennas and a 12 foot by 20 foot equipment shelter along with coaxial cable, cable tray, telephone and electrical utilities.

III. THE LOCUS: The locus, which is the subject of this application, is located at Cedar Street Water Tank in Res. A / WCSD Zoning District and is shown in the Assessors' Atlas as Sheet 16, Block B, Lot 113A; Registry of Deeds' Book 11569, Page 356.

IV. THE HEARING: The public hearing in this matter was held in the Arnold Baker Meeting Room, Town Hall on Monday November 15th, 1999, commencing at 7:15 P.M. Notice of the hearing was given to all persons deemed affected as shown on the latest tax rolls of the Town and by publication in "THE TAB", a newspaper of general circulation in the Town, on 10/26/1999 and 11/02/1999. The Board of Selectmen, Town Manager, Inspector of Buildings, Planning Board, Conservation Commission, Board of Health and Board of Assessors were also notified. Sitting at the hearing were Kitty Mahoney, Chair; Steve Leacu, Member, and Joseph Howarth, Associate Member. Helene Wagner was named as an alternate hearing member in case an emergency should arise. There were no objections.

Cedar St Tank

V. DISCUSSION: The decision in this matter is based upon the application and supporting documentation, public records of the Town, testimony and evidence brought forth at the hearing and a view of the premises, all of which are incorporated by reference.

AT&T provided the Board with documents including but not limited to:
1. Lease Agreement #V-663.1 giving AT&T authority to address this Board.
2. 7 Part Argument for ZBA, Planning Board and Board of Selectmen.
3. Plan entitled "Locus Plan" marked C1 dated October 1999.
4. Plan entitled "Title sheet" marked T1 dated October 1999.
5. An approval letter from the Executive Office of Health and Human Resources, Radiation Control Program

10.00
789
MSD 01/27/00 03:31:05

The Town of Ashland (Zoning Board of Appeals) provided the documents:
1. Hearing file including applications, petitioner reports, and publication information
2. Letter from the Planning Board via Steve Kerlin dated November 9th.

Ms. Silman requested to withdraw without prejudice the variance aspect of the application: with respect to height and setback requirements. The Board voted unanimously to grant without prejudice the withdrawal of the variance request.

Pete Jeffrey, RF Engineer and Nicole Tram, TRM Consulting, Stan Sherman, Health Agents Expert were also in attendance to answer questions.

A Special Permit is sought for a wireless communication facility installation at the Cedar Street water tank. The proposal is to mount antennas to the water tank and connect three antennas with a cable where there will be a proposed 12-foot by 20-foot equipment shelter. The antennas will be flush mounted with the water tank and the

Richard Orsini
Town of Ashland

cable will run down the side. The shelter is 16 feet high with a pitched roof. Sprit and AT&T have worked together on this project (co-location). The proposed dimension of the accessory structure will remain the same. Sprint uses a different accessory structure housing.

In review for abutters in attendance, the purpose of the wireless by-law was to create a district for its use. It is appropriate for the antennas to be in this location. Planning Board review included suggestion: the three antennas be a color that would blend with the wireless tank. The proposed use is passive, requires no employees and has no characteristics that are incompatible with the neighborhood. It is estimated that this use will generate one trip per month in traffic. The site requires no town services. The proposed shelter is compatible with accessory structures in the neighborhood and will be screened from adjoining properties. There is no other wireless antenna structure within the one-mile area as per the by-law requirements. The 75-foot height limit doesn't apply because no new tower is proposed. The facility brings a number of benefits to the Town including revenue and service to wireless users.

Stan Sherman explained that the DPH requires a filing to be made to establish what the levels of radio frequency exposures will be to the area. The findings were far below the limit. A graph of the values was shown. They were calculated at both 6 and 16 feet above the ground. An individual would be required to be 55 feet in the air to approach 1% of the limits operating at maximum design. Mr. Sherman further explained that only one of the antennas is actually transmitting. There are no lights.

Several abutters expressed concern regarding poor truck parking, landscaping and trash control. AT&T did not oppose landscaping conditions or entrance and parking redesign.

In its deliberations, the Board finds that the proposal meets the criteria of 282-10(C, D and E) under which the Board has unanimously found all of the following: The Granting Authority (The Z.B.A.) has determined that the proposed use shall not create a condition peculiar to the particular case that shall cause nuisance, hazard or congestion or for other reason cause substantial harm to the neighborhood and derogation from the intent of this chapter and that the proposed use will be of some substantial benefit or serve some need of the Town.

Additionally, the Board finds that the proposal meets the criteria and restrictions of 282-46 WCSD:

1. Co-Location requirements.
2. No new towers without a finding from the Zoning Board of Appeals the existing tower sites cannot be used
3. No towers any closer together than one air mile
4. Height shall not exceed 75 feet
5. A new tower may not be erected neared to any property line that a distance equal to the vertical height of the tower plus ten feet measured at the tower base.
6. When possible, network interconnections from communications shall be underground.
7. Preservation of existing vegetation
8. Traffic associated with tower site shall not adversely affect abutting ways
9. Contractual agreement with the Town if using town owned property.

However, conditions may be imposed upon Special Permits with safeguards, limitations on time or use, as the Zoning Board may deem necessary to serve the purpose of the chapter.

The Zoning Board has applied conditions and safeguards will serve that end.

VI. VOTE: Therefore, it was unanimously and duly **VOTED TO GRANT** such **Special Permit with the following conditions:**

1. Evergreen shrubbery of sufficient height and density to mask the perimeter fence along Cedar Street shall be installed.
2. The existing paved parking area be enlarged and repaved to 24 feet wide by 30 feet deep with the gate placed at the far end of this paved area allowing trucks to pull into this site and park and discourage street parking.
3. Three "NO COMMERCIAL PARKING" signs be placed in one-third increments along the frontage of the locus.

4. The tenants are individually and collectively responsible for the maintenance of the property including but not limited to general landscaping maintenance and

5. No trash will be kept on site overnight.
6. A strong reminder of item #15 of the lease: the tenant shall keep and maintain the premises in good condition, with an additional reminder of article 282-07: violations of the provisions of the chapter 282 shall be fined not more than three hundred dollars for each offence. Each day that such violation continues shall constitute a separate offence.
7. The rights granted by this Special Permit shall expire if a substantial use thereof or construction has not begun, except for good cause, within twenty-four (24) months of Special Permit approval (including such time required to pursue or await the determination of an appeal referred to in M.G.L. Chapter 40A, S 17, from grant thereof. Failing such substantial completion, all rights granted under this Special Permit shall lapse automatically unless an extension thereof shall earlier have been granted by the granting authority (Z.B.A) or any succeeding granting authority.
8. The colors of the antennas blend with the color of the tank.
9. The Technical Review Committee review and approve the sign placement or make any changes relative thereto.

Kitty Mahoney	voting to grant with 9 conditions.
Steve Leacu	voting to grant with 9 conditions.
Joseph Howarth	voting to grant with 9 conditions.

DATE: Jan 3 2000

ASHLAND ZONING BOARD OF APPEALS
By:

Reviewed as to form:

[signature] 1/5/2000
Town Counsel

[signatures]

Filed with Town Clerk on:
Date: January 6, 2000

Cindy ~~Giles~~ Watling, Town Clerk

APPEALS MAY BE MADE PURSUANT TO SECTION 17, CHAPTER 40A, M.G.L.. IF NO APPEAL IS MADE WITHIN TWENTY DAYS OF THE DATE OF FILING OF THIS DECISION WITH TOWN CLERK, THE FOLLOWING SHALL BE EXECUTED BY TOWN CLERK:

I HEREBY CERTIFY THAT TWENTY DAYS HAVE ELAPSED FROM THE DATE THIS DECISION WAS FILED IN THE TOWN CLERK'S OFFICE AND THAT NO APPEAL HAS BEEN FILED.

DATE: Jan. 27, 2000

[signature]
~~Cindy Watling, Town Clerk~~
Melissa Camille, Asst. Town Clerk

Property Record Card

Parcel ID: **014/029.0-0132-0000.0** MAP: **029.0** BLOCK: **0132** LOT: **0000.0** Parcel Address: **400 CEDAR ST** FY: **2019**

PARCEL INFORMATION

Owner:
TOWN OF ASHLAND

Address:
101 MAIN ST
ASHLAND MA 01721

Use-Code:	**903**	Sale Price:	**0**	Book:	**11569**	Road Type:	**T**
Tax Class:	**E**	Sale Date:	**09/10/1968**	Page:	**0356**	Rd Condition:	**P**
Tot Fin Area:	**0**	Sale Type:		Cert/Doc:		Traffic:	**M**
Tot Land Area:	**0.900**	Sale Valid:	**N**			Water:	
Sewer:		Grantor:				Sewer:	
Exempt-B/L%	**100/100**	Resid-B/L%		Comm-B/L%		Indust-B/L%	

Inspect Date:	**08/24/2005**
Meas Date:	**08/24/2005**
Entrance:	**X**
Collect Id:	**REB**
Inspect Reas:	**M**
Open Sp-B/L%	

LAND INFORMATION

NBHD CODE: **404** NBHD CLASS: **1** ZONE: **30**

Seg	Type	Code	Method	Sq-Ft	Acres	Influ-Y/N	Value	Class
1	P	903	S	30000	0.690	N	230,100	
2	R	903	A	9105	0.209	N	4,428	

DETACHED STRUCTURE INFORMATION

Str	Unit	Msr-1	Msr-2	E-YR-Blt	Grade	Cond	%Good P/F/E/R	Cost	Class
SE	S	10	20.00	2000	G	G	///68	10,000	3
OT	C	1		1965	A	A	///0	200,000	3

VALUATION INFORMATION

Current Total:	**444,500**	Bldg:	**210,000**	Land:	**234,500**	MktLnd:	**234,500**
Prior Total:	**441,900**	Bldg:	**210,000**	Land:	**231,900**	MktLnd:	**231,900**

Sketch

No Sketch Available

Photo

No Picture Available

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
SITE ADDRESS:	404 CEDAR STREET ASHLAND, MA 01721
LATITUDE: LONGITUDE:	42° 14' 07" N 71° 26' 23" W
JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
DESIGN GUIDELINE:	LTE 4C, LTE 5C, LTE 6C

SITE NUMBER: MA1306
SITE NAME: ASHLAND CEDAR STREET

404 CEDAR STREET
ASHLAND, MA 01721
MIDDLESEX COUNTY
PROJECT: LTE 4C/5C
FA SITE NUMBER: 10035406
PACE ID: MRCTB031710/MRCTB031850
STRUCTURE TYPE: MONOPOLE

DRAWING INDEX

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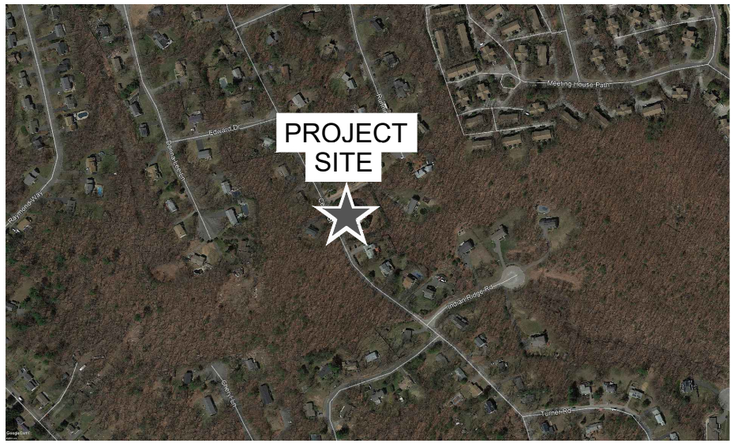
COMMONWEALTH OF MASSACHUSETTS
MARC R. CHRETIEN
CIVIL
No. 40313
REGISTERED PROFESSIONAL ENGINEER

LOCUS MAP



DRIVING DIRECTIONS FROM 550 COCHITUATE ROAD, FRAMINGHAM, MA:
1. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN
2. TURN LEFT ONTO LEGGATT MCCALL CONN
3. CONTINUE ONTO BURR ST
4. TURN RIGHT ONTO COCHITUATE RD
5. USE THE LEFT 2 LANES TO TURN LEFT ONTO CONCORD ST
6. CONTINUE ONTO HOLLIS ST/IRVING ST
7. CONTINUE TO FOLLOW HOLLIS ST
8. CONTINUE ONTO MA-126 S/POND ST
9. TURN RIGHT ONTO ELIOT ST
10. TURN LEFT ONTO CEDAR ST

N

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DIG SAFE SYSTEM, INC.

CALL BEFORE YOU DIG

CALL TOLL FREE: 811 OR 888-DIG-SAFE

UNDERGROUND SERVICE ALERT

ADVANCED ENGINEERING GROUP, P.C.
Civil Engineering - Site Development - Surveying - Telecommunications
500 North Broadway, East Providence, RI 02914
Phone: (401) 354-2403 Fax: (401) 633-6354

SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: MA1306
SITE NAME: ASHLAND CEDAR STREET
404 CEDAR STREET
ASHLAND, MA 01721
MIDDLESEX COUNTY

at&t
550 COCHITUATE ROAD, SUITE 13,
FRAMINGHAM, MA 01701-4681

NO.	DATE	REVISIONS	BY	CHK
0	09/24/18	ISSUED FOR REVIEW	AAB	MRC
1	01/30/19	ISSUED FOR CONSTRUCTION	AAB	MRC

TITLE SHEET

SHEET NO. T-1

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.

2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE LESEE/LICENSEE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.

4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.

5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.

7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.

9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, TANK AND ACCESSORIES, COMMUNICATIONS EQUIPMENT BY OTHERS ON OR AT THE SITE, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.

15. THE CONTRACTOR SHALL NOTIFY THE LESEE/LICENSEE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESEE/LICENSEE REPRESENTATIVE.

16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.

17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: DIG SAFE SYSTEM (MA, ME, NH, RI, VT): 1-888-344-7233 CALL BEFORE YOU DIG (CT): 1-800-922-4455

18. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS SHOWN HEREIN.

19. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECT THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH PROJECT OWNER PRIOR TO CONSTRUCTION.

20. NORTH ARROW SHOWN ON PLANS REFERS TO APPROXIMATE TRUE NORTH. PRIOR TO THE START OF CONSTRUCTION, ORDERING OR FABRICATING OF ANTENNA MOUNTS, CONTRACTOR SHALL CONSULT WITH PROJECT OWNER'S RF ENGINEER AND FIELD VERIFY ALL ANTENNA SECTOR LOCATIONS AND ANTENNA AZIMUTHS.

21. THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

22. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.

23. COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE PROJECT OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF PROJECT OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE EXHIBIT 3). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.

24. WHEN "PAINT TO MATCH" IS SPECIFIED FOR ANTENNA CONCEALMENT, PAINT PRODUCT FOR ANTENNA RADOME SHALL BE SHERWIN WILLIAMS COROTHANE II. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROJECT OWNER'S GUIDELINE'S.

25. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

26. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.

27. ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS AND APPROVED BY THE TOWN OF ASHLAND. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.

28. ALL (E)INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERING AND THE TOWN OF ASHLAND. THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR

29. GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES

30. DURING CONSTRUCTION. PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS

31. FOR WIRELESS COMMUNICATIONS SYSTEMS. PROJECT OWNER'S IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. PROJECT OWNER RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

32. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:

MASSACHUSETTS STATE BUILDING CODE 9TH EDITION
ELECTRICAL CODE: MASSACHUSETTS 527 CMR 12:00 (NEC 2017)
NFPA 780 2014

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

START OF WORK:
NO WORK SHALL PROCEED PRIOR TO ISSUANCE OF THE TOWN OF ASHLAND NOTICE TO PROCEED, COMPLETION OF THE PRE-CONSTRUCTION MEETING AND REQUIRED PAPER WORK SUBMITTED. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48-HOURS NOTICE PRIOR TO THE START OF WORK.

DAILY REPORTS:
THE CONTRACTOR SHALL PROVIDE PHOTOGRAPHS OF THE WORK PERFORMED EACH DAY ALONG WITH THE DESCRIPTION OF THE PROGRESS MADE. THE DAILY PHOTOS AND WORK DESCRIPTION SHALL BE SENT ELECTRONICALLY TO THE DESIGNATED ENGINEER REPRESENTING THE TOWN OF ASHLAND, TO BE RECEIVED NO LATER THAN 10:00 AM THE FOLLOWING DAY.

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.

3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.

7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION.

8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE AND GREENLEE CONDUIT MEASURING TAPE IN EACH INSTALLED TELCO CONDUIT.

10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.

11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.

12. PPC SUPPLIED BY PROJECT OWNER.

13. GROUNDING SHALL COMPLY WITH NEC ART. 250.

14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.

16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.

18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

20. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.

21. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXISTING TOWER/ (E) MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.

22. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MAXIMUM RESISTANCE REQUIRED.

23.CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

COMMONWEALTH OF MASSACHUSETTS
MARC R. CHRETIEN
CIVIL
No. 40313
REGISTERED PROFESSIONAL ENGINEER

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	(P)	PROPOSED/NEW	TBR	TO BE REMOVED
(E)	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL
(F)	FUTURE				

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SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: MA1306

SITE NAME: ASHLAND CEDAR STREET

404 CEDAR STREET
ASHLAND, MA 01721
MIDDLESEX COUNTY

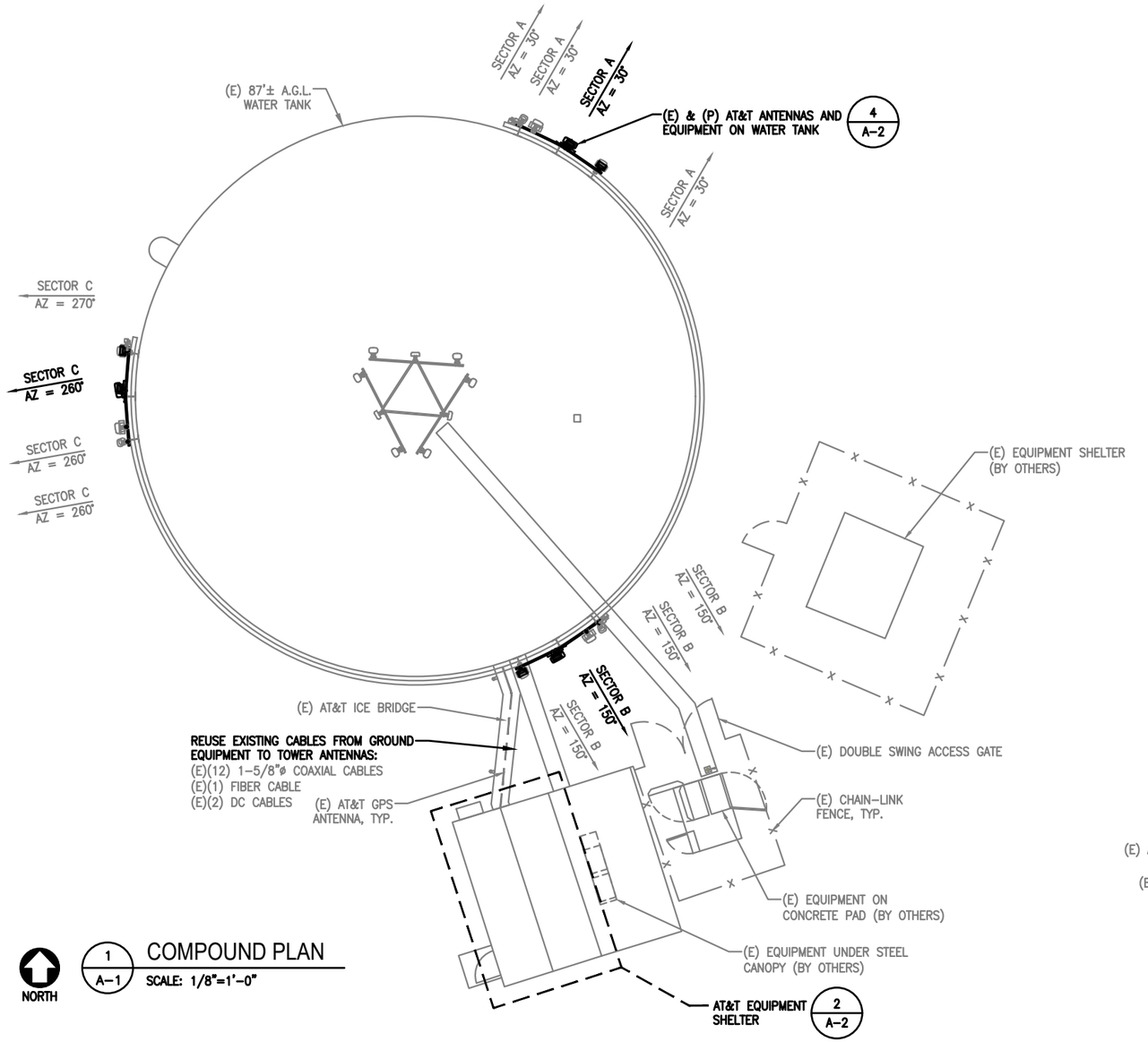
at&t
550 COCHITUATE ROAD, SUITE 13,
FRAMINGHAM, MA 01701-4681

NO.	DATE	REVISIONS	BY	CHK
0	09/24/18	ISSUED FOR REVIEW	AAB	MRC
1	01/30/19	ISSUED FOR CONSTRUCTION	AAB	MRC

GENERAL NOTES

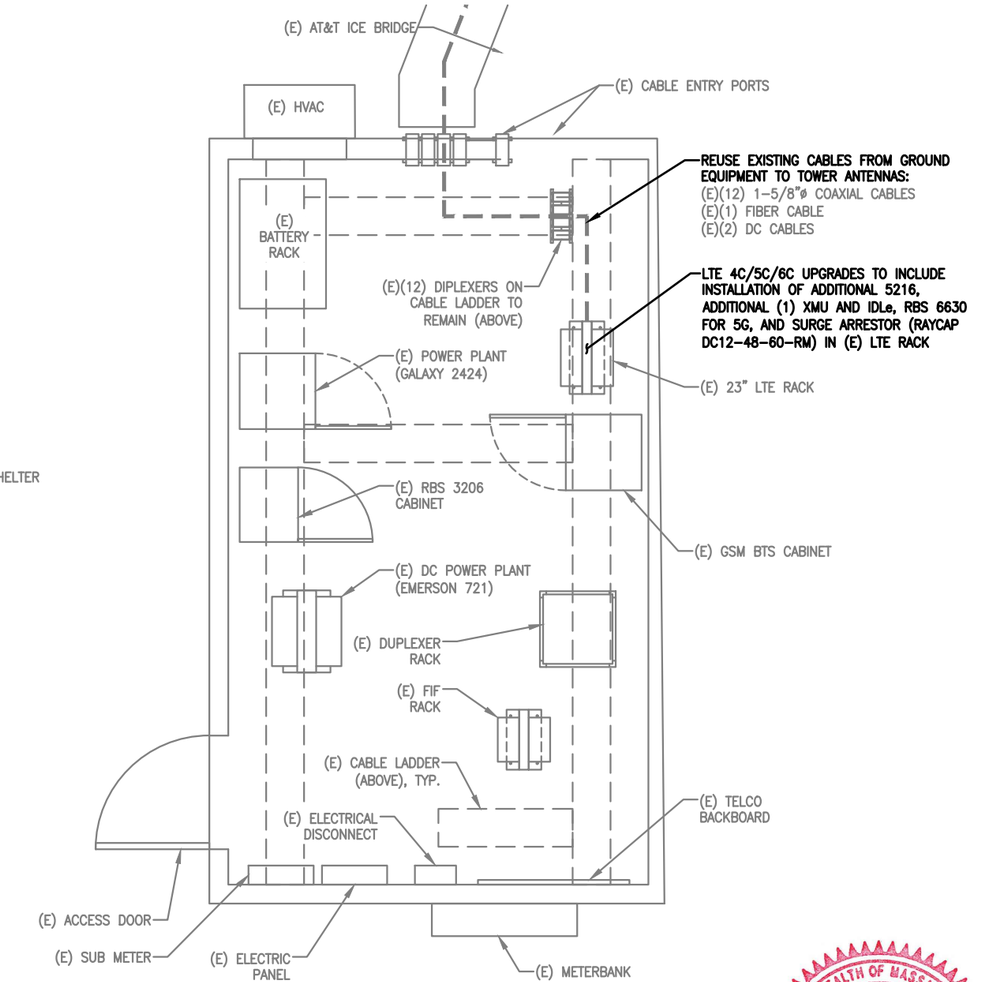
SHEET NO. GN-1

HALF SIZE PRINT
THIS DRAWING IS SCALEABLE AT HALF THE NOTED SCALE



NORTH

1 A-1 COMPOUND PLAN
SCALE: 1/8"=1'-0"



NORTH

2 A-1 EQUIPMENT SHELTER PLAN
SCALE: 1/2"=1'-0"

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COMPOUND AND EQUIPMENT PLANS

SHEET NO. A-1

HALF SIZE PRINT
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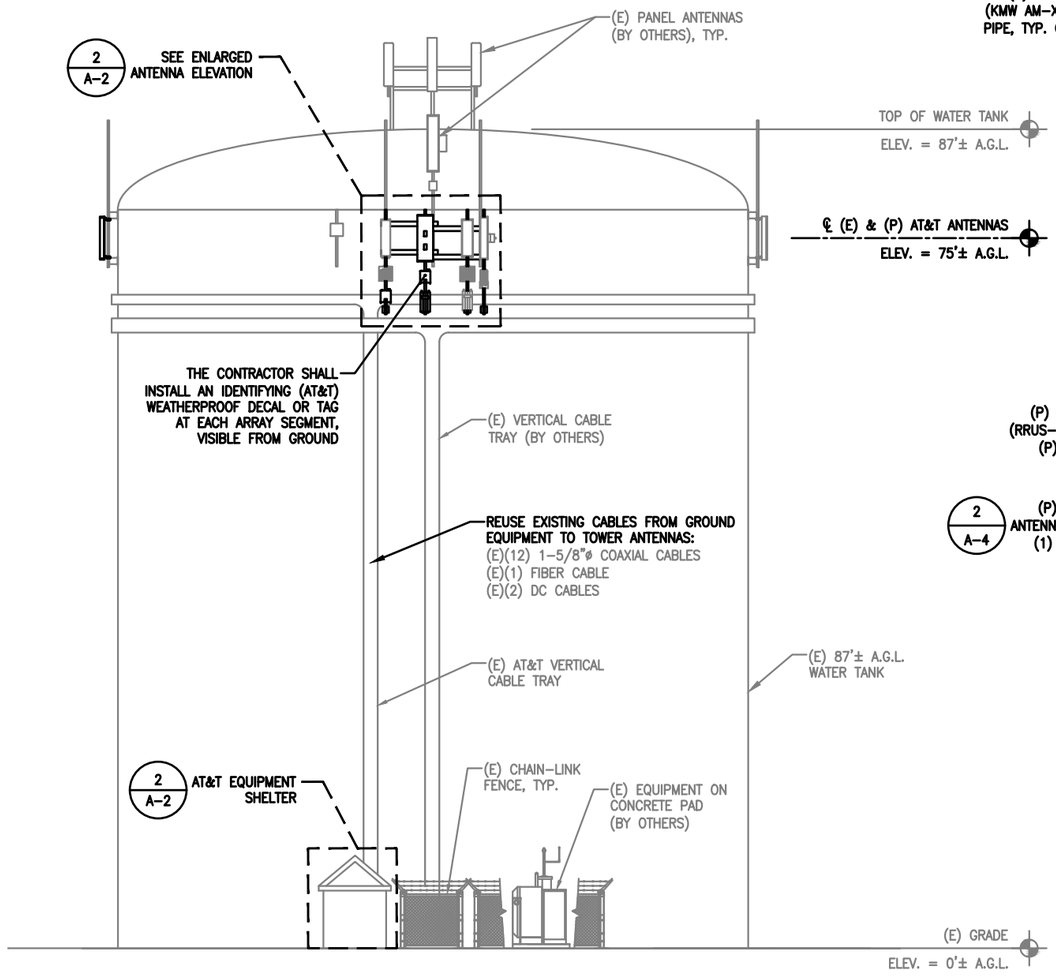
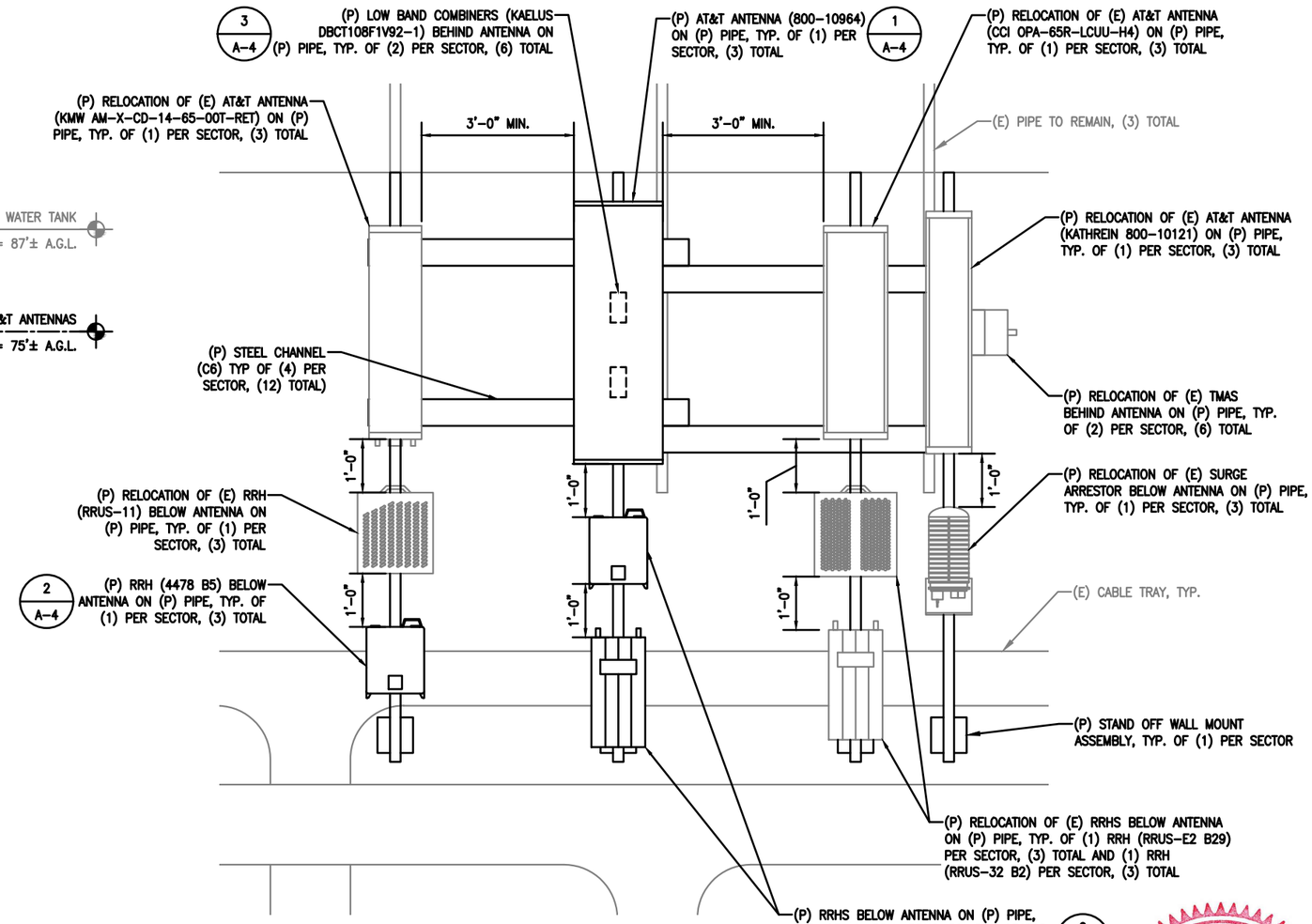


1 A-2 ELEVATION
SCALE: 1/8" = 1'-0"



2 A-2 ENLARGED ANTENNA ELEVATION
SCALE: 3/4" = 1'-0"

NOTE:
EXISTING ANTENNAS TO BE RELOCATED TO MAINTAIN A MINIMUM OF 3'-0" SEPARATION BETWEEN EXISTING AND PROPOSED LTE ANTENNAS. AND A MINIMUM OF 6'-0" SEPARATION BETWEEN 700BC & 700DE ANTENNAS.

MOUNT ANALYSIS NOTE:
AN ANALYSIS TO DETERMINE THE STRUCTURAL CAPACITY OF THE EXISTING MOUNTS SHALL BE PERFORMED PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT. AEG HAS NOT CONDUCTED AN ANALYSIS OF THE MOUNT.

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ELEVATIONS

SHEET NO. A-2

HALF SIZE PRINT
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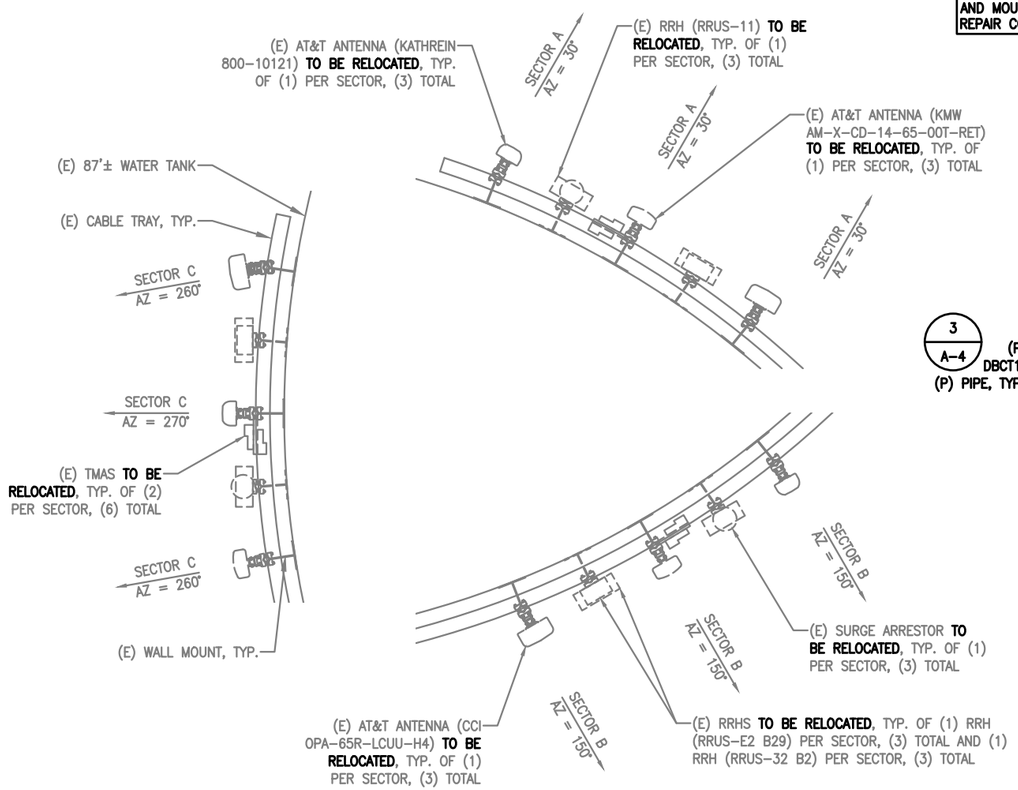
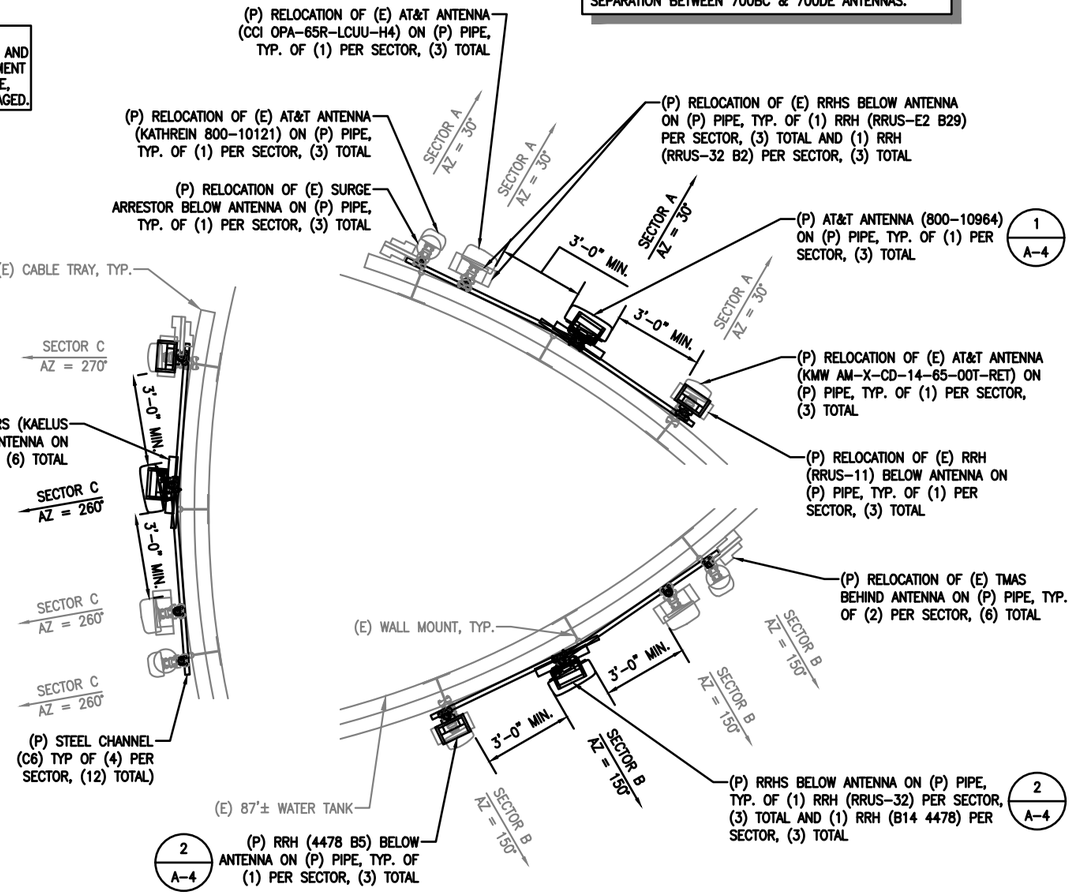
NOTE:
EXISTING ANTENNAS TO BE RELOCATED TO MAINTAIN A MINIMUM OF 3'-0" SEPARATION BETWEEN EXISTING AND PROPOSED LTE ANTENNAS. AND A MINIMUM OF 6'-0" SEPARATION BETWEEN 700BC & 700DE ANTENNAS.

CONSTRUCTION NOTE:
ONCE EQUIPMENT MODIFICATIONS AND COMPLETED, REMOVE ALL EQUIPMENT AND MOUNTS NO LONGER IN USE, REPAIR COATINGS ON TANK DAMAGED.



NORTH

1 / A-3 EXISTING ANTENNA PLAN
SCALE: 3/8" = 1'-0"



NORTH

2 / A-3 PROPOSED ANTENNA PLAN
SCALE: 3/8" = 1'-0"

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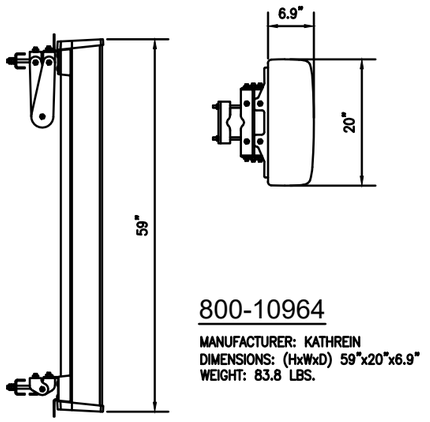
ANTENNA PLANS

SHEET NO. A-3

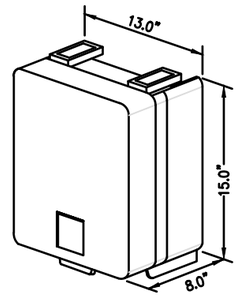


800-10964

MANUFACTURER: KATHREIN
DIMENSIONS: (HxWxD) 59"x20"x6.9"
WEIGHT: 83.8 LBS.

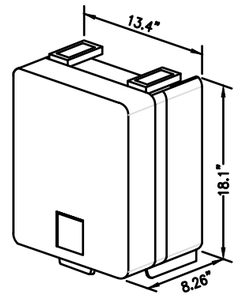
1 / A-4 ANTENNA DETAIL

SCALE: N.T.S.



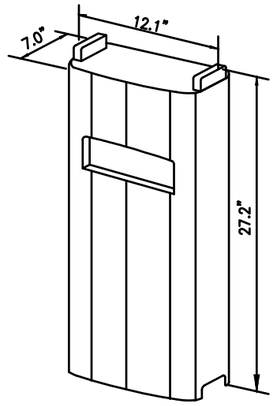
RRUS-4478 B5

MANUFACTURER:	ERICSSON
DIMENSIONS (HxWxD):	15.0"x13.0"x8.0"
WEIGHT:	60 LBS



RRUS-4478 B14

MANUFACTURER:	ERICSSON
DIMENSIONS (HxWxD):	18.1"x13.4"x8.26"
WEIGHT:	59.4 LBS

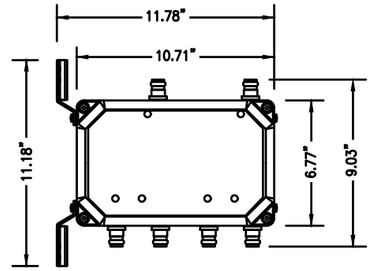


ERICSSON RRUS-32

MANUFACTURER:	ERICSSON
DIMENSIONS (HxWxD):	27.2"x12.1"x7.0"
WEIGHT:	53 LBS

2 / A-4 REMOTE RADIO HEAD (RRH) DETAILS

SCALE: N.T.S.



KAELUS: DBCT108F1V92-1

-DIMENSIONS (H x D x W): 10.71" x 6.77" x 3.52"
-WEIGHT: 13.9 LBS
-OPERATING TEMP: -40°C TO +65°C
-MAX. INPUT POWER: 120 WATTS (TYP.)

3 / A-4 DIPLEXER DETAILS

SCALE: N.T.S.

RF SYSTEM SCHEDULE

SECTOR	ANTENNA INFORMATION					RRH INFORMATION		TMA INFORMATION		FEEDER INFO.	
	POSITION	STATUS	MODEL	AZIMUTH	RAD CTR (A.G.L.)	STATUS	MODEL	STATUS	MODEL	COAX	FIBER
ALPHA	I-A	EXISTING	800-10121	30°	75'	-	-	EXISTING, EXISTING	LGP17201, LGP17201	-	-
	II-A	EXISTING	OPA-65R-LCUU-H4	30°	75'	EXISTING, EXISTING	RRUS-E2 B29, RRUS-32 B2	-	-	-	-
	III-A	PROPOSED	800-10964	30°	75'	PROPOSED,PROPOSED,PROPOSED	B14 4478, 4478 B5, RRUS-32	-	-	-	-
	IV-A	EXISTING	AM-X-CD-14-65-00T-RET	30°	75'	EXISTING	RRUS-11	-	-	-	-
BETA	I-B	EXISTING		150°	75'	-	-	EXISTING, EXISTING	LGP17201, LGP17201	-	-
	II-B	EXISTING	OPA-65R-LCUU-H4	150°	75'	EXISTING, EXISTING	RRUS-E2 B29, RRUS-32 B2	-	-	-	-
	III-B	PROPOSED	800-10964	150°	75'	PROPOSED,PROPOSED,PROPOSED	B14 4478, 4478 B5, RRUS-32	-	-	-	-
	IV-B	EXISTING	AM-X-CD-14-65-00T-RET	150°	75'	EXISTING	RRUS-11	-	-	-	-
GAMMA	I-C	EXISTING	OPA-65R-LCUU-H4	260°	75'	EXISTING, EXISTING	RRUS-E2 B29, RRUS-32 B2	EXISTING, EXISTING	LGP17201, LGP17201	-	-
	II-C	EXISTING	800-10964	260°	75'	PROPOSED,PROPOSED,PROPOSED	B14 4478, 4478 B5, RRUS-32	-	-	-	-
	III-C	PROPOSED	AM-X-CD-14-65-00T-RET	260°	75'	EXISTING	RRUS-11	-	-	-	-
	IV-C	EXISTING	800-10121	270°	75'	-	-	-	-	-	-

* CONTRACTOR TO VERIFY FINAL RFDS PRIOR TO CONSTRUCTION

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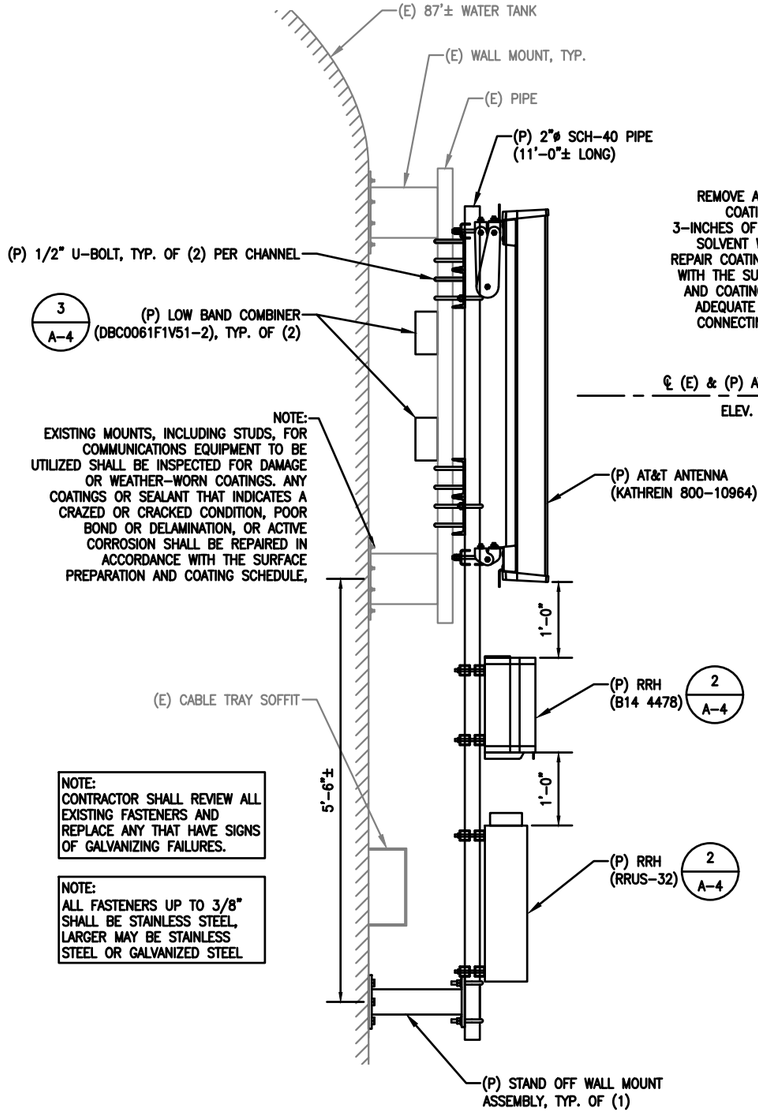
DETAILS AND
RF SYSTEM SCHEDULE

SHEET NO. A-4

HALF SIZE PRINT
THIS DRAWING IS SCALEABLE AT HALF THE NOTED SCALE

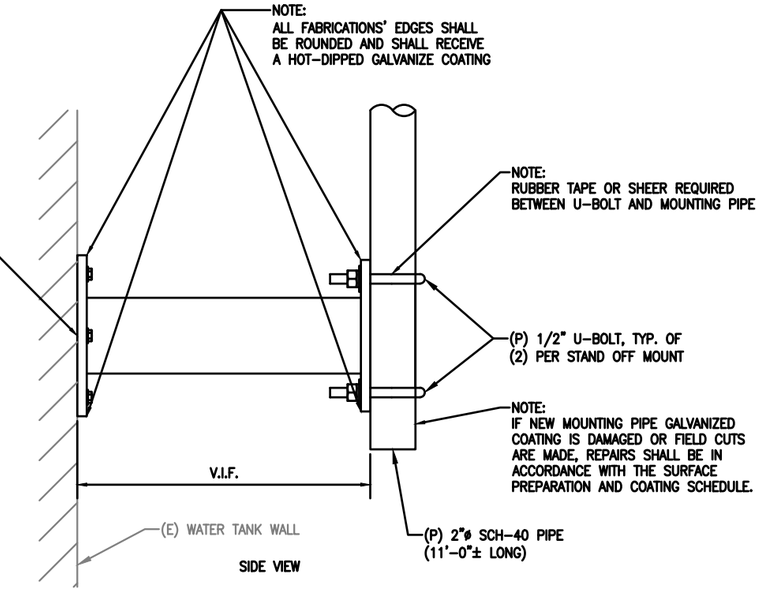


NOTE:
CONTRACTOR SHALL REVIEW ALL EXISTING FASTENERS AND REPLACE ANY THAT HAVE SIGNS OF GALVANIZING FAILURES.

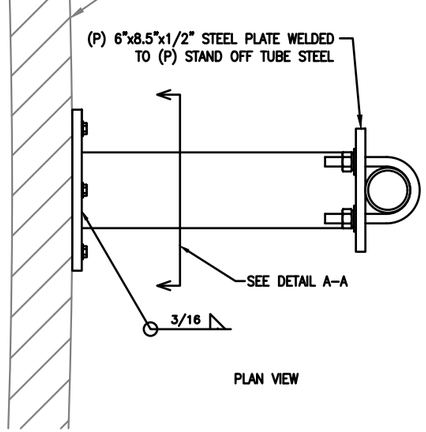
NOTE:
ALL FASTENERS UP TO 3/8" SHALL BE STAINLESS STEEL, LARGER MAY BE STAINLESS STEEL OR GALVANIZED STEEL

1 S-1 MOUNTING DETAIL
SCALE: 1" = 1'-0"

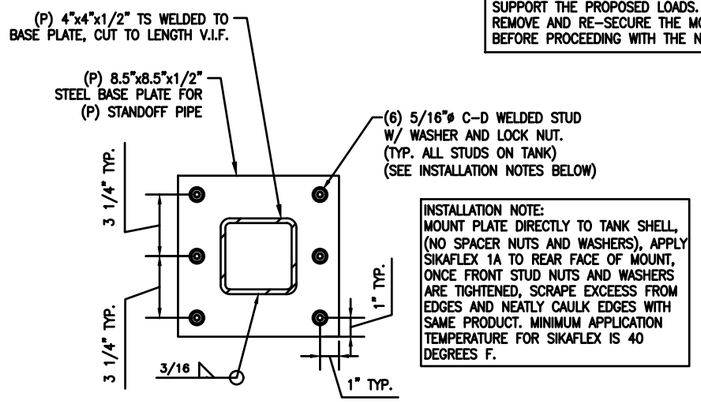
NOTE:
REMOVE ALL POORLY BONDED COATING ON TANK WITHIN 3-INCHES OF MOUNT FACE AREA, SOLVENT WIPE TO CLEAN AND REPAIR COATINGS IN ACCORDANCE WITH THE SURFACE PREPARATION AND COATING STANDARD, ALLOW ADEQUATE CURE TIME BEFORE CONNECTING MOUNTING PLATE



SIDE VIEW



PLAN VIEW



INSTALLATION NOTE:
MOUNT PLATE DIRECTLY TO TANK SHELL, (NO SPACER NUTS AND WASHERS), APPLY SIKAFLEX 1A TO REAR FACE OF MOUNT, ONCE FRONT STUD NUTS AND WASHERS ARE TIGHTENED, SCRAPE EXCEESS FROM EDGES AND NEATLY CAULK EDGES WITH SAME PRODUCT. MINIMUM APPLICATION TEMPERATURE FOR SIKAFLEX IS 40 DEGREES F.

DETAIL A-A

2 S-1 STAND OFF MOUNT DETAILS
SCALE: 3" = 1'-0"

NOTE:
1. AS PART OF THE AT&T UPGRADE PROJECT, AND PRIOR TO INSTALLING ANY EQUIPMENT, CONTRACTOR SHALL TEST THE INTEGRITY OF THE EXISTING STUDS CURRENTLY SECURING THE MASTS ONTO THE TANK SHELL. SUCH TEST SHALL CONSISTS OF TAPPING EACH STUD LATERALLY WITH A HAMMER CAUSING A STUD DEFLECTION (BENDING) OF NO MORE THAN 5 DEGREES IN AN EFFORT TO DETERMINE IF STUD IS STILL ATTACHED TO TANK. ADDITIONALLY, CONTRACTOR SHALL APPLY A TWISTING LOAD TO THE EXISTING STUD BY USING VICE GRIP PLIERS OR SIMILAR TOOL. CONTRACTOR SHALL APPLY SUCH FORCE (APPROX. 8 FT-LBS) AS REQUIRED TO IDENTIFY STUDS OF WHICH ARE NOT STRUCTURALLY SOUND.

2. SHOULD EXISTING STUD FAIL THE TEST OUTLINED ABOVE, THE FOLLOWING SHALL BE CONSIDERED GROUNDS FOR REMEDIATION ACTIONS.

a. IF BETWEEN 3 TO 4 STUDS OF THE TOTAL 8 STUDS FAIL ON ANY SINGLE MOUNT CONNECTION.

b. ANY MORE THAN 2 STUDS OF THE TOTAL 4 VERTICAL LOCATED STUDS ON EITHER SIDE OF THE MOUNT CONNECTION.

3. SHOULD EITHER OF THESE CONDITIONS BE PRESENT, CONTRACTOR SHALL ADD A SECONDARY MEANS OF SUPPORTING THE EXISTING MAST AS DETAILED WITHIN THESE CONSTRUCTION DRAWINGS.

4. SHOULD 5 OR MORE OF THE TOTAL STUDS FAIL THE TEST, THE EXISTING MOUNT SHOULD BE CONSIDERED INADEQUATE TO SUPPORT THE PROPOSED LOADS. THE CONTRACTOR SHALL REMOVE AND RE-SECURE THE MOUNT WITH NEW STUD WELDS BEFORE PROCEEDING WITH THE NEW EQUIPMENT INSTALLATION.

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SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: MA1306
SITE NAME: ASHLAND CEDAR STREET
404 CEDAR STREET
ASHLAND, MA 01721
MIDDLESEX COUNTY

at&t
550 COCHITUATE ROAD, SUITE 13,
FRAMINGHAM, MA 01701-4681

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STRUCTURAL DETAILS

SHEET NO. S-1

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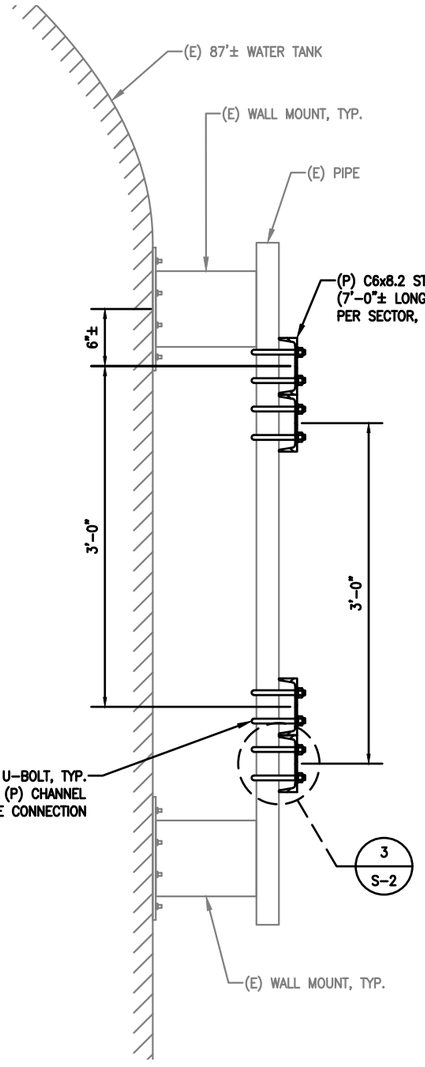
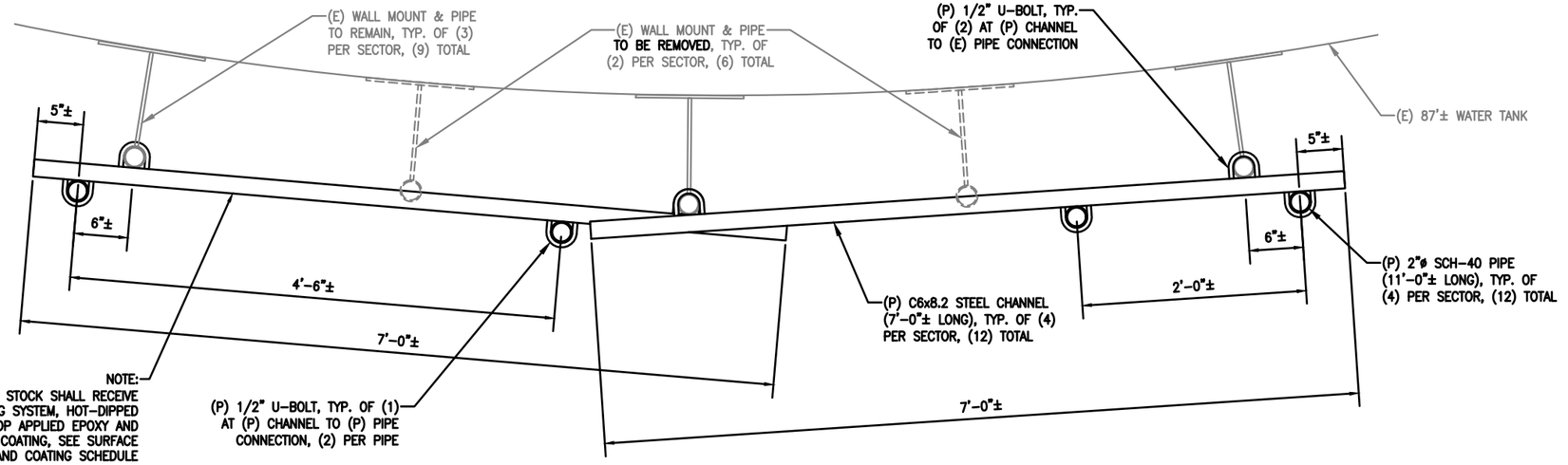
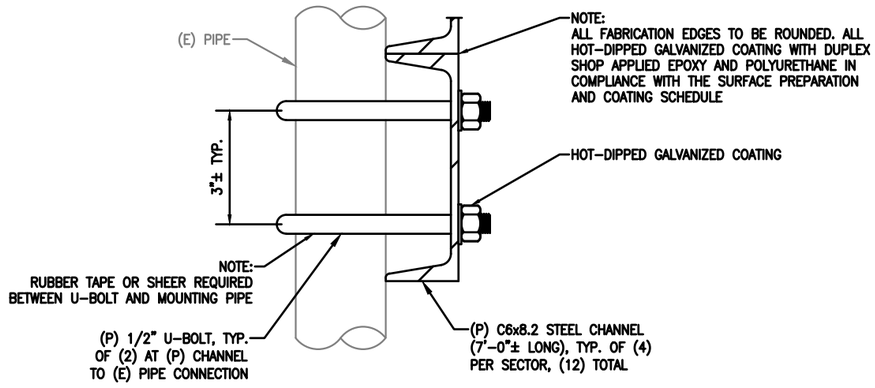


1 / S-2 CHANNEL MOUNT DETAIL
SCALE: 1-1/2" = 1'-0"



2 / S-2 CHANNEL MOUNT PLAN DETAIL
SCALE: 1-1/2" = 1'-0"



3 / S-2 ENLARGED CHANNEL DETAIL
SCALE: 6" = 1'-0"

COMMONWEALTH OF MASSACHUSETTS
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STRUCTURAL DETAILS

SHEET NO. S-2

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STUD WELDING SPECIFICATIONS:

SPECIFICATION FOR STUD WELDING TO EXISTING WATER TANKS GENERAL:

1. WELDING STUDS SHALL BE FLANGED THREADED LOW CARBON COPPER COATED STEEL STUDS, GRADE 1010 THROUGH 1020, CONFORMING TO ASTM A-106 "STEEL BARS, CARBON, COLD FINISHED, STANDARD QUALITY." ALL STUDS SHALL BE 5/16" DIAMETER x 1-3/4" LONG, UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS.

2. STUDS MUST BE WELDED BY THE CAPACITOR DISCHARGE METHOD, NELSON NCD 100 SYSTEM, AS MANUFACTURED AND MARKETED BY TRW NELSON STUD WELDING DIVISION, ELYRIA, OHIO (800) 635-9353 OR (216) 329-0400 OR APPROVED EQUAL. FILLET WELDS ARE NOT ACCEPTABLE.

3. CONTRACTOR SHALL RECEIVE IN WRITING THE OWNERS REQUIREMENTS FOR TANK INSPECTIONS PRIOR TO COMMENCING WITH THE WORK ON THE TANK. UPON THE COMPLETION OF CONSTRUCTION.

4. CONTRACTOR SHALL COMPLY WITH AWS D1.1 AND AWS C5.4 FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES." CONTRACTOR SHALL ADHERE TO AWS RECOMMENDED "SAFE PRACTICES FOR WELDING."

5. WELDING PARAMETERS, MACHINE POWER AND DWELL TIME SHALL BE QUALIFIED FOR THE WELDING POSITION, MATERIAL THICKNESS AND STUD SIZE TO BE USED. IF CHANGES IN THE SET-UP OCCUR AS DEFINED IN AWS D1.1, THE PROCEDURE MUST BE REQUALIFIED.

6. CONTRACTOR SHALL SUBMIT CERTIFICATION OF WELDERS FOR STUD WELDING TO THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORK.

7. CLEANING PROCEDURES SHALL BE VERIFIED AS MEETING THE MINIMUM REQUIREMENTS PER THE AWS WELDING HANDBOOK, VOLUME 2, "QUALITY CONTROL AND INSPECTION" FOR STUD WELDING. IF THE EXISTING COATING SYSTEM CONTAINS LEAD OR OTHER POTENTIALLY HAZARDOUS MATERIALS, SPECIAL PROCEDURES FOR REMOVAL AND DISPOSAL WILL BE REQUIRED.

8. THE QUALIFICATION OF STUD APPLICATION AND PRE-PRODUCTION TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 "STUD WELDING" OF AWS D1.1. INITIAL QUALIFICATION TESTING SHALL BE PERFORMED UNDER INSPECTION BY THE ENGINEER.

9. BEFORE PRODUCTION, AT THE START OF EVERY SHIFT AND FOR EACH PARTICULAR SETUP, TESTING SHALL BE PERFORMED ON THE FIRST TWO STUDS THAT ARE WELDED. TESTING MAY BE PERFORMED ON A MATERIAL SIMILAR TO THE PRODUCTION MEMBER IN THICKNESS AND PROPERTIES. TESTING SHALL INCLUDE A VISUAL EXAMINATION OF THE STUD WELD FOR A FULL 360-DEGREE FLASH. IN ADDITION, THE TEST SHALL INCLUDE TORQUE TESTING THE STUDS IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

STUD DIAMETER (IN)	TESTING TORQUE (FT-LB)
1/4-20 UNC	4.2
5/16-18 UNC	8.6
1/2-13 UNC	37

IF FAILURE OCCURS, THE PROCEDURE SHALL BE CORRECTED AND TWO MORE STUDS SHALL BE WELDED AND TESTED.

10. CONTRACTOR TO VERIFY THAT CANS OF THE PRODUCT ARE NOT BEYOND MANUFACTURER RECOMMENDED SHELF LIFE. ASSURE THOROUGH MIXING OF PREMEASURED TWO COMPONENT COATING SYSTEMS.

11. ALL TANK METAL SURFACES TO RECEIVE STUD WELDS OR DAMAGED BY THE INSTALLATION OF THE COMMUNICATIONS EQUIPMENT, OR EXISTING COATINGS ASSOCIATED WITH COMMUNICATIONS EQUIPMENT THAT HAVE DETERIORATED AND ARE IN NEED OF REPAIR OR COATINGS, IN THE OPINION OF THE ENGINEER, AND NEW FABRICATIONS TO BE INSTALLED ON TANK, SHALL BE SURFACE PREPARED.

12. SURFACE PREPARATION - EXISTING COATINGS TO BE REPAIRED

A. THE FIRST STEP IS TO CLEAN THE SURFACES REMOVING ALL OILS, GREASE DIRT AND ACCUMULATED SALTS ON THE SURFACE, IN ACCORDANCE WITH SSPC SP-1, BY STEEL STRUCTURES PAINTING COUNCIL. THIS CAN BE ACCOMPLISHED BY POWER WASHING OR SOLVENT WIPING ON THE EXTERIOR SURFACES, EXTENDING THE CLEANED AREA AT LEASE 12-INCHES FROM THE AFFECTED AREA.

B. ALL DETERIORATED COATINGS ON EXISTING METAL SUCH AS MOUNTS STUD WELDED TO THE TANK, INCLUDING THE STUDS AND ADJACENT TANK SURFACES, SHOWING SIGNS OF CRACKING, CRAZING, DELAMINATION, CORROSION STAINING OR OPEN ACTIVE CORROSION DIRECTLY ASSOCIATED WITH THE EXISTING CELLULAR EQUIPMENT SUPPORT STRUCTURE SHALL BE REPAIRED, AND THE SURFACE PREPARATION SHALL INCLUDE THE UTILIZATION OF EQUIPMENT SUCH AS A "BRISTLE BLASTER", OR OTHER ROTATING WIRE OR ABRASIVE FLAP DRUM THAT WILL REMOVE ALL VISUAL OIL, GREASE, DIRT, DUST, MILL SCALE, RUST, CORROSION PRODUCTS, COATINGS OR OTHER FOREIGN MATTER, AND PROVIDE A MINIMUM PROFILE OF ONE MIL IN ACCORDANCE WITH SSPC SP-15.

C. WELL ADHERED EXISTING COATINGS AT THE EDGE OF THE PREPARED AREAS SHALL BE ABRADED WITH A COURSE SANDPAPER, TO A UNIFORM SHAPE (SQUARE OR RECTANGLE), TO PROVIDE A TOOTH TO FACILITATE BONDING FOR THE OVERLAPPING INTERMEDIATE AND FINISH COATS.

D. THE AREAS PREPARED TO BARE STEEL SHALL BE PRIME COATED AT THE END OF EACH WORK DAY TO AVOID FLASH "RUSTING".

D, APPLIED AT 2.0 TO 3.0

13. SURFACE PREPARATION - NEW FABRICATIONS

A. THE FIRST STEP IS TO CLEAN THE SURFACES REMOVING ALL OILS, GREASE DIRT AND ACCUMULATED SALTS ON THE SURFACE, IN ACCORDANCE WITH SSPC SP- 1 STANDARD.

B. THE FABRICATION SHALL BE REVIEWED FOR IMPERFECTIONS IN THE STEEL OR IRREGULARITIES IN THE WELDING. THESE IMPERFECTIONS OR IRREGULARITIES SHALL BE REPAIRED BY GRINDING TO BE FOLLOWED WITH A BRISTLE BLASTER TO DEVELOP A MINIMUM 1-MIL PROFILE.

C. ALL SHARP EDGES ON STEEL FABRICATIONS SHELL BE GROUND TO A SLIGHT BEVEL.

D. THE FABRICATION SHALL BE ABRASIVE BLASTER TO REMOVE ALL VISUAL OIL, GREASE, DIRT, DUST, MILL SCALE, RUST, CORROSION PRODUCTS OR OTHER FOREIGN MATTER, IN ACCORDANCE WITH SSPC SP-15 STANDARD.

E. THE FABRICATION SHALL BE PRIME COATED THE SAME DAY AS THE SURFACE PREPARATION IS PERFORMED.

14. SURFACE PREPARATION - NEW GALVANIZED FABRICATIONS

A. NEW GALVANIZED SURFACES ARE EXTREMELY DIFFICULT TO COAT (DUPLEX COATING SYSTEM) DUE TO THE FORMATION OF ZINC OXIDES, HYDROXIDES AND CARBONATES THAT DEVELOP ON THE SURFACE AS THE GALVANIZING IS CURING OVER TIME. THEREFORE, CARE HAS TO BE TAKEN IN THE PREPARATION AND APPLICATION OF COATINGS (PAINT) OVER THE GALVANIZED SURFACES, AND THIS PROCESS SHOULD BE SHOP PERFORMED BY A FIRM SPECIALIZING IN SHOP COATING APPLICATIONS.

B. THESE GALVANIZED FABRICATIONS SHALL BE CLEANED WITH A BRUSHED-ON SOLUTION OF 1% TO 2% AMMONIA TO REMOVE ALL OILS, GREASE AND OTHER CONTAMINANTS, THEN WIPED WITH CLEAN RAGS.

C. ALL ZINC OXIDES, HYDROXIDES AND CARBONATES SHALL BE REMOVED FROM THE SURFACES TAKING CARE NOT TO REMOVE THE GALVANIZING ON IRREGULAR SHAPES SUCH AS EDGES OF THE STEEL. THIS SHOULD BE ACCOMPLISHED BY SWEEP ABRASIVE BLASTING WITH SMALL SCALE BLASTING EQUIPMENT, UTILIZING A BLAST MEDIA SUCH AS ALUMINUM/MAGNESIUM WITH A PARTICLE SIZE OF 8 TO 20-THOUSANDS OF AN INCH, ATTEMPTING TO ACHIEVE A PROFILE OF ONE MIL THICKNESS, AND THE AREA SHOULD BE IMMEDIATELY BLOWN CLEAN.

D. THE FABRICATIONS SHALL BE PRIME COATED WITHIN 30 MINUTES OF THE ABRASIVE BLASTING.

15. COATING APPLICATION - SPOT COATING REPAIRS: THE CELLULAR MODIFICATIONS PROPOSED BY AT&T WILL UTILIZE EXISTING AND NEW MOUNTS STUD WELDED TO THE TANK SHELL. EXISTING MOUNTING PLATES AND STUDS THAT SHOW COATING FAILURES SHALL RECEIVE A SPOT COATING REPAIR. AREAS WHERE NEW MOUNTS ARE TO BE STUD WELDED TO TANK SHALL RECEIVE SPOT COATING REPAIRS AFTER STUD WELDING IS COMPLETE.

A. THESE SPOT SURFACE PREPARED AREAS SHALL BE PRIME COATED AT THE END OF EACH WORK DAY UTILIZING TNEMEC SERIES 1 OMNITHANE APPLIED TO A DFT OF 2.5 TO 3.5 MIL BY BRUSH.

B. THESE AREAS SHALL THEN RECEIVE AN INTERMEDIATE SPOT COAT OF TNEMEC SERIES 27 TYPOXY, FIELD APPLIED TO A 2.0 TO 3.0 MILS DRY FILM THICKNESS (DFT) BY BRUSH.

C. THESE AREAS SHALL THEN RECEIVE A TOP SPOT FINISH COATING UTILIZING TNEMEC SERIES 73 ENDURA-SHIELD, APPLIED BY BRUSH TO A DFT OF 2.0 TO 3.0 MILS, COLOR TO MATCH EXISTING.

D. THE EXTERIOR TANK COLOR IS TWO DIFFERENT TNEMEC COLORS. THE FRONT HALF OF THE TANK IS SUSPECTED TO BE TNEMEC SLATE GRAY, THE BACK HALF IS SUSPECTED TO BE TNEMEC SEAFOAM, HOWEVER ACTUAL COLOR SELECTION TO BE CONFIRMED BY COMPARISON WITH TNEMEC COLOR CHARTS IN THE FIELD.

E. ALL COATINGS SHALL BE APPLIED IN COMPLIANCE WITH THE MANUFACTURER'S DATA SHEETS, PAYING SPECIAL ATTENTION TO THE MINIMUM STEEL TEMPERATURE. A COPY OF THE DATA SHEETS SHALL BE ON SITE AT ALL TIMES.

F. THE CONTRACTOR SHALL ENSURE THAT THE COATINGS HAVE CURED PROPERLY PRIOR TO OVER COATING.

G. THE CONTRACTOR SHALL PROVIDE A SAFE MEANS (AERIAL LIFT WITH OPERATOR) FOR THE ENGINEER TO INSPECT THE WORK AS IT PROCEEDS.

16. COATING APPLICATION - NEW GALVANIZED FABRICATIONS: PART OF THE SUPPORTING FABRICATIONS WILL BE 6" X 8" CHANNEL IRON STOCK THAT WILL BE HOT DIPPED GALVANIZED AND WILL RECEIVE A SHOP APPLIED DUPLEX COATING SYSTEM. THE DUPLEX COATING APPLICATION SHALL BE AS FOLLOWS.

A. ALL COATINGS SHALL BE APPLIED IN COMPLIANCE WITH THE MANUFACTURE'S PRODUCT DATA SHEETS, AND THESE SHEETS SHALL BE MADE AVAILABLE AT THE SITE OF THE SHOP PAINTING DURING THE WORK PROGRESS.

B. THE NEW FABRICATIONS SHALL BE SHOP COATED, APPLIED BY A FIRM WITH LONG EXPERIENCE IN SHOP APPLIED COATING SYSTEMS

C. PRIME COATINGS FOR NEW GALVANIZED MOUNTS AND ANTENNA MOUNTING PIPE SHALL BE TNEMEC SERIES 27 TYPOXY, SHOP APPLIED TO A 2.0 TO 3.0 MILS DRY FILM THICKNESS (DFT) BY BRUSH OR SPRAY.

D. ONCE THE PRIME COATING HAS PROPERLY CURED FOR OVER-COATING PURPOSES, THESE AREAS SHALL THEN RECEIVE A TOP FINISH COATING UTILIZING TNEMEC SERIES 73 ENDURA-SHIELD, APPLIED BY BRUSH OR SPRAY TO A DFT OF 2.0 TO 3.0 MILS, COLOR TO MATCH EXISTING. THE FACE OF THE MOUNTS THAT WILL BE IN CONTACT WITH THE SHELL SHALL BE PAINTED AS ABOVE.

E. 5. ALL HOLES IN CHANNELS MUST BE DRILLED PRIOR TO HOT DIPPED GALVANIZING PROCESS. IF A HOLE IS MISSED IN THIS PROCESS AND MUST BE FIELD DRILLED OR COATING DAMAGE OCCURRED DURING ERECTION, THESE AREAS SHALL BE REPAIRED WITH THE SAME COATING SYSTEM.

17. COATING REPAIRS - NEW AND EXISTING GALVANIZED FABRICATIONS: GALVANIZED FABRICATIONS, NEWAND EXISTING THAT WERE DAMAGED DURING INSTALLATION SUCH AS FIELD CUTTING, OR HAVE DETERIORATED DUE TO WEATHERING OR OTHER, SHALL BE REPAIR COATED AS FOLLOWS:

A. ALL LOOSE, DETERIORATED OR DAMAGED GALVANIZING SHALL BE CLEANED TO A SSPC SP-I STANDARD.

B. WELL ADHERED EXISTING COATINGS AT THE EDGE OF THE DAMAGED AREA SHALL BE ABRADED WITH A COURSE SANDPAPER TO PROVIDE A TOOTH FOR THE OVERLAPPING COATINGS TO BE APPLIED.

C. THE REPAIR COATINGS SHALL BE APPLIED IN TWO COATS, ALLOWING ADEQUATE TIME FOR CURING

D. THE REPAIR COATINGS SHALL BE GRC GALVILITE GALVANIZING REPAIR COMPOUND, APPLIED AT 2.0 TO 3.0

18. PRIOR TO PRODUCTION, CONTRACTOR SHALL PERFORM THREE (3) TEST WELDS ON THE WATER TANK IN A LOCATION SPECIFIED BY THE TANK OWNER TO VERIFY THAT NO DAMAGE WILL OCCUR TO THE COATING SYSTEM ON THE INTERIOR OF THE TANK. ANY AND ALL DAMAGE TO THE INTERIOR COATING SHALL BE REPAIRED TO THE OWNER'S SATISFACTION. IF DAMAGE DOES OCCUR, THE PROCEDURE SHALL BE REEVALUATED BY THE ENGINEER, CONSTRUCTION AUTHORIZED REPRESENTATIVE, AND OWNER BEFORE COMMENCING WITH THE WORK.

19. THE LOCATION SHALL BE ON THE SHELL OR ROOF PLATE WITHIN REACHING AND VISUAL RANGE OF THE ROOF HATCH, SO THE INTERIOR SURFACE CAN BE OBSERVED WHERE THE TEST STUD WELDING IS PERFORMED. THE INTERIOR SURFACES SHALL BE CLEANED BY SOLVENT WIPING, IDENTIFY WITH A MARKER, INSPECTED AND PHOTOGRAPHED. ONCE THE THREE WELDS HAVE BEEN COMPLETED, THE INTERIOR AREA SHALL BE AGAIN INSPECTED AND PHOTOGRAPHED. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH 48 HOUR NOTIFICATION OF THIS TESTING, AND HE/SHE SHALL PROVIDE A SAFE MEANS FOR THE ENGINEER TO OBSERVE THE TESTING PROCEDURE. IN THE EVENT THE IS ANY DAMAGE TO THE INTERIOR COATING, IT SHALL BE REPAIRED, BY SURFACE ABRADING TO REMOVE DAMAGED COATINGS AND A COATING WITH TNEMEC FC22 TOUCH UP APPLIED TO A MINIMUM OF 20 DFT.

20. WHERE ENGINEER IS INDICATED ON THIS DRAWING, IT SHALL MEAN THE ENGINEER FOR THE TOWN OF ASHLAND.

COMMONWEALTH OF MASSACHUSETTS
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REGISTERED PROFESSIONAL ENGINEER

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WELDING NOTES

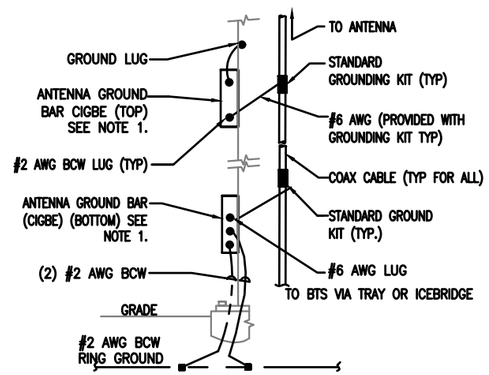
SHEET NO. S-3

CIRCUIT BREAKER	
ELECTRIC BOX	
ELECTRICAL CONDUIT	
EXOTHERMIC CONNECTION (CADWELD) TO GROUND RING AND COMPRESSION TO GROUND HALO	
DISCONNECT SWITH	
GROUND ROD	
GROUND ROD WITH ACCESS	
MECHANICAL GROUND CONN.	
GROUND ACCESS WELL	
GROUNDING WIRE	
GENERATOR	
FUSE	
GROUND BUS BAR	
REVISION	
TELEPHONE BOX	
UTILITY METER	
XIT GROUND ROD	

ACCA	ANTENNA CABLE COVER ASSEMBLY
AWG	AMERICAN WIRE GAUGE
BTCW	BARE TINNED COPPER WIRE
C	CONDUIT
CIGBE	COAX INSULATED GROUND BAR EXTERNAL
CO	CONDUIT ONLY
DWG	DRAWING
EGB	EXTERNAL GROUND BAR
EMT	ELECTRICAL METALLIC TUBING
(E)	EXISTING
(F)	FUTURE
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GPS	GLOBAL POSITIONING SYSTEM
GR	GROWTH
IGR	INTERIOR GROUND RING (HALO)
MIGB	MASTER ISOLATED GROUND BAR
(P)	PROPOSED, NEW (PROVIDE AND INSTALL UNLESS NOTED OTHERWISE)
PCS	PERSONAL COMMUNICATION SERVICE
PPC	POWER PROTECTION CABINET
PRC	PRIMARY RADIO CABINET
PVC	POLYVINYL CHLORIDE CONDUIT
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
S.L.D.	SINGLE LINE DIAGRAM
TEL	TELEPHONE
TYP.	TYPICAL
WP	WEATHERPROOF EQUIPMENT

1 G-1 ELEC. / GROUNDING LEGEND

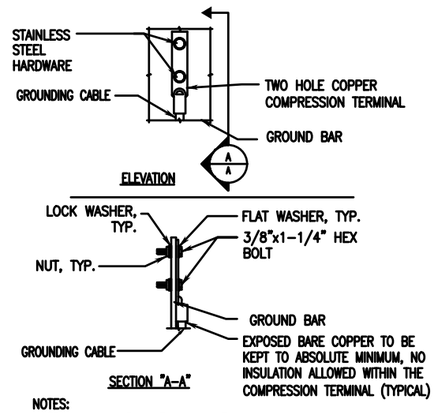
SCALE: N.T.S.



NOTE:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER. ANTENNA LOCATION AND CONNECTION ANTENNA LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

2 G-1 TYP. ANTENNA CABLE GROUNDING

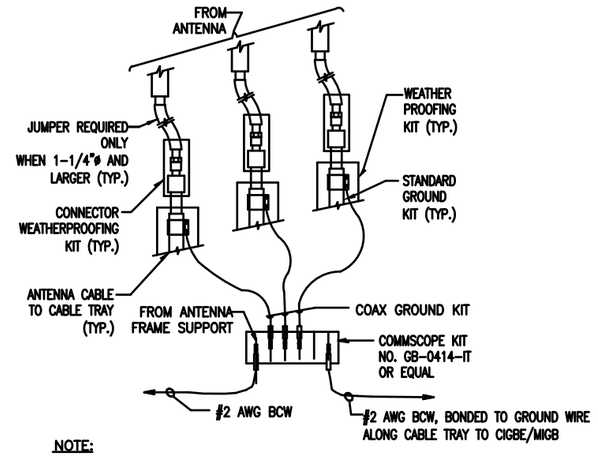
SCALE: N.T.S.



NOTES:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.
4. ALL GROUND LUGS MUST BE HEAT SHRUNK AT WIRE/LUG CONNECTION

3 G-1 TYP. GROUND BAR CONNECTION

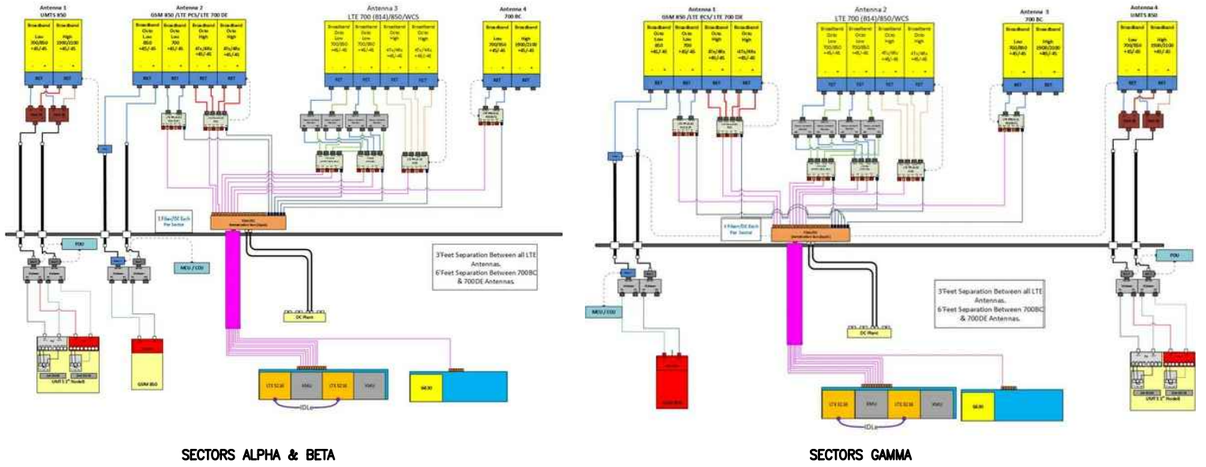
SCALE: N.T.S.



NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

4 G-1 TYP. GROUND WIRE TO GROUND BAR CONN.

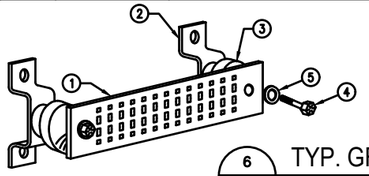
SCALE: N.T.S.



5 G-1 ONE LINE PLUMBING DIAGRAMS

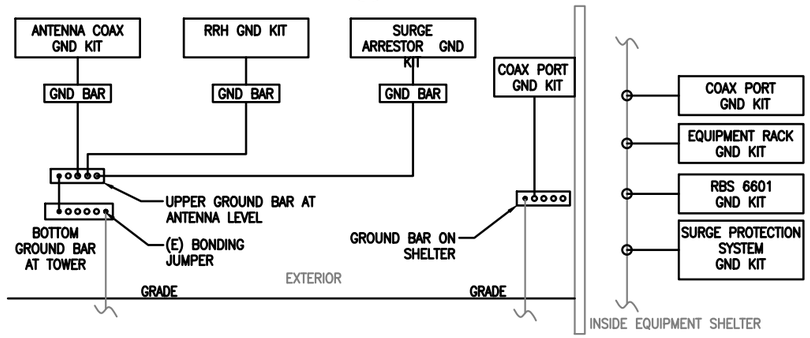
SCALE: N.T.S.

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")
2	2	———	WALL MTG. BRKT.
3	2	———	INSULATORS
4	4	———	5/8"-11x1" H.H.C.S.
5	4	———	5/8 LOCKWASHER



6 G-1 TYP. GROUND BAR CONN.

SCALE: N.T.S.



7 G-1 ONE LINE GROUNDING DIAGRAM

SCALE: N.T.S.

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

GROUNDING NOTES:
ALL GROUNDING SHALL BE DONE IN ACCORDANCE WITH THE AT&T MOBILITY GROUNDING GUIDE.

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500 North Broadway
East Providence, RI 02914
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SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: MA1306

SITE NAME: ASHLAND CEDAR STREET

404 CEDAR STREET
ASHLAND, MA 01721
MIDDLESEX COUNTY

at&t
550 COCHITUATE ROAD, SUITE 13,
FRAMINGHAM, MA 01701-4681

NO.	DATE	REVISIONS	BY	CHK
0	09/24/18	ISSUED FOR REVIEW	AAB	MRC
1	01/30/19	ISSUED FOR CONSTRUCTION	AAB	MRC

GROUNDING DETAILS AND ONE LINE DIAGRAM

SHEET NO. G-1