



December 22nd, 2017

Melanie A. Bachman Executive
Director Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap and RRU Add**
Property Address: **One Public Works Drive, East Hampton, CT 06424**
Applicant: **AT&T Mobility, LLC**

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 167-feet on an existing 220-foot monopole, owned by Crown Castle at 12 Gill St. Suite 5800, Woburn, MA 01801. AT&T now intends to swap (3) 4' Powerwave 7770 panel antennas for (3) 6' Quintel QS66512-2 Panel Antennas, and swap this antenna from position [4] and install in position [2] in each sector, all sectors for a total of three (3) antennas being swapped. In addition, AT&T also wishes to relocate [3] existing 6' AM-X-CD-16-65-00T-RET from position [3] to position [4]. AT&T also wishes to add (1) RRUS-32 and (1) RRUS-32 B2 on position [2] all sectors, for a total of (6) RRUs 32s being added. AT&T is also proposing to swap out the existing dplexers in antenna position [4] for low band combiners, and install these in position [2] (1 of each). Lastly, AT&T also intends to add (1) Raycap Squid as well as (2) DC Cables and (1) Fiber Cables to their configuration. All of the changes will take place on the existing antenna mount.

Per the attached Decision and Order, the construction of the aforementioned monopole was approved by the Connecticut Siting Council on November 21st, 2002. Please see attached for conditions.

In addition, attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-510j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Jeremy DeCarli, Planning & Zoning Official – Town of East Hampton, 20 East High St., East Hampton, CT 06424 and Melissa Engel, Chair of Town Council, Town of East Hampton, CT, 20 East High St. East Hampton, CT 06424. Per above, a copy of this letter is being sent to the property owner – the Town of East Hampton, CT. A copy of this letter is also being sent to the tower company, Crown Castle, 3 Corporate Park Drive, Suite 101, Clifton Park, NY 12065.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-CING-042-081113** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at Public Works Drive, **East Hampton**, Connecticut.
- **EM-CING-042-120524** - New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at One Public Works Drive, **East Hampton**, Connecticut.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-



72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 167-foot level of the 220-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require any extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitutes an exempt modification under R.C.S.A. §16-50j-72(b) (2).

Sincerely,

A handwritten signature in black ink that reads "Romina Kirchmaier".

Romina Kirchmaier

CC w/enclosures:

Jeremy DeCarli - Planning & Zoning Official
Melissa Engel - Chair of Town Council, Town of East Hampton, CT
Town of East Hampton, CT – Land Owner
Crown Castle - Tower Company

DOCKET NO. 229 – Sprint Spectrum, L. P. application for } Connecticut
a Certificate of Environmental Compatibility and Public }
Need for the construction, maintenance and operation of a } Siting
cellular telecommunications facility at Public Works Drive, }
East Hampton, Connecticut. } Council
} November 21, 2002

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum L. P. (Sprint) for the construction, maintenance and operation of a wireless telecommunications facility at the proposed site located at 1 Public Works Drive in East Hampton, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint, AT&T Wireless LLC, and other entities, both public and private, but such tower shall not exceed a height of 180 feet above ground level.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, security fence, access road, utility line, and landscaping;
 - b. a schedule for the removal of the 100-foot town tower; and
 - c. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. Site preparation and construction activities shall occur during the time period of October 31 through March 31 to reduce potential impacts to populations of the state endangered eastern timber rattlesnake (*Crotalus horridus*).

4. The Certificate Holder shall transfer the town's communication equipment from the 100-foot town tower to the approved facility within 30 days of completion of the approved facility. The 100-foot town tower shall be dismantled within 60-days of completion of the approved facility.
5. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
6. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
8. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.
10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, Rivereast News Bulletin, and the Middletown Press.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant

Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative

Thomas J. Regan, Esquire
Brown Rudnick Berlack Israels LLP

CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402
(860) 509-6522

Intervenor

AT&T Wireless PCS, LLC
d/b/a AT&T Wireless

Its Representative

Christopher B. Fisher
Cuddy & Feder & Worby
90 Maple Avenue
White Plains, NY 10601
(914) 761-1300



**SmartLink, LLC on behalf of
AT&T Mobility, LLC
Site FA – 10071008
Site ID – CT5838 (MRCTB025466-
MRCTB025513)
USID – 27077
Site Name – East Hampton
Central
Site Compliance Report**

**One Public Works Drive
East Hampton, CT 06424**

Latitude: N41-33-52.53
Longitude: W72-32-34.44
Structure Type: Monopole

Report generated date: December 28, 2017
Report by: Young Kim
Customer Contact: Romina Kirchmaier

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

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1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	No
RF Sign(s) @ access point(s)	None
RF Sign(s) @ antennas	None
Barrier(s) @ sectors	None
Max cumulative simulated RFE level on the Rooftop	1% General Public Limit
Max simulated RFE level on the Ground	<1% General Public Limit
FCC & AT&T Compliant?	Will Be Compliant

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

RFDS: NEW-ENGLAND_CONNECTICUT_CTV5838_2018-LTE-Multi-Carrier_LTE_sp656b_PTN_10...

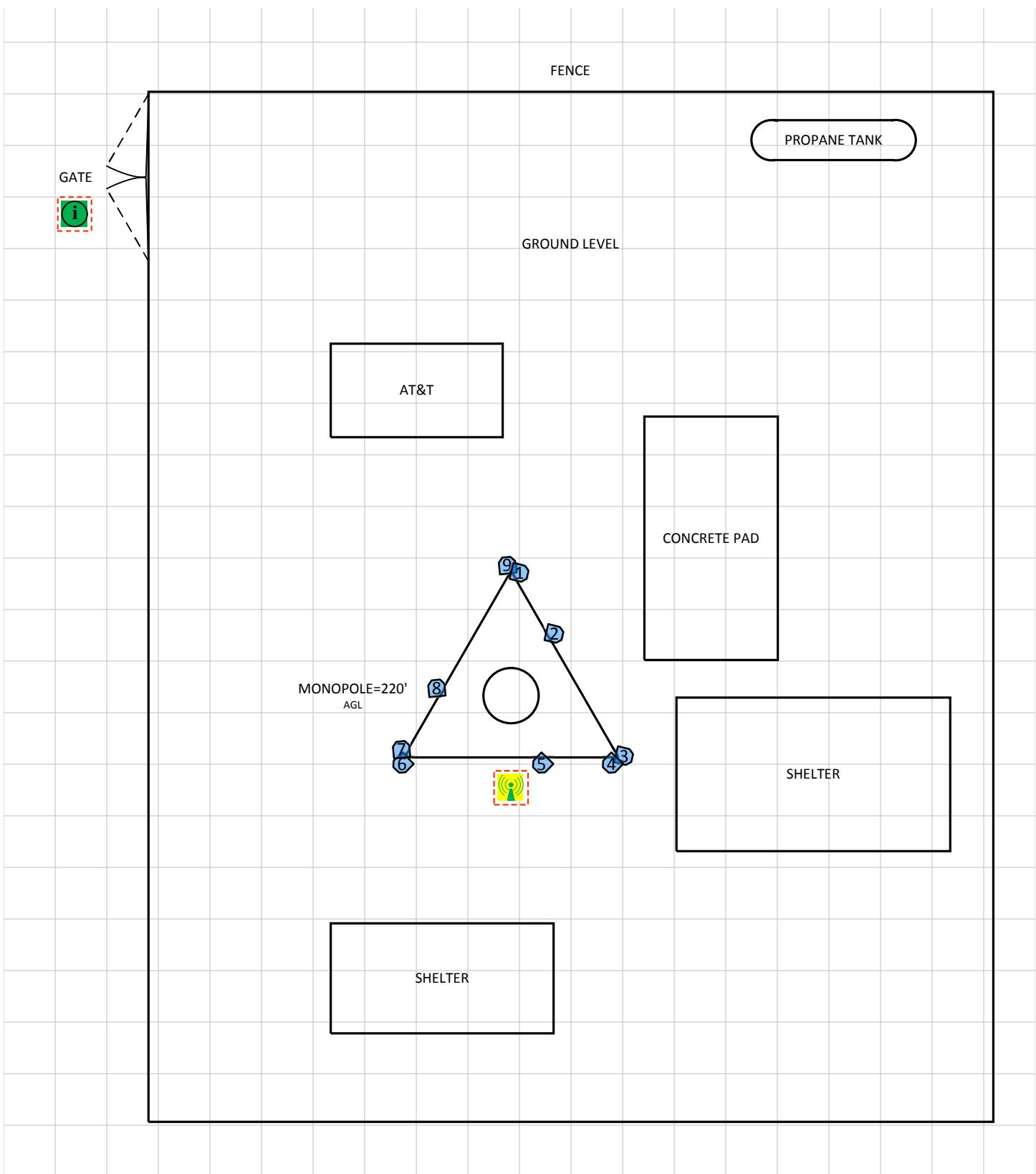
CD's: 10071008_AE203_171201_CTL05838_REV1

2 Scale Maps of Site

The following diagrams are included:

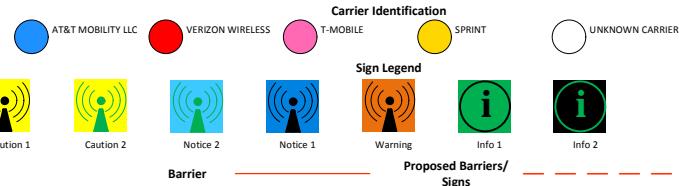
- Site Scale Map
- RF Exposure Diagram
- Elevation View – South

Site Scale Map For: East Hampton Central



(Feet)

0 5 10
www.sitesafe.com
 Site Name: East Hampton Central
 12/28/2017 11:42:10 AM



3 Antenna Inventory

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

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBi)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	80	82	4.6	11.51	0	1	0	401.5	43.7'	64'	164.7'
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	80	86	4.6	13.41	0	1	0	401.5	43.7'	64'	164.7'
2	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	1900	80	68	6	14.16	0	0	1	4842.1	46.3'	59.6'	164'
2	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	2300	80	64	6	14.56	0	0	1	1285.3	46.3'	59.6'	164'
3	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	737	80	65	6	13.36	0	0	1	1475.7	51.3'	50.7'	164'
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	200	82	4.6	11.51	0	1	0	401.5	50.4'	50.1'	164.7'
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	200	86	4.6	13.41	0	1	0	401.5	50.4'	50.1'	164.7'
5	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	1900	200	68	6	14.16	0	0	1	4842.1	45.3'	50.1'	164'
5	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	2300	200	64	6	14.56	0	0	1	1285.3	45.3'	50.1'	164'
6	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	737	200	65	6	13.36	0	0	1	1475.7	35.2'	50.1'	164'
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	330	82	4.6	11.51	0	1	0	401.5	35.1'	51.2'	164.7'
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	330	86	4.6	13.41	0	1	0	401.5	35.1'	51.2'	164.7'
8	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	1900	330	68	6	14.16	0	0	1	4842.1	37.7'	55.6'	164'
8	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	2300	330	64	6	14.56	0	0	1	1285.3	37.7'	55.6'	164'
9	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	737	330	65	6	13.36	0	0	1	1475.7	42.8'	64.5'	164'

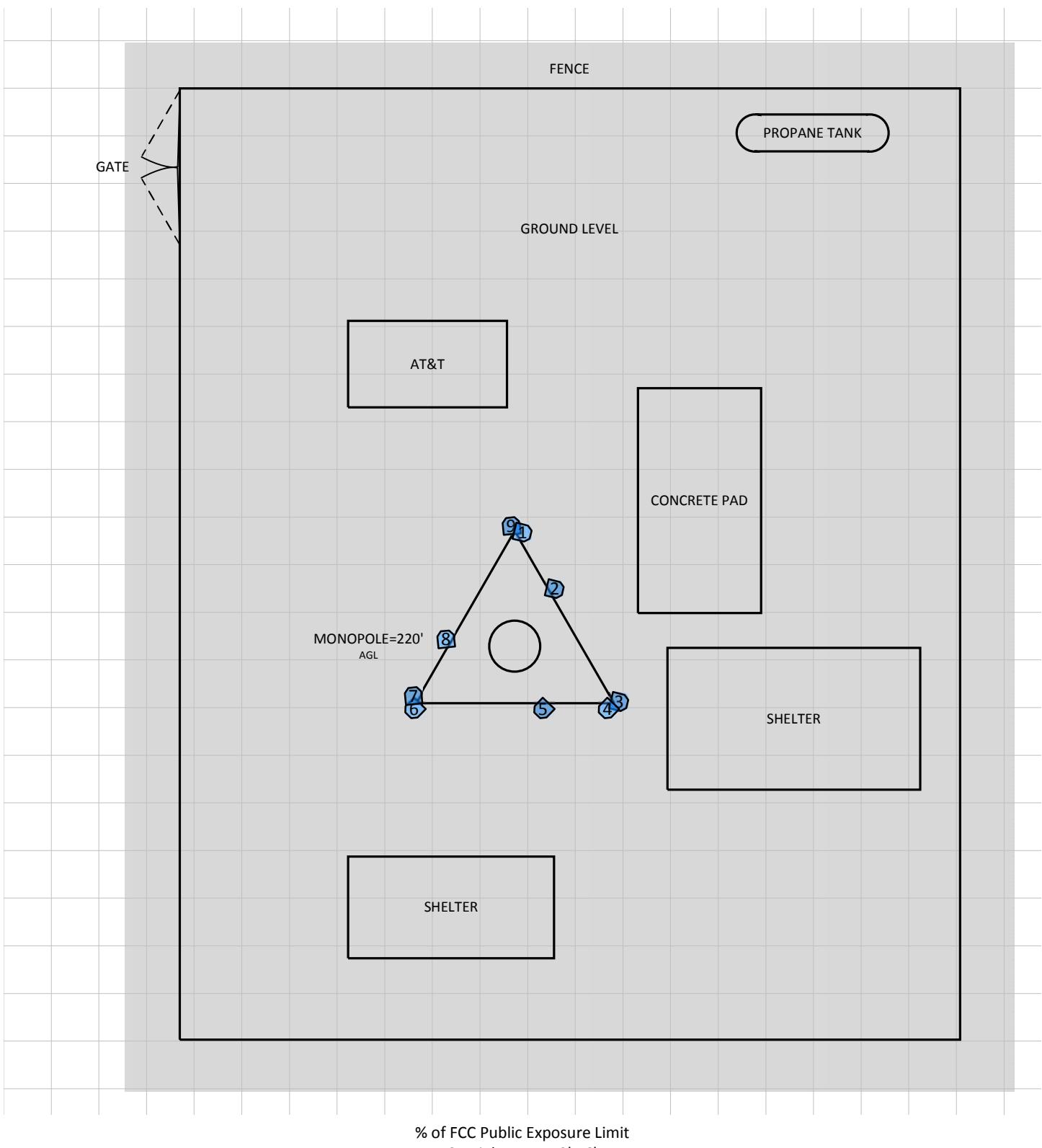
NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed.

4 Emission Predictions

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

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: East Hampton Central



Carrier Identification

(Feet)

AT&T MOBILITY LLC

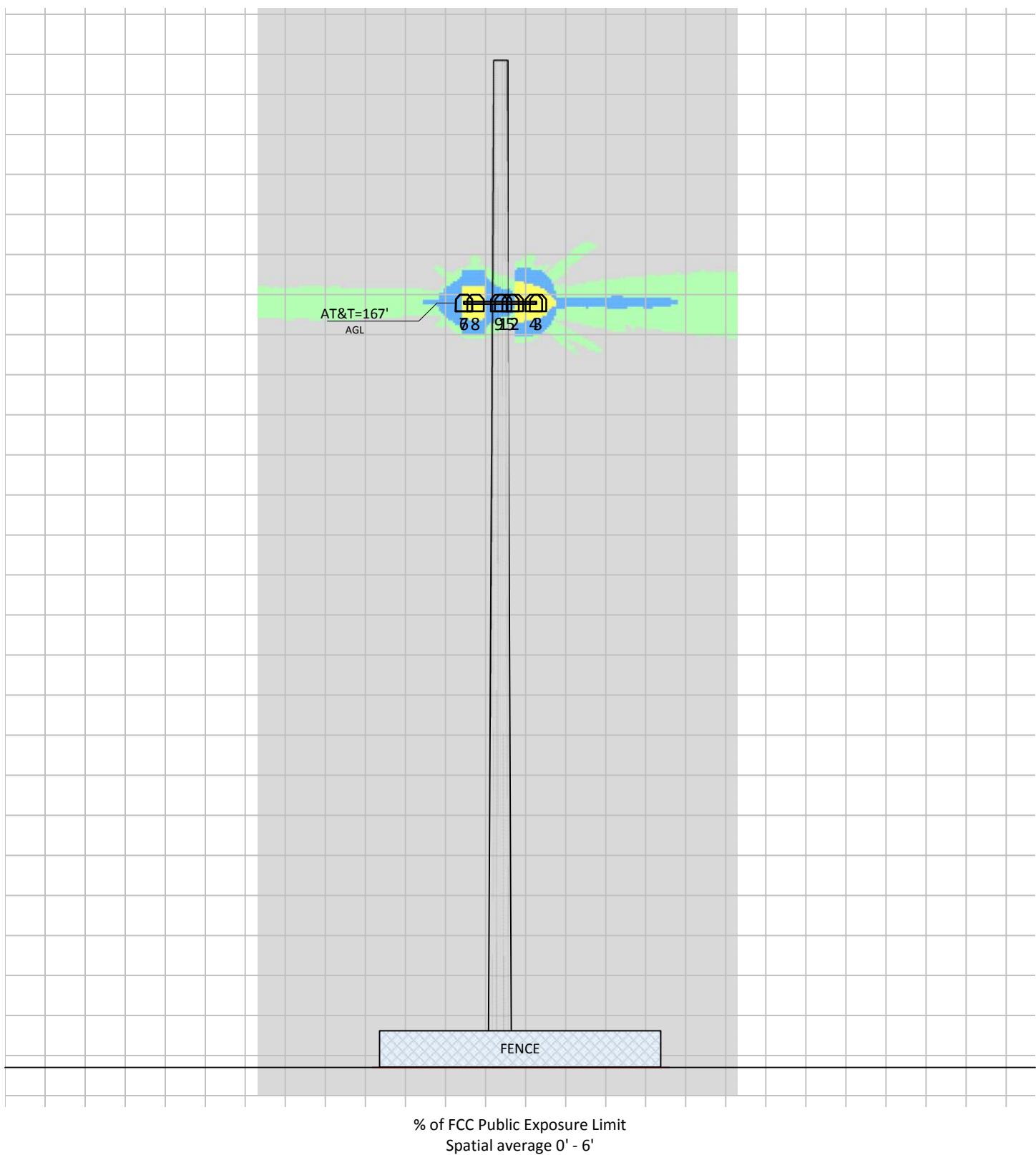
VERIZON WIRELESS

T-MOBILE

SPRINT

UNKNOWN CARRIER

RF Exposure Simulation For: East Hampton Central



5 Site Compliance

5.1 Site Compliance Statement

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

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

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

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

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

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

Gate

Information 1 sign required.

Site Access Location

Yellow caution 2 sign required.

6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Sitesafe, Inc., in Arlington, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

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

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

December 28, 2017

Appendix A – Statement of Limiting Conditions

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

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

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

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

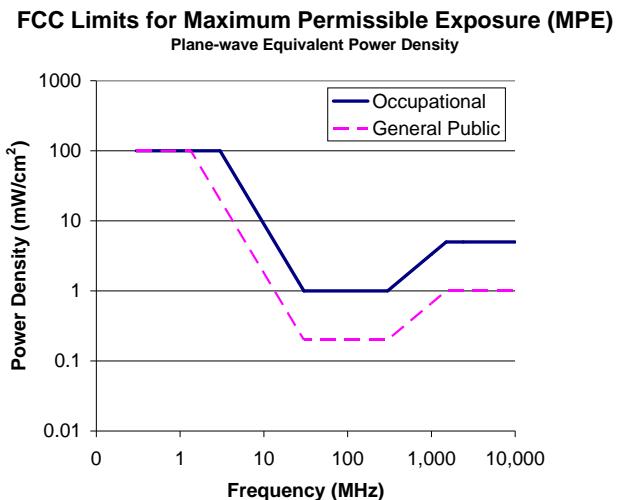
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to accessible areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-	--	--	5	6
100,000				

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-	--	--	1.0	30
100,000				

f = frequency in MHz

*Plane-wave equivalent power density

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. **Gray represents areas more than 20 times below the most conservative exposure limit.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the

potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency (RF) – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

Radio Frequency Exposure (RFE) – The amount of RF power density that a person is or might be exposed to.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, Inc.

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFESurvey/>

UK Health Protection Agency Advisory Group on Non-ionising Radiation

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>

StartAntennaData

It is advisable to provide an ID (ant 1) for all antennas

ID	Name	Trans						Calc						(ft)						dBd			BWdth		Uptime		ON
		(MHz)	Freq	Power	Count	Coax	Coax	Other	Input	Power	Power	Mfg	Model	X	Y	Z	Type	Aper	Gain	Pt Dir	Profile	flag					
1	AT&T MOBILITY LLC	850	28.35794349	1	0				28.35794349		Powerwave	7770	43.73	63.99	164.7085	Panel	4.583	11.51	82;80	100%	ON•						
1	AT&T MOBILITY LLC	1900	18.30942614	1	0				18.30942614		Powerwave	7770	43.73	63.99	164.7085	Panel	4.583	13.41	86;80	100%	ON•						
2	AT&T MOBILITY LLC (Proposed)	1900	185.7932738	1	0				185.7932738		Quintel	QS66512-2	46.26	59.55	164	Panel	6	14.16	68;80	100%	ON•						
2	AT&T MOBILITY LLC (Proposed)	2300	44.97799739	1	0				44.97799739		Quintel	QS66512-2	46.26	59.55	164	Panel	6	14.56	64;80	100%	ON•						
3	AT&T MOBILITY LLC	737	68.0769574	1	0				68.0769574		KMW	AM-X-CD-16-65-00T	51.33	50.66	164	Panel	6	13.36	65;80	100%	ON•						
4	AT&T MOBILITY LLC	850	28.35794349	1	0				28.35794349		Powerwave	7770	50.41	50.09	164.7085	Panel	4.583	11.51	82;200	100%	ON•						
4	AT&T MOBILITY LLC	1900	18.30942614	1	0				18.30942614		Powerwave	7770	50.41	50.09	164.7085	Panel	4.583	13.41	86;200	100%	ON•						
5	AT&T MOBILITY LLC (Proposed)	1900	185.7932738	1	0				185.7932738		Quintel	QS66512-2	45.34	50.09	164	Panel	6	14.16	68;200	100%	ON•						
5	AT&T MOBILITY LLC (Proposed)	2300	44.97799739	1	0				44.97799739		Quintel	QS66512-2	45.34	50.09	164	Panel	6	14.56	64;200	100%	ON•						
6	AT&T MOBILITY LLC	737	68.0769574	1	0				68.0769574		KMW	AM-X-CD-16-65-00T	35.18	50.09	164	Panel	6	13.36	65;200	100%	ON•						
7	AT&T MOBILITY LLC	850	28.35794349	1	0				28.35794349		Powerwave	7770	35.12	51.15	164.7085	Panel	4.583	11.51	82;330	100%	ON•						
7	AT&T MOBILITY LLC	1900	18.30942614	1	0				18.30942614		Powerwave	7770	35.12	51.15	164.7085	Panel	4.583	13.41	86;330	100%	ON•						
8	AT&T MOBILITY LLC (Proposed)	1900	185.7932738	1	0				185.7932738		Quintel	QS66512-2	37.69	55.61	164	Panel	6	14.16	68;330	100%	ON•						
8	AT&T MOBILITY LLC (Proposed)	2300	44.97799739	1	0				44.97799739		Quintel	QS66512-2	37.69	55.61	164	Panel	6	14.56	64;330	100%	ON•						
9	AT&T MOBILITY LLC	737	68.0769574	1	0				68.0769574		KMW	AM-X-CD-16-65-00T	42.83	64.53	164	Panel	6	13.36	65;330	100%	ON•						

StartSymbolData



October 26, 2017

Marianne Dunst
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Charlotte, NC 28277
(704) 405-6580

B+T Group
1717 S. Boulder, Suite 300
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Subject:	Structural Analysis Report	
Carrier Designation:	AT&T Mobility Co-Locate	
	Carrier Site Number:	CTL05838
	Carrier Site Name:	East Hampton Central
Crown Castle Designation:	Crown Castle BU Number:	876368
	Crown Castle Site Name:	Yankee Lake/East Hampton/Town
	Crown Castle JDE Job Number:	468569
	Crown Castle Work Order Number:	1478947
	Crown Castle Application Number:	413489 Rev. 0
Engineering Firm Designation:	B+T Group Project Number:	79761.004.1
Site Data:	1 Public Works Dr., East Hampton, Middlesex County, CT Latitude 41° 33' 53.14", Longitude -72° 32' 35.18" 180 Foot - Monopole Tower	

Dear Marianne Dunst,

B+T Group is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural ‘Statement of Work’ and the terms of Crown Castle Purchase Order Number 1098094, in accordance with application 413489, revision 0.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Existing + Proposed Equipment

Note: See Table 1 and Table 2 for the proposed and existing loading, respectively.

Sufficient Capacity

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 130 mph converted to a nominal 3-second gust wind speed of 101 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *B+T Group* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural Analysis prepared by: Brant Lozano, E.I.

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564 Expires: 02-10-2018

Scott S. Vance, P.E.

tnxTower Report - version 7.0.5.1

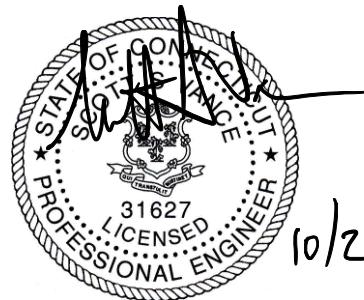


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1) INTRODUCTION

This tower is a 180 ft. Monopole tower designed by Valmont in December of 1999. The tower was originally designed for a wind speed of 100 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 101 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category B with topographic category 1 and crest height of 0 feet.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
168.0	169.0	3	Ericsson	RRUS 11	2 1	3/4 3/8	--
		3	Ericsson	RRUS 32			
		3	Ericsson	RRUS 32 B2			
		3	Kaelus	DBC0061F1V51-2			
		6	Powerwave Tech.	7020.00			
		3	Quintel Tech.	QS66512-2			
		1	Raycap	DC6-48-60-18-8F			

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
177.0	177.0	1	--	Platform Mount [LP 601-1]	6	1-5/8	1
168.0	170.0	3	Ericsson	RRUS 11 B12	--	--	3
		3	Kmw Com.	AM-X-CD-16-65-00T-RET			
		3	Powerwave Tech.	LGP21901			
		1	Raycap	DC6-48-60-18-8F			
	169.0	6	Powerwave Tech.	7770.00	12 2 1	1-5/8 3/4 3/8	1
		6	Powerwave Tech.	LGP21401			
		3	Powerwave Tech.	LGP21901			
	168.0	1	--	Platform Mount [LP 303-1]			
154.0	157.0	3	Alcatel Lucent	B66A RRH4X45	2	1-5/8	1
		3	Alcatel Lucent	RRH2X60-AWS			
		6	Commscope	HBXX-6517DS-A2M			
		6	Commscope	LNX-6515DS-A1M			
		2	Rfs Celwave	DB-T1-6Z-8AB-0Z			
	154.0	1	--	Platform Mount [LP 304-1]			
119.0	131.0	5	Decibel	DB264-A	9	1-1/4	1
	128.0	1	Decibel	DB420			
	124.0	1	Decibel	DB225-K			
	122.0	1	Decibel	DB230-E			
	120.0	1	Decibel	DB230-E			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
	119.0	1	--	Platform Mount [LP 304-1]			
77.0	78.0	1	Lucent	KS24019-L112A	1	1/2	1
	77.0	1	--	Side Arm Mount [SO 701-1]			

Notes:

- 1) Existing Equipment
- 2) Equipment To Be Removed; Not Considered in This Analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
177	177	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
167	167	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
157	157	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
147	147	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
127	127	1	Generic	Whip Antenna	--	--
125	125	1	Generic	Low Profile Platform	--	--
75	75	1	Generic	GPS	--	--

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Online Application	AT&T Mobility Co-Locate Revision# 0	413489	CCI Sites
Tower Manufacturer Drawing	Valmont, Order No. 19739-83	1531979	CCI Sites
Foundation Drawing	Valmont, Order No. 19739-83	2069183	CCI Sites
Geotech Report	Dr. Clarence Welti,P.E.,P.C., Date: 01/06/2003	1441254	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 10/19/2017	CCI Sites

3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) Mount areas and weights are assumed based on photographs provided.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	180 - 140.083	Pole	TP31.67x24.16x0.219	1	-10.176	1402.890	35.5	Pass
L2	140.083 - 92.5	Pole	TP40.17x30.307x0.344	2	-21.483	3026.680	52.6	Pass
L3	92.5 - 45.5833	Pole	TP48.31x38.355x0.438	3	-35.822	4716.500	55.5	Pass
L4	45.5833 - 0	Pole	TP56x46.134x0.5	4	-57.673	6342.060	57.7	Pass
							Summary	
							Pole (L4)	57.7
							RATING =	57.7
								Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	50.8	Pass
1	Base Plate	Base	37.2	Pass
1	Base Foundation(Structure)	Base	42.5	Pass
1	Base Foundation (Soil Interaction)	Base	54.7	Pass

Structure Rating (max from all components) =	57.7%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the final load configuration. No modifications are required at this time.



PROJECT: LTE 2C/3C
SITE NUMBER: CTL05838
FA NUMBER: 10071008
PTN NUMBER: 2051A0DB6P
PACE NUMBER: MRCTB025466, MRCTB025513
CROWN BU#: 876368
SITE NAME: EAST HAMPTON CENTRAL
SITE ADDRESS: ONE PUBLIC WORKS DRIVE
EAST HAMPTON, CT 06424



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



1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076



1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001444
www.FullertonEngineering.com

PROJECT INFORMATION		SCOPE OF WORK	APPLICABLE BUILDING CODES AND STANDARDS																						
<u>SITE NAME:</u> EAST HAMPTON CENTRAL <u>SITE NUMBER:</u> CTL05838 <u>SITE ADDRESS:</u> ONE PUBLIC WORKS DRIVE EAST HAMPTON, CT 06424 <u>FA NUMBER:</u> 10071008 <u>PTN NUMBER:</u> 2051A0DB6P <u>PACE NUMBER:</u> MRCTB025466, MRCTB025513 <u>USID NUMBER:</u> 27077 <u>CROWN BU#:</u> 876368 <u>APPLICANT:</u> AT&T WIRELESS 550 COCHITUATE ROAD SUITE 550 13 AND 14 FRAMINGHAM, MA 01701 <u>TOWER OWNER:</u> CROWN CASTLE INTERNATIONAL 12 GILL STREET, SUITE 5800 WOBURN, MA 01801 <u>JURISDICTION:</u> TOWN OF EAST HAMPTON <u>COUNTY:</u> MIDDLESEX <u>SITE COORDINATES FROM:</u> (RFDS) 41.5645919° -72.5428989° <u>LONGITUDE:</u> 332° <u>GROUND ELEV.:</u> TELECOMMUNICATIONS <u>PROPOSED USE:</u> FACILITY <u>AT&T RF MANAGER:</u> DEEPAK RATHORE <u>PHONE:</u> (860) 965-3068 <u>EMAIL:</u> dr701e@att.com	<p>LTE 850 WILL BE 2C/3C AT THE SITE WITH BRONZE CONFIGURATION. PROPOSED 2C/3C PROJECT SCOPE HEREIN BASED ON RFDS ID # 1839945, VERSION 2.00 LAST UPDATED 11/09/17.</p> <ul style="list-style-type: none"> • (3) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS • (3) NEW RRUS-32 UNITS • (3) NEW RRUS-32 B2 UNITS • (1) NEW RAYCAP UNIT • (1) FIBER CABLE AND (2) DC POWER CABLES • REPLACE EXISTING DIPLEXERS TO NEW LOW BAND COMBINERS • INSTALL NEW HANDRAIL KIT • CONTRACTOR SHALL FURNISH ALL MATERIAL WITH THE EXCEPTION OF AT&T SUPPLIED MATERIAL. • ALL MATERIAL SHALL BE INSTALLED BY THE CONTRACTOR, UNLESS STATED OTHERWISE. 	<p>ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.</p> <p><u>BUILDING CODE:</u> 2012 INTERNATIONAL BUILDING CODE 2016 CONNECTICUT STATE BUILDING CODE SUPPLEMENT</p> <p><u>ELECTRICAL CODE:</u> 2014 NATIONAL ELECTRIC CODE</p> <ul style="list-style-type: none"> • FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. • ADA ACCESS REQUIREMENTS ARE NOT REQUIRED. • THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE 																							
		<p>SITE LOCATION MAP</p>	<p>DRAWING INDEX</p> <table border="1"> <tr> <td>T1</td> <td>TITLE SHEET</td> </tr> <tr> <td>SP1</td> <td>NOTES AND SPECIFICATIONS</td> </tr> <tr> <td>SP2</td> <td>NOTES AND SPECIFICATIONS</td> </tr> <tr> <td>A1</td> <td>COMPOUND PLAN</td> </tr> <tr> <td>A2</td> <td>EQUIPMENT PLAN</td> </tr> <tr> <td>A3</td> <td>ELEVATIONS</td> </tr> <tr> <td>A4</td> <td>ANTENNA PLANS</td> </tr> <tr> <td>A5</td> <td>EQUIPMENT DETAILS</td> </tr> <tr> <td>A6</td> <td>ANTENNA & CABLE CONFIGURATION</td> </tr> <tr> <td>A7</td> <td>CABLE NOTES AND COLOR CODING</td> </tr> <tr> <td>A8</td> <td>GROUNDING DETAILS</td> </tr> </table>	T1	TITLE SHEET	SP1	NOTES AND SPECIFICATIONS	SP2	NOTES AND SPECIFICATIONS	A1	COMPOUND PLAN	A2	EQUIPMENT PLAN	A3	ELEVATIONS	A4	ANTENNA PLANS	A5	EQUIPMENT DETAILS	A6	ANTENNA & CABLE CONFIGURATION	A7	CABLE NOTES AND COLOR CODING	A8	GROUNDING DETAILS
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		<p>PROJECT CONSULTANTS</p> <table border="1"> <tr> <td>PROJECT MANAGER: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: EDWARD WEISSMAN (917) 528-1857 EMAIL: Edward.Weissman@smartlinkllc.com</td> </tr> <tr> <td>SITE AQUISITION: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: SHARON KEEFE (978) 930-3918 EMAIL: Sharon.Keefe@smartlinkllc.com</td> </tr> <tr> <td>ENGINEER/ARCHITECT: FULLERTON ENGINEERING 1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173 CONTACT: MILEN DIMITROV (847) 908-8439 EMAIL: MDimitrov@FullertonEngineering.com</td> </tr> <tr> <td>CONSTRUCTION: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: MARK DONNELLY (617) 515-2080 EMAIL: mark.donnelly@smartlinkllc.com</td> </tr> </table>	PROJECT MANAGER: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: EDWARD WEISSMAN (917) 528-1857 EMAIL: Edward.Weissman@smartlinkllc.com	SITE AQUISITION: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: SHARON KEEFE (978) 930-3918 EMAIL: Sharon.Keefe@smartlinkllc.com	ENGINEER/ARCHITECT: FULLERTON ENGINEERING 1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173 CONTACT: MILEN DIMITROV (847) 908-8439 EMAIL: MDimitrov@FullertonEngineering.com	CONSTRUCTION: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: MARK DONNELLY (617) 515-2080 EMAIL: mark.donnelly@smartlinkllc.com	<p>SHEET NAME: TITLE SHEET</p> <p>SHEET NUMBER: T1</p>																		
PROJECT MANAGER: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: EDWARD WEISSMAN (917) 528-1857 EMAIL: Edward.Weissman@smartlinkllc.com																									
SITE AQUISITION: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: SHARON KEEFE (978) 930-3918 EMAIL: Sharon.Keefe@smartlinkllc.com																									
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CONSTRUCTION: SMARTLINK 85 RANGeway ROAD, SUITE 102 NORTH BILLERICA, MA 01862 CONTACT: MARK DONNELLY (617) 515-2080 EMAIL: mark.donnelly@smartlinkllc.com																									
		<p>SCAN QR CODE FOR LINK TO SITE LOCATION MAP</p>	<p>CALL 811 before you dig</p> <p>811, Know what's below. Call before you dig. www.cbyd.com</p>																						
<p>NOTE: DRAWING SCALES ARE FOR 11" x 17" SHEETS UNLESS OTHERWISE NOTED</p>																									

GENERAL CONSTRUCTION

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

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

CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.

41. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.

42. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.

43. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.

44. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.

45. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.

46. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.

47. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO ND-00246.

48. JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.

49. CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.

50. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.

TORQUE REQUIREMENTS

51. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.

52. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.

A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.

FIBER & POWER CABLE MOUNTING

53. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY, WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.

54. THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION: WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.

55. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

COAXIAL CABLE NOTES
62. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.

63. CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.

64. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION.

65. ALL JUMPERS TO THE ANTENNAS FROM THE MAIN

TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".

66. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0" OC.

67. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.

68. CONTRACTOR SHALL GROUND ALL EQUIPMENT, INCLUDING ANTENNAS, RET MOTORS, TMA'S, COAX CABLES, AND RET CONTROL CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED WIREMEN IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.

69. CONTRACTOR SHALL PROVIDE STRAIN-RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES, COAX CABLES, AND RET CONTROL CABLES. CABLE STRAIN-RELIEFS AND CABLE SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

70. CONTRACTOR TO VERIFY THAT EXISTING COAX HANGERS ARE STACKABLE SNAP IN HANGERS. IF EXISTING HANGERS ARE NOT STACKABLE SNAP IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SNAP IN HANGERS IF APPLICABLE.

GENERAL CABLE AND EQUIPMENT NOTES

71. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.

72. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.

73. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

74. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.

75. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
A. TEMPERATURE SHALL BE ABOVE 50° F.
B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS

76. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.

A. GROUNDING AT THE ANTENNA LEVEL.
B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING REQUIRED.
C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.

77. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.



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



1362 MELLON ROAD
SUITE 140
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I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



SITE NAME

EAST HAMPTON
CENTRAL

SITE NUMBER:

CTL05838

SITE ADDRESS

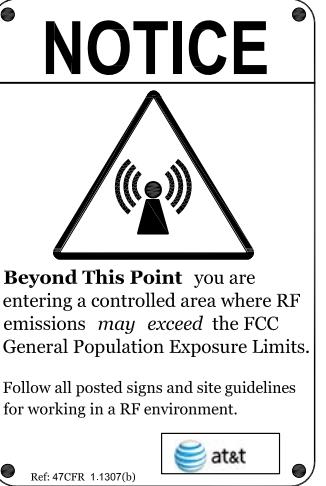
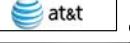
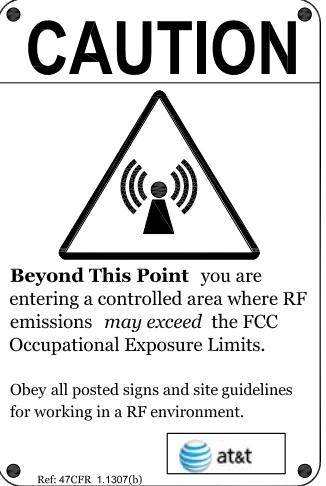
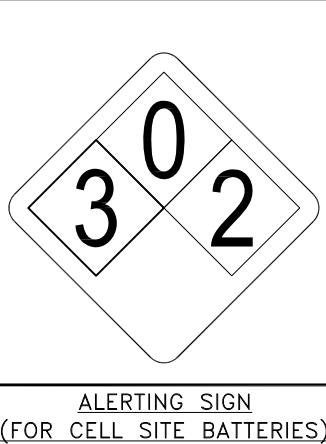
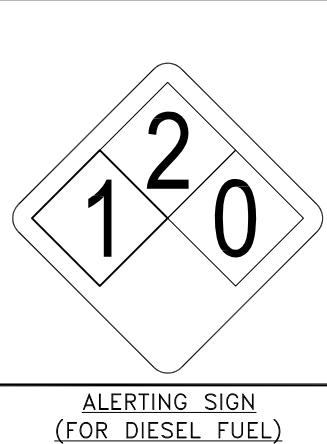
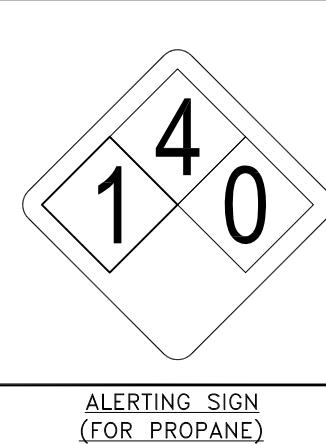
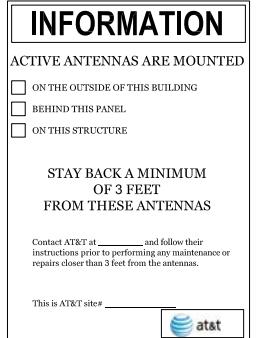
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EAST HAMPTON, CT 06424

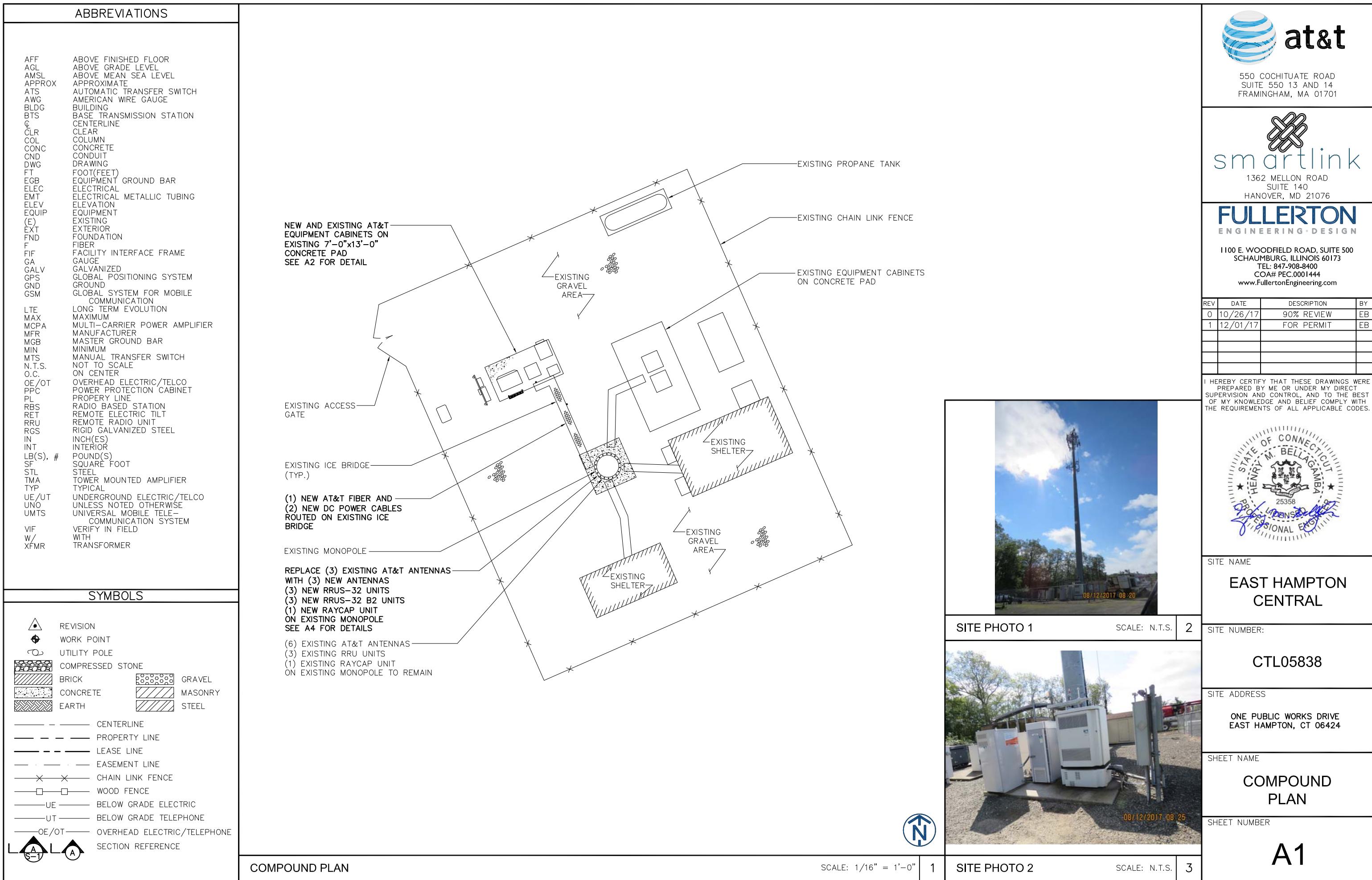
SHEET NAME

NOTES AND
SPECIFICATIONS

SHEET NUMBER

SP1

 <p>NOTICE Beyond This Point you are entering a controlled area where RF emissions <i>may exceed</i> the FCC General Population Exposure Limits. Follow all posted signs and site guidelines for working in a RF environment.</p> <p>Ref: 47CFR 1.1307(b) </p>		 <p>CAUTION Beyond This Point you are entering a controlled area where RF emissions <i>may exceed</i> the FCC Occupational Exposure Limits. Obey all posted signs and site guidelines for working in a RF environment.</p> <p>Ref: 47CFR 1.1307(b) </p>							
<p><u>ALERTING SIGNS</u></p>		<p><u>INFO SIGN #4</u></p>		<p><u>INFO SIGN #3</u></p>		<p><u>INFO SIGN #2</u></p>		<p><u>INFO SIGN #1</u></p>	
GENERAL SIGNAGE GUIDELINES									
STAY BACK 3 FEET FROM ANTENNA	STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	STRIPING	NOTICE SIGN	CAUTION SIGN	
TOWERS									
<p>MONPOLE/MONOPINE/MONOPALM</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p> <p>CLIMBING SIDE OF THE TOWER</p> <p>ON BACKSIDE OF ANTENNAS</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p> <p>AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN 9 FT ABOVE GROUND</p>									
<p>SEC TOWERS/TOWERS WITH HIGH VOLTAGE</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p> <p>CLIMBING SIDE OF THE TOWER</p> <p>ON BACKSIDE OF ANTENNAS</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p>									
<p>LIGHT POLES/FLAG POLES</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p> <p>ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND</p> <p>ON BACKSIDE OF ANTENNAS</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p>									
<p>UTILITY WOOD POLES (JPA)</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p> <p>ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND</p> <p>ON BACKSIDE OF ANTENNAS</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p>									
<p>MICROCELLS MOUNTED ON NON-JPA POLES</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p> <p>ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND</p> <p>ON BACKSIDE OF ANTENNAS</p> <p>ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS</p>									
TOWERS									
<p>AT ALL ACCESS POINTS TO THE ROOF</p> <p>X</p> <p>ON ANTENNAS</p> <p>X</p> <p>X</p> <p>X</p>									
<p>CONCEALED ANTENNAS</p> <p>X</p> <p>X</p> <p>X</p>									
<p>ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING</p> <p>X</p> <p>X</p> <p>X</p>									
<p>ANTENNAS ON SUPPORT STRUCTURE</p> <p>X</p> <p>X</p> <p>X</p>									
<p>ROOFVIEW GRAPH</p> <p></p>									
<p>RADIATION AREA IS WITHIN 3FT FROM ANTENNA</p> <p>X</p> <p>ADJACENT TO EACH ANTENNA</p> <p>X</p>									
<p>RADIATION AREA IS BEYOND 3FT FROM ANTENNA</p> <p>X</p> <p>ADJACENT TO EACH ANTENNA</p> <p>X</p> <p>DIAGONAL, YELLOW STRIPING AS TO ROOFVIEW GRAPH</p>									
CHURCH STEEPLES									
<p>ACTIVE ANTENNAS ARE MOUNTED</p> <p><input type="checkbox"/> ON THE OUTSIDE OF THIS BUILDING</p> <p><input type="checkbox"/> BEHIND THIS PANEL</p> <p><input type="checkbox"/> ON THIS STRUCTURE</p> <p>STAY BACK A MINIMUM OF 3 FEET FROM THESE ANTENNAS</p> <p>Contact AT&T at _____ and follow its instructions prior to performing any maintenance or repairs closer than 3 feet from the antenna.</p> <p>Esta es la estación base número _____.</p> <p>Favor comunicarse con la oficina de la administración del edificio si esta puerta o compuerta se encuentra sin candado.</p> <p></p>									
<p>ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED</p> <p>ON BACKSIDE OF ANTENNAS</p> <p>ACCESS TO STEEPLE</p> <p>CAUTION SIGN AT THE ANTENNAS</p>									
WATER STATIONS									
<p>ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED</p> <p>ON BACKSIDE OF ANTENNAS</p> <p>ACCESS TO LADDER</p> <p>CAUTION SIGN BESIDE INFO SIGN #1, MIN. 9FT ABOVE GROUND</p>									
<p>NOTES FOR ROOFTOP SITES:</p> <ol style="list-style-type: none"> 1. EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO: THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR 2. IF ROOFVIEWS SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED 3. SHOULD THE REQUIRED STRIPING AREAS INTERFERE WITH ANY STRUCTURE OR EQUIPMENT (A/C, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.). PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA, PRIOR TO STARTING THE WORK. 									
SIGNAGE GUIDELINES CHART									
<p><u>INFO SIGN #1</u></p>		<p><u>INFO SIGN #2</u></p>		<p><u>INFO SIGN #3</u></p>					
SP2									



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SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
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SITE NAME
**EAST HAMPTON
CENTRAL**

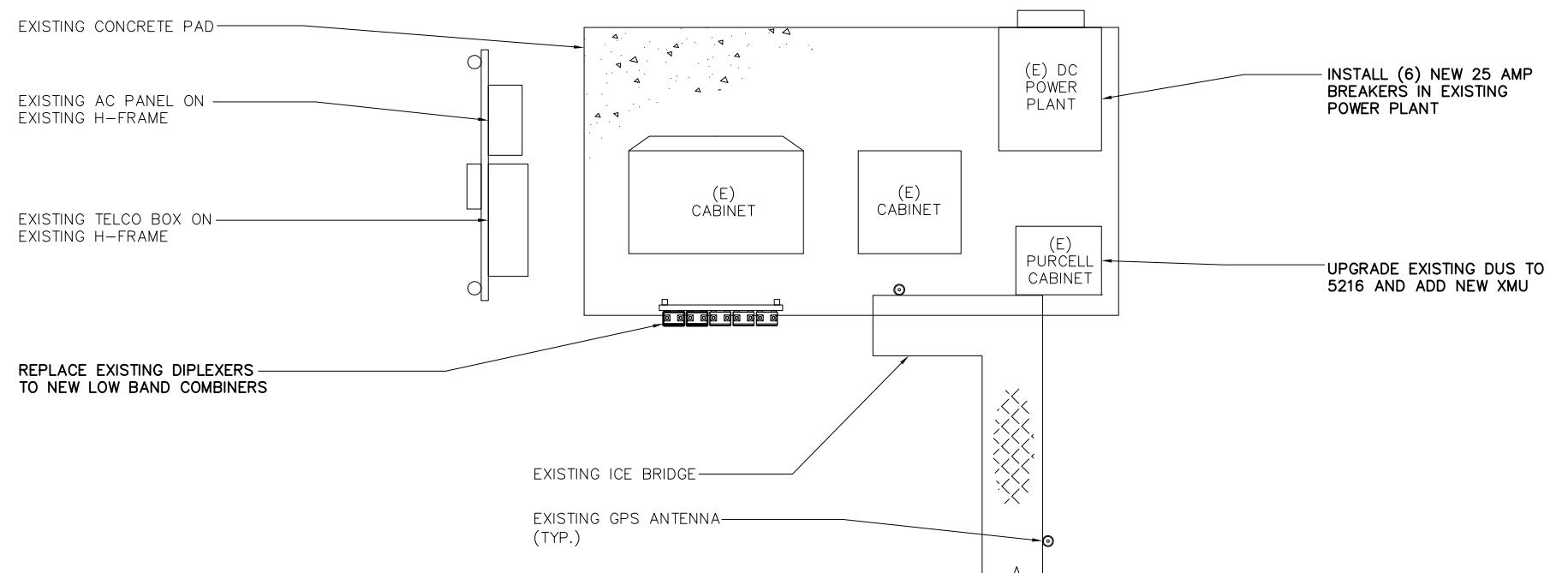
SITE NUMBER:
CTL05838

SITE ADDRESS
ONE PUBLIC WORKS DRIVE
EAST HAMPTON, CT 06424

SHEET NAME
**EQUIPMENT
PLAN**

SHEET NUMBER

A2





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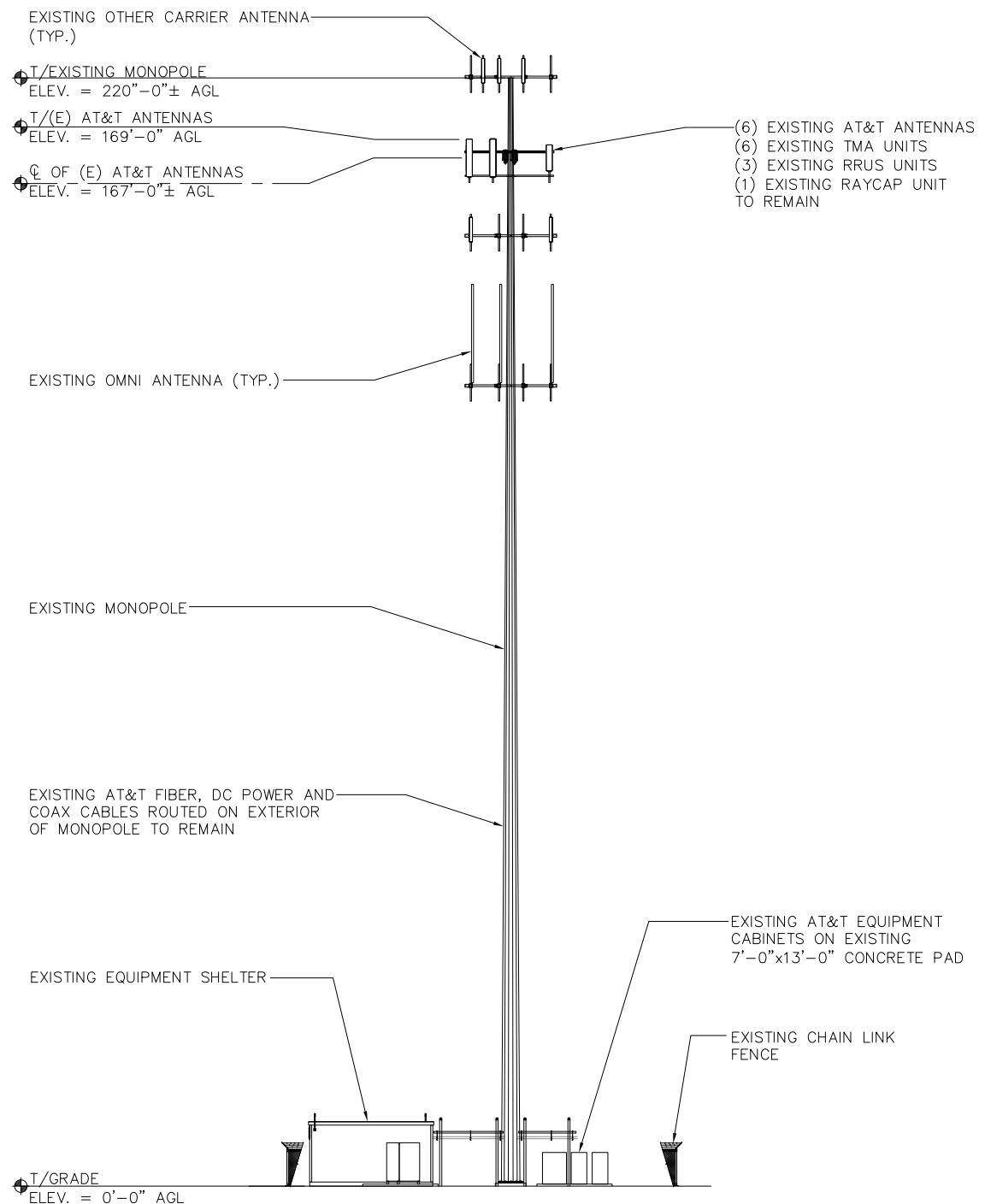
SITE ADDRESS
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EAST HAMPTON, CT 06424

SHEET NAME
ELEVATIONS

SHEET NUMBER
A3

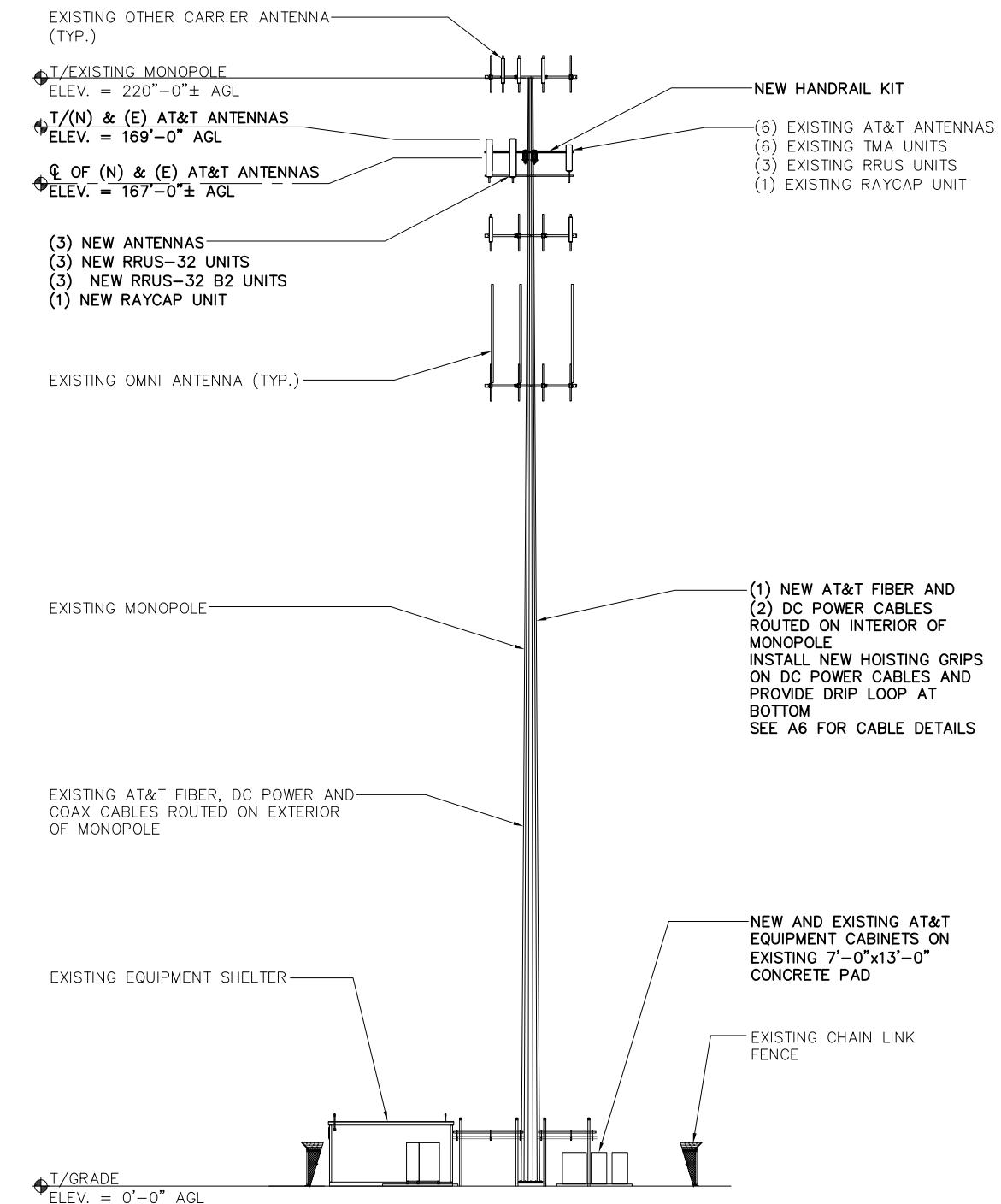
NOTES:

1. CALCULATIONS FOR THE STRUCTURE WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
2. CALCULATIONS FOR THE ANTENNA MOUNTS WERE PREPARED BY FULLERTON AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
3. CABLES NOT SHOWN FOR CLARITY



EXISTING ELEVATION

SCALE: 1/32" = 1'-0" 1 NEW ELEVATION



SCALE: 1/32" = 1'-0" 2



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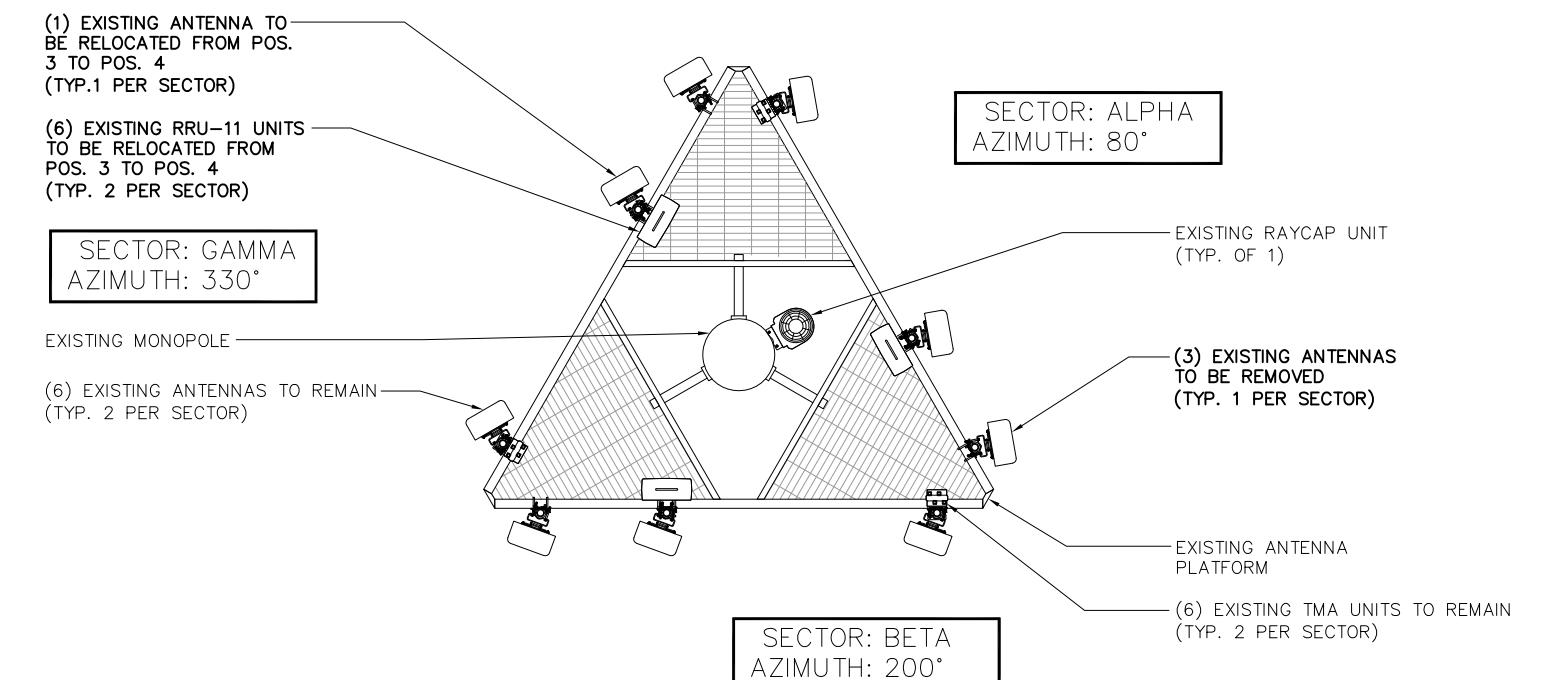
SITE NAME
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EAST HAMPTON, CT 06424

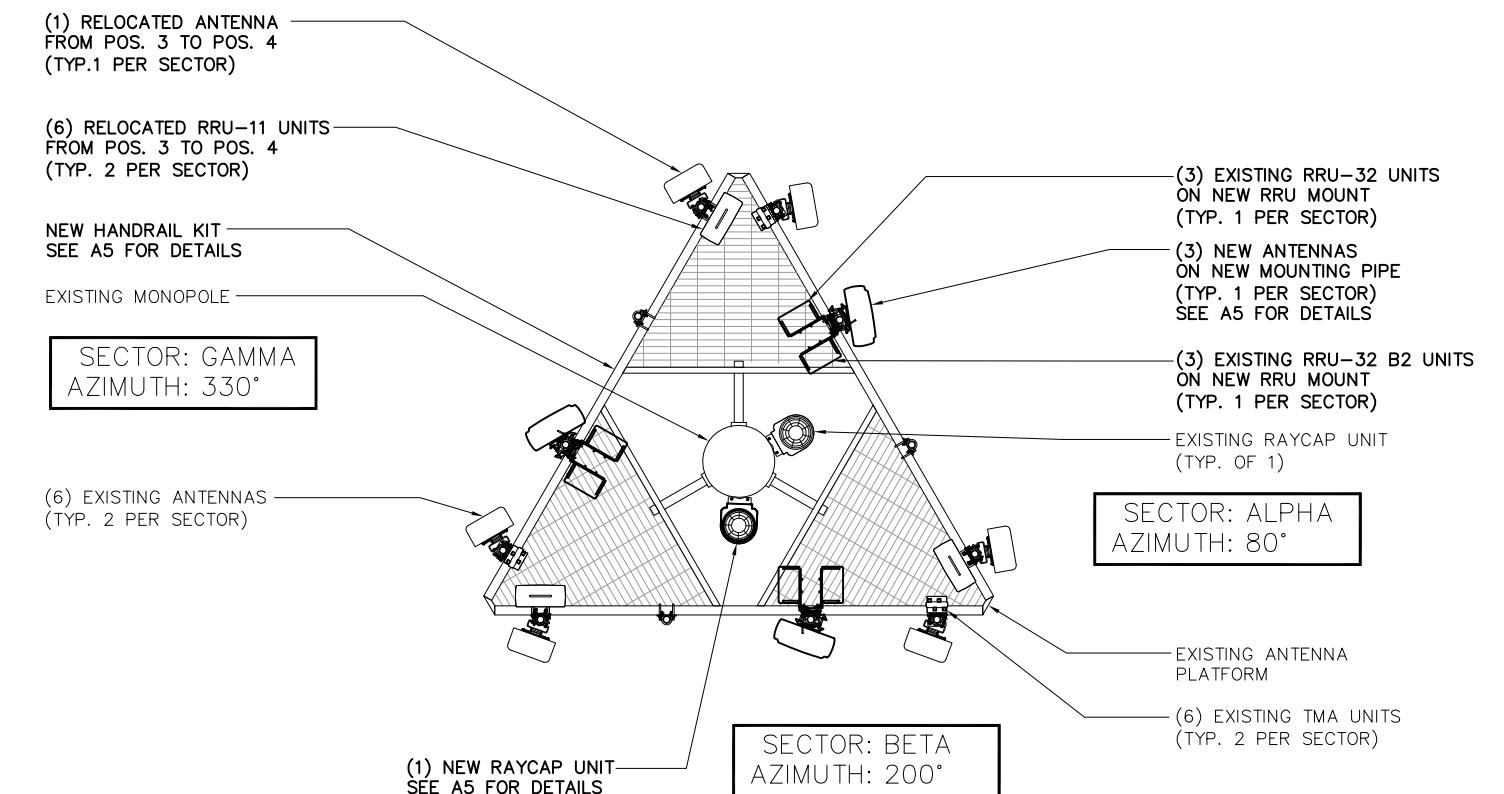
SHEET NAME
**ANTENNA
PLANS**

SHEET NUMBER
A4



EXISTING ANTENNA PLAN

SCALE: 3/16" = 1'-0" 1



FINAL ANTENNA PLAN

SCALE: 3/16" = 1'-0" 2



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SHEET NAME
EQUIPMENT DETAILS

SHEET NUMBER
A5

PLAN VIEW SIDE VIEW FRONT VIEW

QUINTEL - QS66512-2
MULTISERVE MULTIBAND 12 PORT ANTENNA
WITH QTLT AND INTERNAL RET

FREQUENCY RANGE 2x698-806 MHz
2x824-894 MHz
4x1850-1990 MHz

4x1695-1780 +2110-2400 MHz

ANTENNA BRACKET 111 Lbs
TOTAL WEIGHT 15 Lbs
126 Lbs

ANTENNA SPEC SCALE: N.T.S. 1

PLAN VIEW FRONT VIEW SIDE VIEW

RAYCAP - DC6-48-60-0-8F
TOWER DC OVER VOLTAGE PROTECTION POWER
CONNECTION SOLUTION

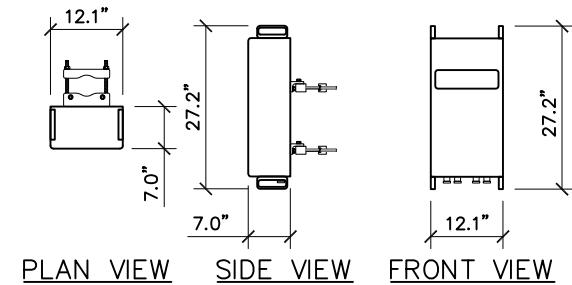
UNIT WEIGHT 32.8 Lbs

CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS
DURING INSTALLATION ON EXISTING STRUCTURAL MEMBER

RAYCAP SPEC SCALE: N.T.S. 2

ANTENNA SCHEMATIC SCALE: N.T.S. 3

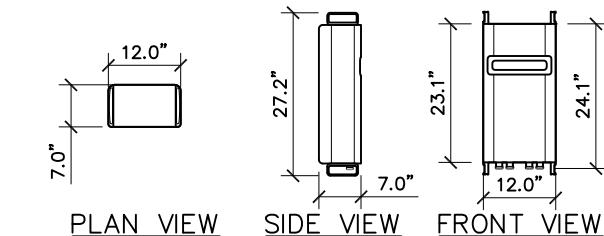
NOT USED SCALE: N.T.S. 4



PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON - RRUS 32

UNIT WEIGHT 60 Lbs



PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON - RRUS 32 B2

TECHNOLOGIES: FDD, LTE, GSM & WCDMA

FREQUENCY RANGE: UPLINK 1850-1910 MHz

DOWNLINK 1930-1990 MHz

WEIGHT w/SOLAR SHIELD & HANDLE 53 Lbs

RRU SPEC SCALE: N.T.S. 5

RRU SPEC SCALE: N.T.S. 65

NEW HANDRAIL KIT DETAIL SCALE: N.T.S. 6

ITEM	PART NO.	DESCRIPTION
1	VARIES	2-3/8" OD SCH 40 GALVANIZED PIPE (LENGTH VARIES)
2	X-AHCP	ANGLE HANDRAIL CORNER PLATE
3	SCX2	CROSSOVER PLATE

TYP. HANDRAIL KIT
(VALMONT #HRK14-U)



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SHEET NAME
**ANTENNA &
CABLE
CONFIGURATION**

SHEET NUMBER

A6

SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER		RAYCAP UNIT	
								TYPE	LENGTH		
ALPHA	A-1	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNIT	80°	167'-0"	7/8"Ø LDF5-50A	220"-0"		
	A-2	(N) LTE2C/3C ANTENNA	QS66512-2	QUINTEL	(1) NEW RRUS-32 UNIT (1) NEW RRUS-32 B2 UNIT	80°	167'-0"	(1) NEW FIBER CABLE	220"-0"		
	A-3	-	-	-	-	-	-	-	-		
	A-4	(E) LTE1C ANTENNA	AM-X-CD-16-65-00T-RET	KMW	(1) RRUS-11 UNITS	80°	167'-0"	(1) EXISTING FIBER CABLE	220"-0"		
BETA	B-1	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNIT	200°	167'-0"	7/8"Ø LDF5-50A	220"-0"		
	B-2	(N) LTE2C/3C ANTENNA	QS66512-2	QUINTEL	(1) NEW RRUS-32 UNIT (1) NEW RRUS-32 B2 UNIT	200°	167'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH			
	B-3	-	-	-	-	-	-	-	-		
	B-4	(E) LTE1C ANTENNA	AM-X-CD-16-65-00T-RET	KMW	(1) RRUS-11 UNITS	200°	167'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH			
GAMMA	C-1	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNIT	330°	167'-0"	7/8"Ø LDF5-50A	220"-0"		
	C-2	(N) LTE2C/3C ANTENNA	QS66512-2	QUINTEL	(1) NEW RRUS-32 UNIT (1) NEW RRUS-32 B2 UNIT	330°	167'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH			
	C-3	-	-	-	-	-	-	-	-		
	C-4	(E) LTE1C ANTENNA	AM-X-CD-16-65-00T-RET	KMW	(1) RRUS-11 UNITS	330°	167'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH			

LEGEND
(N) - NEW
(E) - EXISTING

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

ANTENNA AND CABLING NOTES

SCALE: N.T.S. 1

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

CABLE MARKING DIAGRAM

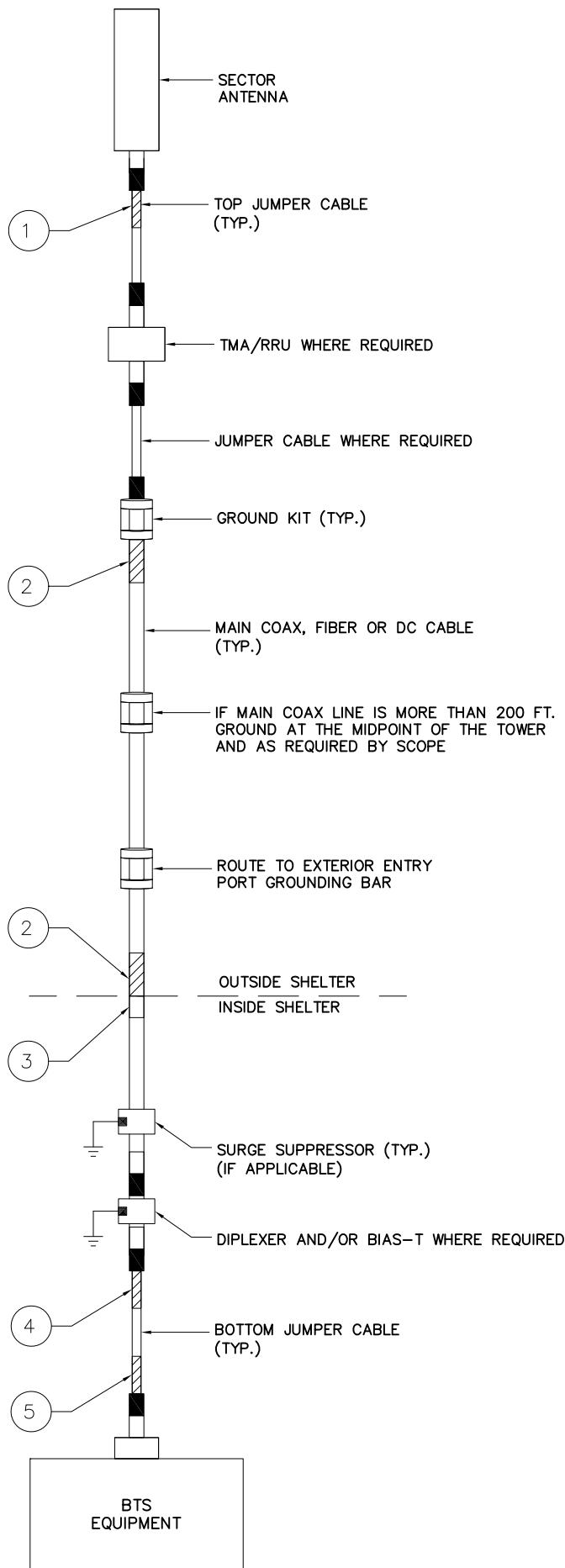
SCALE: N.T.S. 2

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

CABLE MARKING NOTES

SCALE: N.T.S. 3

CABLE COLOR CODING DIAGRAM



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SHEET NAME
CABLE NOTES AND COLOR CODING

SHEET NUMBER
A7



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SHEET NAME
**GROUNDING
DETAILS**

SHEET NUMBER

A8

