

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-286-4007
jandrews@empiretelecomm.com

April 18, 2018

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

NOTICE OF EXEMPT MODIFICATION

213 COURT STREET, MIDDLETOWN, CT 06457

Lat: 41-33-35 (41.55972222)
Long. 72-39-07 (-72.6519444472.72383889)

Dear Ms. Bachman:

AT&T Wireless currently maintains 6 antennas at the 171-foot level flush mounted to the exterior penthouse walls of an existing 212-foot-tall building located at 213 Court Street, in Middletown, CT. The building is owned by 213 Court Street Realty Trust. The property is owned by 213 Court Street Realty Trust. AT&T Wireless now seeks to replace 3 antennas, and replace 6 TMAs at the 171-foot level of the building. In addition, AT&T proposes to install 3 new RRUs-12, 3 new RRUS-E2, 2 new RRUS-B14 4478 and 3 new RRUS-32 B66 in the interior equipment room. The applicant furthermore intends to replace existing diplexers, upgrade the DUS and add surge arrestors in the equipment room.

The Siting Council approved this site in 1990 under Docket No. 125 as a Cellco Partnership d/b/a Verizon Wireless "roof mount". By approving the initial site, the Council retains jurisdiction for any subsequent modifications to the facility, including but not limited to, additional and future carriers.

The Verizon facility was recently approved for modification by the Connecticut Siting Council in EM-VER-083-150312 on April 8, 2015. Six conditions were enumerated in the Council's decision: 1) Any deviation from the modification as specified in this notice and supporting documentation shall render the acknowledgement invalid; 2) Any material changes to the modification as proposed shall require the filing of a new notice with the Council; 3) Within 45 days after the completion of construction the Council shall be notified in writing that the construction has been completed; 4) Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by Cellco shall be removed within 60 days of the date the antenna ceased to function; 5) the validity of the action shall expire one year from the date of the letter; and 6) the applicant may file a request an extension of time beyond the one year deadline provided that such a request is submitted to the Council not less than 60 days prior to the expiration.

The applicant AT&T, was advised to file the instant notice as an exempt modification to the existing facility.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies section 16-50j-73 for construction that constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2). In accordance with RCSA section 16-50j-73, a copy of this letter and attachments is being sent to the Honorable Daniel Drew, Mayor of Middletown; Joseph Samolis, the Middletown Director of Planning, Conservation, and Development; as well as to 213 Court Street Realty Trust, the building owner, and to 213 Court Street Realty Trust, the property owner.

The planned modifications to the facility fall squarely within those activities expressly provided for in RCSA section 50j-72(b)(2).

1. The proposed modifications will not result in an increase in height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that will exceed state and local limits.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, AT&T Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under RCSA section 16-50j-72(b)(2).

Respectfully submitted,



Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-286-4007
jandrews@empiretelecomm.com

Enclosures

cc: The Honorable Daniel Drew, Mayor of Middletown
Joseph Samolis, the Middletown Director of Planning, Conservation, and Development
213 Court Street Realty Trust, the building and property owner

April 18, 2018

213 Court Street Realty Trust
30 Adams Street
Milton, MA 02186
ATTN: Tom Ford

RE: AT&T Wireless Modifications to Telecommunication Facility –
213 COURT STREET, MIDDLETOWN, CT 06457

Dear 213 Court Street Realty Trust:

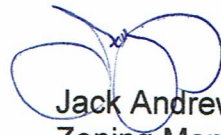
In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless (“AT&T”) will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains 6 antennas at the 171-foot level flush mounted to the exterior penthouse walls of an existing 212-foot-tall building located at 213 Court Street, in Middletown, CT. The building is owned by 213 Court Street Realty Trust. The property is owned by 213 Court Street Realty Trust.

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This letter is intended to serve as the required notice to the building owner and the property owner. As required by the Regulations of Connecticut State Agencies (“RCSA”) section 16-50j-73, the Connecticut Siting Council (“CSC”) has been notified of the proposed changes and will review AT&T’s proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

The enclosed letter and documents to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,



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cc: Melanie Bachman, Connecticut Siting Council

April 18, 2018

213 Court Street Realty Trust
30 Adams Street
Milton, MA 02186
ATTN: Tom Ford

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213 COURT STREET, MIDDLETOWN, CT 06457

Dear 213 Court Street Realty Trust:

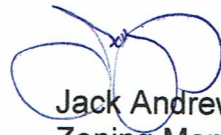
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Enclosures

cc: Melanie Bachman, Connecticut Siting Council

April 18, 2018

Joseph Samolis
Director of Planning, Conservation, and Development
245 deKoven Drive
Middletown, CT 06457

RE: AT&T Wireless Modifications to Telecommunication Facility –
213 Court Street, Middletown, CT.

Dear Mr. Samolis:

In order to accommodate technological changes, implement the Uniform Mobile Telecommunications System and enhance system performance in the State of Connecticut, AT&T Wireless ("AT&T") will be changing its equipment configuration at the above referenced telecommunications facility. AT&T Wireless currently maintains 6 antennas at the 171-foot level flush mounted to the exterior penthouse walls of an existing 212-foot-tall building located at 213 Court Street, in Middletown, CT. The building is owned by 213 Court Street Realty Trust. The property is owned by 213 Court Street Realty Trust.

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This letter is intended to serve as notice to the municipal planning and zoning office. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

The enclosed letter and documents to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

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Enclosures

cc: Melanie Bachman, Connecticut Siting Council



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT1017

Middletown Corp Ctr
213 Court Street
Middletown, CT 6457

January 31, 2018

Centerline Communications Project Number: 950006-090

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	12.17 %



January 31, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT1017 – Middletown Corp Ctr**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **213 Court Street, Middletown, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **213 Court Street, Middletown, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves. For this site, Verizon Wireless was the only carrier listed with emissions values in the Connecticut Siting Council active MPE database. Sprint and T-Mobile were also listed as active carriers in the Connecticut Siting Council site listing database. For these two additional carriers, their emissions were calculated based upon known configurations deployed in this area and added to the composite values for the site.

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
UMTS	1900 MHz (PCS)	2	30
LTE	700 MHz (Band 14)	2	60
LTE	2300 MHz (WCS)	4	60
LTE	1900 MHz (PCS)	4	60
LTE	850 MHz	2	60
LTE	2100 MHz (AWS)	4	60
LTE	700 MHz	4	60

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	KMW AM-X-CD-16-65-00T-RET	171
A	2	Quintel QS66512-2	171
A	3	CCI OPA-65R-LCUU-H6	171
B	1	KMW AM-X-CD-16-65-00T-RET	171
B	2	Quintel QS66512-2	171
B	3	CCI OPA-65R-LCUU-H6	171
C	1	KMW AM-X-CD-16-65-00T-RET	171
C	2	Quintel QS66512-2	171
C	3	CCI OPA-65R-LCUU-H6	171

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	KMW AM-X-CD-16-65-00T-RET	850 MHz / 1900 MHz (PCS) / 700 MHz	13.85 / 15.25 / 13.35	6	240	6,061.02	1.34
Antenna A2	Quintel QS66512-2	700 MHz / 2300 MHz (WCS) / 1900 MHz (PCS)	10.85 / 14.85 / 13.85	10	600	14,615.10	2.15
Antenna A3	CCI OPA-65R-LCUU-H6	700 MHz / 850 MHz / 2100 MHz (AWS)	11.65 / 12.45 / 15.25	8	480	11,903.29	2.05
Sector A Composite MPE%							5.54
Antenna B1	KMW AM-X-CD-16-65-00T-RET	850 MHz / 1900 MHz (PCS) / 700 MHz	13.85 / 15.25 / 13.35	6	240	6,061.02	1.34
Antenna B2	Quintel QS66512-2	700 MHz / 2300 MHz (WCS) / 1900 MHz (PCS)	10.85 / 14.85 / 13.85	10	600	14,615.10	2.15
Antenna B3	CCI OPA-65R-LCUU-H6	700 MHz / 850 MHz / 2100 MHz (AWS)	11.65 / 12.45 / 15.25	8	480	11,903.29	2.05
Sector B Composite MPE%							5.54
Antenna C1	KMW AM-X-CD-16-65-00T-RET	850 MHz / 1900 MHz (PCS) / 700 MHz	13.85 / 15.25 / 13.35	6	240	6,061.02	1.34
Antenna C2	Quintel QS66512-2	700 MHz / 2300 MHz (WCS) / 1900 MHz (PCS)	10.85 / 14.85 / 13.85	10	600	14,615.10	2.15
Antenna C3	CCI OPA-65R-LCUU-H6	700 MHz / 850 MHz / 2100 MHz (AWS)	11.65 / 12.45 / 15.25	8	480	11,903.29	2.05
Sector C Composite MPE%							5.54

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	5.54 %
Verizon Wireless	2.90 %
T-Mobile	2.16 %
Sprint	1.57 %
Site Total MPE %:	12.17 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	5.54 %
AT&T Sector B Total:	5.54 %
AT&T Sector C Total:	5.54 %
Site Total:	12.17 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS – Antenna 1	2	727.98	171	1.92	850 MHz	567	0.34%
AT&T 1900 MHz (PCS) UMTS – Antenna 1	2	1,004.90	171	2.65	1900 MHz (PCS)	1000	0.27%
AT&T 700 MHz LTE (Band 14) – Antenna 1	2	1,297.63	171	3.43	700 MHz	467	0.73%
AT&T 700 MHz LTE – Antenna 2	2	729.71	171	1.93	700 MHz	467	0.41%
AT&T 2300 MHz (WCS) LTE – Antenna 2	4	1,832.95	171	9.68	2300 MHz (WCS)	1000	0.97%
AT&T 1900 MHz (PCS) LTE – Antenna 2	4	1,455.97	171	7.69	1900 MHz (PCS)	1000	0.77%
AT&T 700 MHz LTE – Antenna 3	2	877.31	171	2.32	700 MHz	467	0.50%
AT&T 850 MHz LTE – Antenna 3	2	1,054.75	171	2.79	850 MHz	567	0.49%
AT&T 2100 MHz (AWS) LTE – Antenna 3	4	2,009.79	171	10.62	2100 MHz (AWS)	1000	1.06%
						Total:	5.54%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	5.54 %
Sector B:	5.54 %
Sector C:	5.54 %
AT&T Maximum Total (per sector):	5.54 %
Site Total:	12.17 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **12.17 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions. For this site, Verizon Wireless was the only carrier listed with emissions values in the Connecticut Siting Council active MPE database. Sprint and T-Mobile were also listed as active carriers in the Connecticut Siting Council site listing database. For these two additional carriers, their emissions were calculated based upon known configurations deployed in this area and added to the composite values for the site.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is positioned above the contact information.

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767



MASER CONSULTING
— CONNECTICUT —

Mount Analysis Report

FOR
CT1017 – Middletown Corp Ctr
213 Court Street
Middletown, CT 06457
Middlesex County

LTE - 4C/5C/6C/7C

Mount Utilization: 23.6%
Connection Utilization: 24.7%

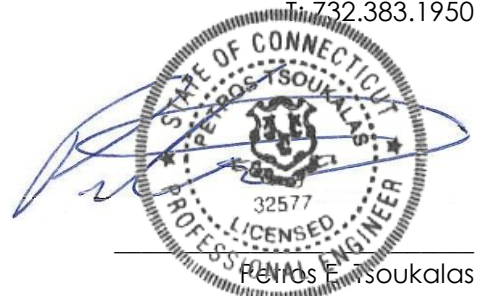
February 14, 2018

Prepared For

AT&T
550 Cochituate Road
Framingham, MA 01701

Prepared By

Maser Consulting Connecticut
331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
T: 732.383.1950



PENOS E. Tsoukalas
Connecticut Professional Engineer
License No. PEN.32577

MC Project No. 17963016A



Objective:

The objective of this report is to determine the capacity of the existing antenna support mounts at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

Introduction:

Maser Consulting Connecticut has performed limited field observations on September 01, 2015 to verify the existing condition of the structure and to located and quantify the existing wireless appurtenances where possible, from ground level. Maser Consulting Connecticut has reviewed the following documents in completing this report:

- RFDS 1789980 provided by Smartlink, dated November 09, 2017.
- Mount Analysis Report prepared by Maser Consulting Connecticut, Project No. 15946083A, dated December 22, 2015
- Construction Drawings prepared by Maser Consulting Connecticut, Project No. 15946083A, dated August 04, 2016

The proposed **AT&T** equipment is to be supported on existing antenna support mounts constructed of structural steel antenna support pipes at a centerline of approximately 171'-0" above ground level. This report is based upon this information as well as information obtained from the field.

Appurtenances:

PROPOSED ANTENNA AND RRUS CONFIGURATION													
SECTOR	EXISTING ANTENNA CONFIGURATION	PROPOSED ANTENNA CONFIGURATION	TECHNOLOGY	ANTENNA STATUS	HEIGHT (ft)	WIDTH (ft)	DEPTH (ft)	WEIGHT (lbs)	ANTENNA AZIMUTH	ANT. CL. ELEV (ft.)	RRUS CONFIGURATION	STATUS	
ALPHA	A1	KMW AM-X-CD-16-65-00T-RET	KMW AM-X-CD-16-65-00T-RET	UMTS	REMAIN	72.00	11.80	5.90	48.50	160°	17' 1"	(1) RRUS-B14 4478	NEW
	A2	Quintel QS66512-2	Quintel QS66512-2	LTE	REMAIN	72.00	12.00	9.60	111.00	40°	17' 1"	(1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN NEW
	A3	-	-	-	-	-	-	-	-	-	-	-	-
	A4	KMW AM-X-CD-16-65-00T-RET	CCI OPA-65R4LCUU-H6	LTE	NEW	72	14.8	7.4	73	40°	17' 1"	(1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN NEW NEW
BETA	B1	KMW AM-X-CD-16-65-00T-RET	KMW AM-X-CD-16-65-00T-RET	UMTS	REMAIN	72.00	11.80	5.90	48.50	270°	17' 1"	(1) RRUS-B14 4478	NEW
	B2	Quintel QS66512-2	Quintel QS66512-2	LTE	REMAIN	72.00	12.00	9.60	111.00	160°	17' 1"	(1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN NEW
	B3	-	-	-	-	-	-	-	-	-	-	-	-
	B4	KMW AM-X-CD-16-65-00T-RET	CCI OPA-65R4LCUU-H6	LTE	NEW	72	14.8	7.4	73	160°	17' 1"	(1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN NEW NEW
GAMMA	C1	KMW AM-X-CD-16-65-00T-RET	KMW AM-X-CD-16-65-00T-RET	UMTS	REMAIN	72.00	11.80	5.90	48.50	40°	17' 1"	(1) RRUS-B14 4478	SHARED WITH BETA SECTOR
	C2	Quintel QS66512-2	Quintel QS66512-2	LTE	REMAIN	72.00	12.00	9.60	111.00	270°	17' 1"	(1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN NEW
	C3	-	-	-	-	-	-	-	-	-	-	-	-
	C4	KMW AM-X-CD-16-65-00T-RET	CCI OPA-65R4LCUU-H6	LTE	NEW	72	14.8	7.4	73	270°	17' 1"	(1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN NEW NEW

Codes, Standards and Loading:

Maser Consulting Connecticut utilized the following codes and standards:

- 2016 Connecticut State Building Code, incorporating the 2012 IBC
- ASCE/SEI 7-10 Minimum Design Loads for Buildings and other Structures
 - Ultimate Wind Speed – 125 mph (3 Second Gust)
 - Exposure Category – C
 - Risk Category – II
 - Topographic Category – 1
- Specification for Structural Steel Buildings ANSI/AISC 360-10, American Institute of Steel Construction (AISC)

Analysis Approach & Assumptions:

The analysis approach used in this structural analysis is based on the premise that if the existing antenna support mounts are structurally adequate to support the proposed equipment per the aforementioned codes and standards, or if the increase in the forces in the structure is deemed to be negligible or acceptable, then the proposed equipment can be installed as intended. Risa-3D, a 3D finite element modeling and analysis program, was used to determine the capacity and usage of the existing antenna support mounts.

The existing antenna mounts in position 4 in all the sectors has been modeled in RISA-3D, a comprehensive structural analysis program. The program performs design checks of structures under user specified loads. The user specified loads have been calculated separately based on the requirements of the above referenced codes. The program performs checks based on the steel code to determine the adequacy of the members and produces the reactions at the connection points of the mounts to the existing structure.

General Site Design Assumption:

- All engineering services are performed on the basis that the information used is current and correct.
- It is assumed that the telecommunication equipment supports, antenna supports, and existing structure have been designed by a registered licensed professional engineer for the existing loads acting on the structure, as required by all applicable codes, prior to the proposed modifications listed within this report.
- It is assumed that information provided by the client regarding the structure itself, the antenna models, feed lines, and other relevant information is current and correct.

- It is the responsibility of the client to ensure that the information provided to Maser Consulting Connecticut and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that the original design, material production, fabrication, and erection of the existing structure was performed in accordance with accepted industry design standards and in accordance with all applicable codes. Further, it is assumed that the existing structure and appurtenances have been properly maintained in accordance with all applicable codes and manufacturer's specifications and no structural defects and/or deterioration to the structural members has occurred.
- It is assumed all other existing appurtenances, antennas, cables, etc. belonging to others have been installed and supported per code and per specifications so as not to damage any existing structural support members, and that any contributing loads from adjacent equipment has been taken into consideration for their design.
- All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Maser Consulting Connecticut is not responsible for the conclusion, opinions, and recommendations made by others based on the information we supply.

Site Specific Design Parameters:

The following design parameters have been utilized in this report:

- *Structural Steel Angles are constructed of A36 Steel*
- *Structural Steel Pipes are constructed of A53 Grade B Steel*
- *Existing connections were assumed as follows:*
 - *1/2" ø HIT-A Rod Anchor*
 - *Use Hilti-HY 20 Adhesive*
 - *Have minimum embedment of 3-3/8" into hollow bricks*

Note about Equipment:

- *All proposed antennas shall be mounted to the existing pipe mounts in position 4 of all sectors.*
- *The proposed TMAs shall be mounted behind proposed antennas on the same pipe mounts*
- *All proposed RRHs shall be mounted on the ground level.*

Calculations:

The calculations are found in Appendix A of this report.

Conclusion:

Maser Consulting Connecticut has determined the existing antenna support mounts have **ADEQUATE** structural capacity to support the proposed loading. The existing antenna support mounts and their connections have been determined to be stressed to a maximum of **23.6%** and **24.7%** of their structural capacity. Therefore, the proposed **AT&T** installation **CAN** be installed as intended.

The conclusions reached by Maser Consulting Connecticut in this evaluation are only applicable for the existing structural members supporting the proposed **AT&T** telecommunications installation described herein. Further, no structural qualifications are made or implied by this document for the existing structure.

Maser Consulting Connecticut reserves the right to amend this report if additional information about the existing members is provided. The conclusions reached by Maser Consulting Connecticut in this report are only valid for the appurtenances listed in this report. Any change to the installation will require a revision to this structural analysis.

We appreciate the opportunity to be of service on this project. If you should have any questions or require any additional information, please do not hesitate to call our office.

Sincerely,
Maser Consulting Connecticut



Petros E. Tsoukalas, P.E.
Geographic Discipline Leader



Tapan Pandey, E.I.T.
Structural Engineer



APPENDIX A

Site Information:

Location: **Middletown, CT**

Building Height: $h_{\text{roof}} := 212 \cdot \text{ft}$

Building Width: $B := 225 \cdot \text{ft}$

Risk Category: Risk_Category :=

ASCE 7-10 Reference

(Table 1.5-1)

Design Wind Load:

Equipment Centerline: $z := 171 \text{ ft}$

Ultimate Wind Speed: $V := 125 \text{ mph}$

(Figure 26.5-1(A, B or C))

Wind Directionality Factor: $K_d :=$

(Section 26.6 and Table 26.6-1)

Exposure Category: Exp :=

(Section 26.7)

Topographic Category: Topo :=

(Section 26.8.1)

Height of Hill: $H := 0 \cdot \text{ft}$

Distance Upwind of Crest to Half the Height of the Hill: $L_h := 0 \cdot \text{ft}$

Distance Upwind or Downwind of Crest to the Site: $x := 0 \cdot \text{ft}$

Structure Location: Structure_Location :=

Relative to the Crest

Gust Effect Factor: $G_h := 1.0$

(Section 26.9)

Terrain Exposure Constants: $\alpha := \begin{cases} 7.0 & \text{if Exp} = \text{"B"} \\ 9.5 & \text{if Exp} = \text{"C"} \\ 11.5 & \text{if Exp} = \text{"D"} \end{cases}$ $Z_g := \begin{cases} 1200 & \text{if Exp} = \text{"B"} \\ 900 & \text{if Exp} = \text{"C"} \\ 700 & \text{if Exp} = \text{"D"} \end{cases}$

(Table 26.9.1)

$K_{z\text{min}} := \begin{cases} 0.70 & \text{if Exp} = \text{"B"} \\ 0.85 & \text{if Exp} = \text{"C"} \\ 1.03 & \text{if Exp} = \text{"D"} \end{cases}$

Velocity Pressure Coefficient:

$$K_z(z) := \begin{cases} K_z \leftarrow \max \left[2.01 \cdot \left(\frac{z}{Z_g} \right)^{\frac{2}{\alpha}}, K_{z\text{min}} \right] & \text{if } z \geq 15 \wedge z \leq Z_g \\ K_z \leftarrow \max \left[2.01 \cdot \left(\frac{15}{Z_g} \right)^{\frac{2}{\alpha}}, K_{z\text{min}} \right] & \text{if } z < 15 \\ K_z \leftarrow \min(K_z, 2.01) & \end{cases}$$

Table 29.3-1
 $K_z(z) = 1.417$

Topographic Factor: (Table 26.8-1)

Height Attenuation Factor

$$\gamma := \begin{cases} 3.0 & \text{if Topo} = "2" \\ 2.5 & \text{if Topo} = "3" \\ 4.0 & \text{if Topo} = "4" \\ 1.0 & \text{otherwise} \end{cases}$$

$$K_{zt}(z) := K_{zt} \leftarrow \begin{cases} 1.0 & \text{if Topo} = "1" \\ \text{otherwise} \\ \begin{cases} K_1 \leftarrow \begin{cases} \text{if Exp} = "B" \\ \begin{cases} 1.30 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "2" \\ 0.75 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "3" \\ 0.95 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "4" \end{cases} \\ \text{if Exp} = "C" \\ \begin{cases} 1.45 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "2" \\ 0.85 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "3" \\ 1.05 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "4" \end{cases} \\ \text{if Exp} = "D" \\ \begin{cases} 1.55 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "2" \\ 0.95 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "3" \\ 1.15 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "4" \end{cases} \end{cases} \\ K_2 \leftarrow 1 - \frac{|x|}{\mu \cdot L_h} \\ K_3 \leftarrow e^{\left(\frac{\gamma \cdot z}{L_h}\right)} \\ (1 + K_1 \cdot K_2 \cdot K_3)^2 \end{cases} \end{cases}$$

Horizontal Attenuation Factor

$$\mu := \begin{cases} 1.5 & \text{if Structure_Location} = "Upwind" \\ \text{if Structure_Location} = "Downwind" \\ \begin{cases} 1.5 & \text{if Topo} = "2" \\ 4.0 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "3" \\ 1.5 \cdot \left(\frac{H}{L_h}\right) & \text{if Topo} = "4" \end{cases} \\ 1.0 & \text{otherwise} \end{cases}$$

Velocity Pressure:

$$q_z := 0.00256 \cdot K_z(z) \cdot K_{zt}(z) \cdot K_d \cdot V^2 \cdot \text{psf} = 48.2 \cdot \text{psf}$$

(Section 30.3.1)

Force Coefficient:

$$C_{f_square}(h, w) := \begin{cases} 1.3 & \text{if } \frac{h}{w} \leq 1.0 \\ \left[1.3 + \frac{0.1}{6.0} \cdot \left(\frac{h}{w} - 1.0 \right) \right] & \text{if } \frac{h}{w} > 1.0 \wedge \frac{h}{w} \leq 7 \\ \left[1.4 + \frac{0.6}{18} \cdot \left(\frac{h}{w} - 7 \right) \right] & \text{if } \frac{h}{w} > 7 \wedge \frac{h}{w} \leq 25 \\ 2.0 & \text{otherwise} \end{cases}$$

Figure 29.5-1

Square Members
 (Wind Normal to Face)

$$C_{f_round}(h, d) := \begin{cases} \text{if } \frac{d}{ft} \cdot \sqrt{\frac{q_z}{psf}} \leq 2.5 \\ \begin{cases} 0.7 & \text{if } \frac{h}{d} \leq 1.0 \\ \left[0.7 + \frac{0.1}{6.0} \cdot \left(\frac{h}{d} - 1.0 \right) \right] & \text{if } \frac{h}{d} > 1.0 \wedge \frac{h}{d} \leq 7 \\ \left[0.8 + \frac{0.4}{18} \cdot \left(\frac{h}{d} - 7 \right) \right] & \text{if } \frac{h}{d} > 7 \wedge \frac{h}{d} \leq 25 \\ 1.2 & \text{otherwise} \end{cases} \\ \text{if } \frac{d}{ft} \cdot \sqrt{\frac{q_z}{psf}} > 2.5 \\ \begin{cases} 0.5 & \text{if } \frac{h}{d} \leq 1.0 \\ \left[0.6 + \frac{0.1}{6.0} \cdot \left(\frac{h}{d} - 1.0 \right) \right] & \text{if } \frac{h}{d} > 1.0 \wedge \frac{h}{d} \leq 7 \\ \left[0.7 + \frac{0.1}{18} \cdot \left(\frac{h}{d} - 7 \right) \right] & \text{if } \frac{h}{d} > 7 \wedge \frac{h}{d} \leq 25 \\ 0.7 & \text{otherwise} \end{cases} \end{cases}$$

Figure 29.5-1

Round Members
 (Wind Normal to Face)

*Pressure Coefficient and
 Gust Factor Product:*

$$GC_r(A_f) := \begin{cases} 1.9 & \text{if } A_f \leq 0.1 \cdot B \cdot h_{\text{roof}} \\ \left[1.9 - \left(\frac{A_f - 0.1 \cdot B \cdot h_{\text{roof}}}{B \cdot h_{\text{roof}}} \right) \right] & \text{if } A_f > 0.1 \cdot B \cdot h_{\text{roof}} \wedge A_f \leq B \cdot h_{\text{roof}} \\ 1.0 & \text{otherwise} \end{cases}$$

Appurtenance Loading:

CCI OPA-65R-LCUU-H6: Front Wind

Height: $h := 72 \cdot \text{in}$

Width: $w := 14.8 \cdot \text{in}$

Area: $A_a := (h \cdot w) = 7.4 \text{ ft}^2$

Force Coefficient: $C_{f_square}(h, w) = 1.364$

Pressure Coefficient and
Gust Factor Product: $GC_r(A_a) = 1.9$

Wind Load: $F_{ant1.front} := \begin{cases} q_z \cdot G_h \cdot C_{f_square}(h, w) \cdot A_a & \text{if } h_{roof} > 60 \cdot \text{ft} \\ q_z \cdot GC_r(A_a) \cdot A_a & \text{if } h_{roof} \leq 60 \cdot \text{ft} \end{cases} = 486.4 \text{ lbf} \quad (\text{Equation 29.5-1, P. 308})$
 $(\text{Equation 29.5-2, P. 308})$

CCI OPA-65R-LCUU-H6: Side Wind

Height: $h := 72 \cdot \text{in}$

Depth: $d := 7.4 \cdot \text{in}$

Area: $A_a := (h \cdot d) = 3.7 \text{ ft}^2$

Force Coefficient: $C_{f_square}(h, d) = 1.491$

Pressure Coefficient and
Gust Factor Product: $GC_r(A_a) = 1.9$

Wind Load: $F_{ant1.side} := \begin{cases} q_z \cdot G_h \cdot C_{f_square}(h, d) \cdot A_a & \text{if } h_{roof} > 60 \cdot \text{ft} \\ q_z \cdot GC_r(A_a) \cdot A_a & \text{if } h_{roof} \leq 60 \cdot \text{ft} \end{cases} = 265.8 \text{ lbf} \quad (\text{Equation 29.5-1, P. 308})$
 $(\text{Equation 29.5-2, P. 308})$

Dead Weight: $P_{ant1} := 73 \cdot \text{lbf}$

TMA: Front Wind

Height: $h := 11.04 \cdot \text{in}$

Width: $w := 10.63 \cdot \text{in}$

Area: $A_a := (h \cdot w) = 0.815 \text{ ft}^2$

Force Coefficient: $C_{f_square}(h, w) = 1.301$

Pressure Coefficient and
Gust Factor Product: $GC_r(A_a) = 1.9$

Wind Load: $F_{a2.front} := \begin{cases} q_z \cdot G_h \cdot C_{f_square}(h, w) \cdot A_a & \text{if } h_{roof} > 60 \cdot \text{ft} \\ q_z \cdot GC_r(A_a) \cdot A_a & \text{if } h_{roof} \leq 60 \cdot \text{ft} \end{cases} = 51.1 \text{ lbf}$ (Equation 29.5-1, P. 308)

(Equation 29.5-2, P. 308)

TMA: Side Wind

Height: $h := 11.04 \cdot \text{in}$

Depth: $d := 3.75 \cdot \text{in}$

Area: $A_a := (h \cdot d) = 0.287 \text{ ft}^2$

Force Coefficient: $C_{f_square}(h, d) = 1.332$

Pressure Coefficient and
Gust Factor Product: $GC_r(A_a) = 1.9$

Wind Load: $F_{a2.side} := \begin{cases} q_z \cdot G_h \cdot C_{f_square}(h, d) \cdot A_a & \text{if } h_{roof} > 60 \cdot \text{ft} \\ q_z \cdot GC_r(A_a) \cdot A_a & \text{if } h_{roof} \leq 60 \cdot \text{ft} \end{cases} = 18.5 \text{ lbf}$ (Equation 29.5-1, P. 308)

(Equation 29.5-2, P. 308)

Dead Weight: $P_{a2} := 26 \cdot \text{lbf}$

Antenna Mount Loading:

2.0" Pipe Loading:

Height:	$h_{m1} := 84\text{in}$	
Width:	$w_{m1} := 2.375\cdot\text{in}$	
Area:	$A_a := h_{m1}\cdot w_{m1} = 1.385\text{ ft}^2$	
Force Coefficient:	$C_f := C_{f_round}(h_{m1}, w_{m1}) = 1.2$	
Wind Load:	$f_{m1} := q_z\cdot G_h\cdot C_f\cdot w_{m1} = 11.442\cdot\text{plf}$	(Section 2.6.9.2, P. 20)

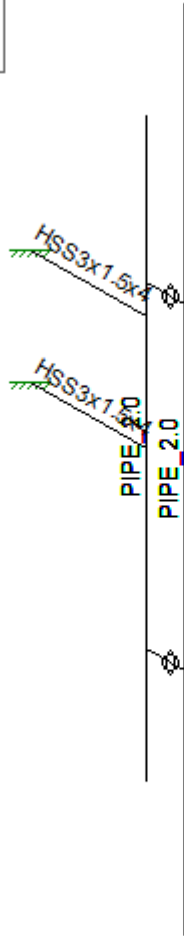
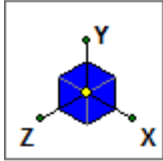
2.0" Pipe Loading:

Height:	$h_{m2} := 60\text{in}$	
Width:	$w_{m2} := 2.375\cdot\text{in}$	
Area:	$A_a := h_{m2}\cdot w_{m2} = 0.99\text{ ft}^2$	
Force Coefficient:	$C_f := C_{f_round}(h_{m2}, w_{m2}) = 1.2$	
Wind Load:	$f_{m2} := q_z\cdot G_h\cdot C_f\cdot w_{m2} = 11.442\cdot\text{plf}$	(Section 2.6.9.2, P. 20)

HSS Loading:

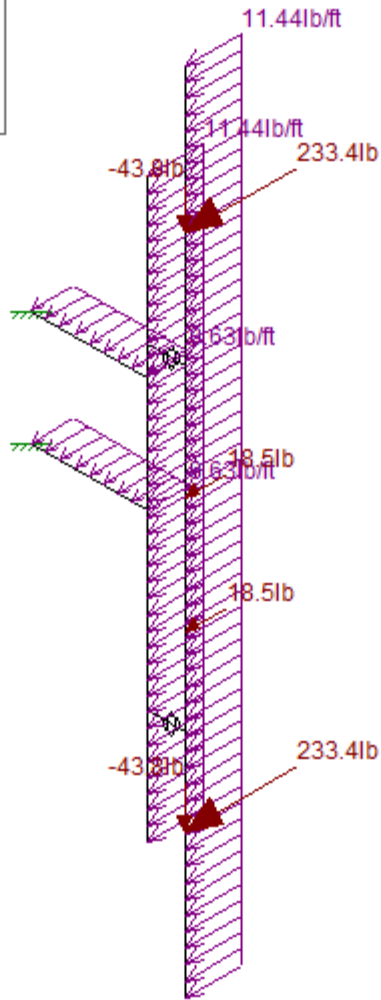
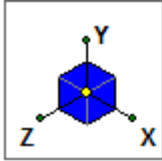
Height:	$h_{m3} := 12\text{in}$	
Width:	$w_{m3} := 1.5\cdot\text{in}$	
Area:	$A_a := h_{m3}\cdot w_{m3} = 0.125\text{ ft}^2$	
Force Coefficient:	$C_f := C_{f_square}(h_{m3}, w_{m3}) = 1.433$	
Wind Load:	$f_{m3} := q_z\cdot G_h\cdot C_f\cdot w_{m3} = 8.632\cdot\text{plf}$	(Section 2.6.9.2, P. 20)

Risa Model:



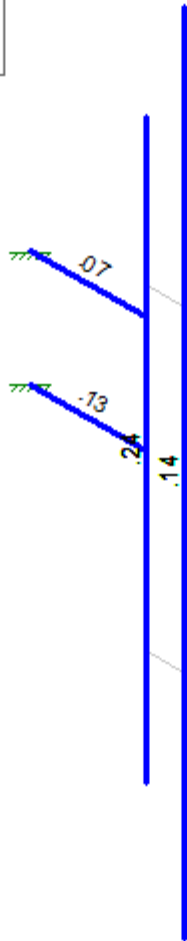
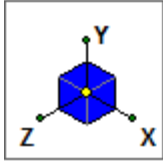
Envelope Only Solution

Worst Case Loading:



Loads: LC 5, 1.2D+1.0W4
Envelope Only Solution

Code Member Check:



Member Code Checks Displayed
Envelope Only Solution

Antenna Mount Attachment:

X-Direction Tension (lbs): $T_x := 190\text{lbf}$ (ASD) From Risa 3-D

Y-Direction Shear (lbs): $V_y := 100\cdot\text{lbf}$ (ASD) From Risa 3-D

Z-Direction Shear (lbs): $V_z := 327\cdot\text{lbf}$ (ASD) From Risa 3-D

Combined Shear Force (lbs): $V := \sqrt{V_y^2 + V_z^2}$ $V = 341.9\text{ lbf}$

Shear Per Bolt (lbs): $V_d := \frac{V}{2}$ $V_d = 171\text{ lbf}$

Tension Per Bolt (lbs): $N_d := \frac{T_x}{2}$ $N_d = 95\text{ lbf}$

Assume 1/2"φ HILTI HY-20 Adhesive Anchors with 3-3/8" Effective Embedment:

Assume Hollow Brick Parapet

Allowable Shear Per Bolt (lbs): $V_{rec} := 1375\text{lbf}$

Allowable Tension Per Bolt (lbs): $N_{rec} := 775\text{lbf}$

Check Interaction:
$$\text{Check} := \begin{cases} \text{"OK, connection can be used"} & \text{if } \frac{N_d}{N_{rec}} + \frac{V_d}{V_{rec}} \leq 1.0 \\ \text{"No Good"} & \text{otherwise} \end{cases}$$

Check = "OK, connection can be used"

Interaction := $\frac{N_d}{N_{rec}} + \frac{V_d}{V_{rec}}$ $\text{Interaction} = 0.247$

The existing anchor bolts have been determined to have **ADEQUATE** structural capacity to support the proposed **AT&T** equipment, together with the existing loading.



SITE NAME: MIDDLETOWN CORP CTR
PROJECT: LTE - 4C/5C/6C/7C
FA NUMBER: 10035254
SITE NUMBER: CT1017
213 COURT STREET
MIDDLETOWN, CT 06457
MIDDLESEX COUNTY
FIRSTNET



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NEW CINGULAR WIRELESS PCS, LLC
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701



16 ESQUIRE ROAD
 BILLERICA, MA 01862



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 Know what's below.
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SCALE: AS SHOWN JOB NUMBER: 17963016A

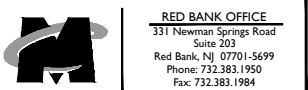
REV	DATE	DESCRIPTION	DRAWN	CHECKED
0	04/09/18	FOR CONSTRUCTION	AJC	RA
4	03/08/18	REVISED PER COMMENTS	AJC	PET
3	03/01/18	FOR CONSTRUCTION	AJC	PET
2	02/09/18	REVISED PER COMMENTS	RA	RA
1	01/19/18	ISSUED FOR REVIEW	AJC	RA



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SITE NAME:

MIDDLETOWN CORP CTR
 FA#:10035254
 SITE #: CT1017
 213 COURT STREET
 MIDDLETOWN, CT 06457
 MIDDLESEX COUNTY



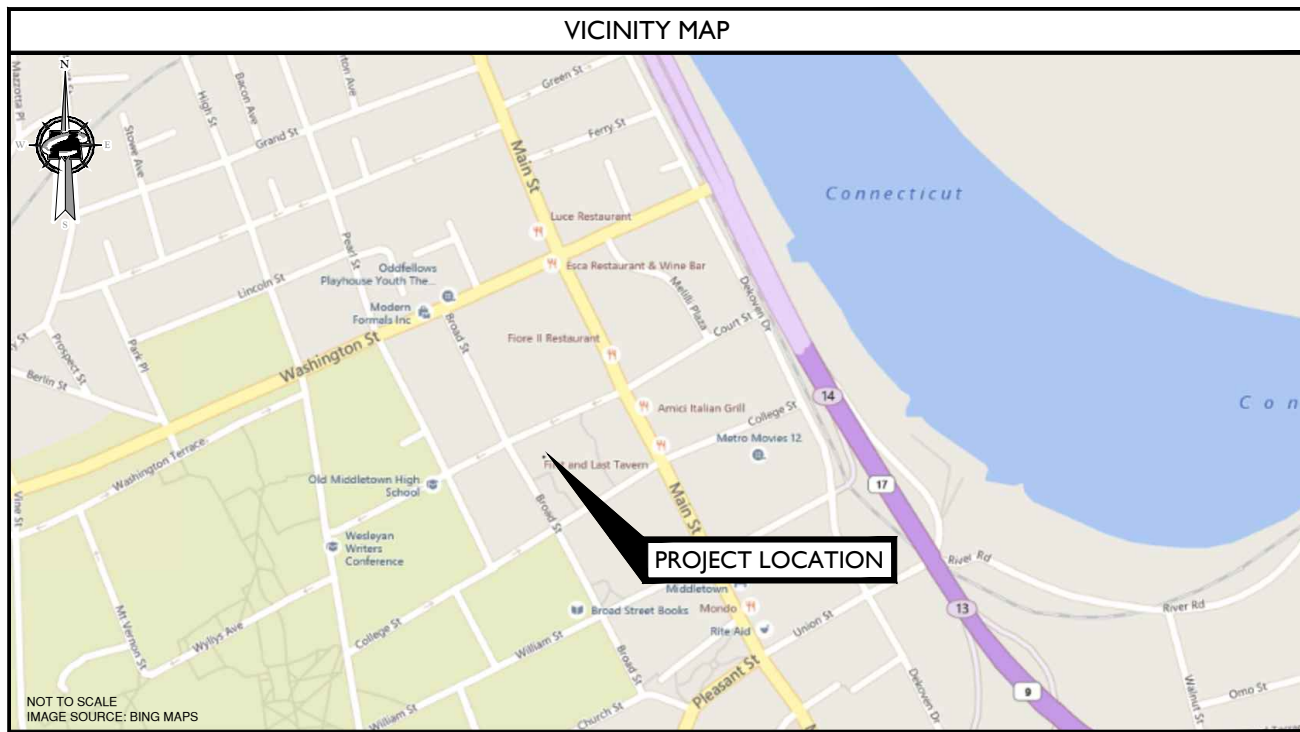
RED BANK OFFICE
 331 Newman Springs Road
 Suite 203
 Red Bank, NJ 07701-5699
 Phone: 732.383.1950
 Fax: 732.383.1984

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

PROJECT TEAM	
CLIENT REPRESENTATIVE	
COMPANY:	EMPIRE TELECOM
ADDRESS:	16 ESQUIRE ROAD
CITY, STATE, ZIP:	BILLERICA, MA 01862
CONTACT:	DAVID COOPER
E-MAIL:	DCOOPER@EMPIRETEL.COM
ENGINEER	
COMPANY:	MASER CONSULTING CONNECTICUT
ADDRESS:	331 NEWMAN SPRINGS ROAD, SUITE 203
CITY, STATE, ZIP:	RED BANK, NJ 07701
CONTACT:	MICHAEL CLEARY
PHONE:	(856) 717-0412 x4105
E-MAIL:	MICLEARY@MASERCONSULTING.COM
RF ENGINEER	
COMPANY:	NEW CINGULAR WIRELESS PCS, LLC
ADDRESS:	550 COCHITUATE ROAD
CITY, STATE, ZIP:	FRAMINGHAM, MA 01701
CONTACT:	FATAH
E-MAIL:	FF5901@ATT.COM

SITE INFORMATION	
APPLICANT/LESSEE	
NEW CINGULAR WIRELESS PCS, LLC 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
TOWER OWNER:	
NAME:	MIDDLESEX MUTUAL INSURANCE
ADDRESS:	213 COURT STREET
CITY, STATE, ZIP:	MIDDLETOWN, CT 06457
LATITUDE:	41.5594639° N
LONGITUDE:	72.651081° W
LAT/LONG. TYPE:	NAD 83
AREA OF CONSTRUCTION:	EXISTING EQUIPMENT ROOM AND ROOFTOP
ZONING/JURISDICTION:	CITY OF MIDDLETOWN
CURRENT USE/PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY
HANDICAP REQUIREMENTS:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.
CONSTRUCTION TYPE:	IIB
USE GROUP:	U



DRIVING DIRECTIONS	
DIRECTIONS FROM AT&T OFFICE AT 550 COCHITUATE ROAD, FRAMINGHAM, MA:	
GET ON I-90 WEST/MASSACHUSETTS TURNPIKE. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK. FOLLOW SIGNS FOR INTERSTATE 90 WEST/MASSACHUSETTS TURNPIKE/WORCHESTER/SPRINGFIELD AND MERGE ONTO I-90 W/MASSACHUSETTS TURNPIKE. CONTINUE ON I-90 W/MASSACHUSETTS TURNPIKE. TAKE I-84 TO WASHINGTON STREET IN MIDDLETOWN. MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. USE THE RIGHT 2 LANES TO TAKE EXIT 9 FOR I-84 TOWARD US-20/HARTFORD/NEW YORK CITY. CONTINUE ONTO I-84. USE THE LEFT 2 LANES TO TAKE EXIT 57 FOR CT-15 S TOWARD I-91 SOUTH/CHARTER OAK BRIDGE/N.Y. CITY. CONTINUE ONTO CT-15 SOUTH/US-5 SOUTH. TAKE EXIT 86 TO MERGE ONTO I-91 S TOWARD NEW HAVEN/NEW YORK CITY. USE THE LEFT LANE TO TAKE EXIT 225 TO MERGE ONTO CT-9 S TOWARD MIDDLETOWN/OLD SAYBROOK. FOLLOW DEKOVEN DRIVE TO COURT STREET. TURN RIGHT ONTO WASHINGTON STREET. TURN LEFT ONTO DEKOVEN DRIVE. TURN RIGHT ONTO COURT STREET.	

CODE COMPLIANCE	
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. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.	
1. 2016 CONNECTICUT STATE BUILDING CODE INCORPORATING THE 2012 IBC	7. EIA/TIA-222 REVISION G
2. 2014 NATIONAL ELECTRICAL CODE-NFPA 70	8. TIA 607 FOR GROUNDING
3. 2012 NFPA 101	9. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81
4. LIGHTNING PROTECTION CODE 2011	10. IEEE C2 LATEST EDITION
5. AMERICAN CONCRETE INSTITUTE 318	11. TELCORDIA GR-1275
6. AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-10	12. ANSI T1.311

GENERAL CONTRACTOR NOTES	
DO NOT SCALE DRAWINGS	
CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.	

GENERAL NOTES	
THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.	

SHEET	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
A-1	ROOFTOP AND EQUIPMENT PLAN
A-2	ELEVATION VIEW, DETAILS AND ANTENNA SCHEDULE
A-3	ANTENNA LAYOUTS
A-4	DETAILS
A-5	RF PLUMBING DIAGRAMS
G-1	GROUNDING DETAILS

PROJECT DESCRIPTION/SCOPE OF WORK	
THIS PROJECT WILL BE COMPRISED OF:	
<ul style="list-style-type: none"> (3) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS, (1) PER SECTOR INSTALL (3) NEW RRUS-12, AT GRADE INSTALL (3) NEW RRUS-E2, AT GRADE INSTALL (2) NEW RRUS-B14 4478, AT GRADE INSTALL (3) NEW RRUS-32 B66, AT GRADE REPLACE EXISTING TMA'S WITH NEW TMA'S, TYP. OF 6, 2 PER SECTOR REPLACE EXISTING DIPLEXERS WITH NEW QUADPLEXERS AND TRIPLEXERS (AT GRADE) UPGRADE DUS WITH (2) 5216, ADD IDLE AND ADD (1) XMU ADD SURGE ARRESTORS TO RRUS, AT GRADE 	

M:\Projects\0171793\000A\1793001A\1793001A.ctb:000254.ctb:0107:CD:Rev:4.dwg:1... By: ACOA

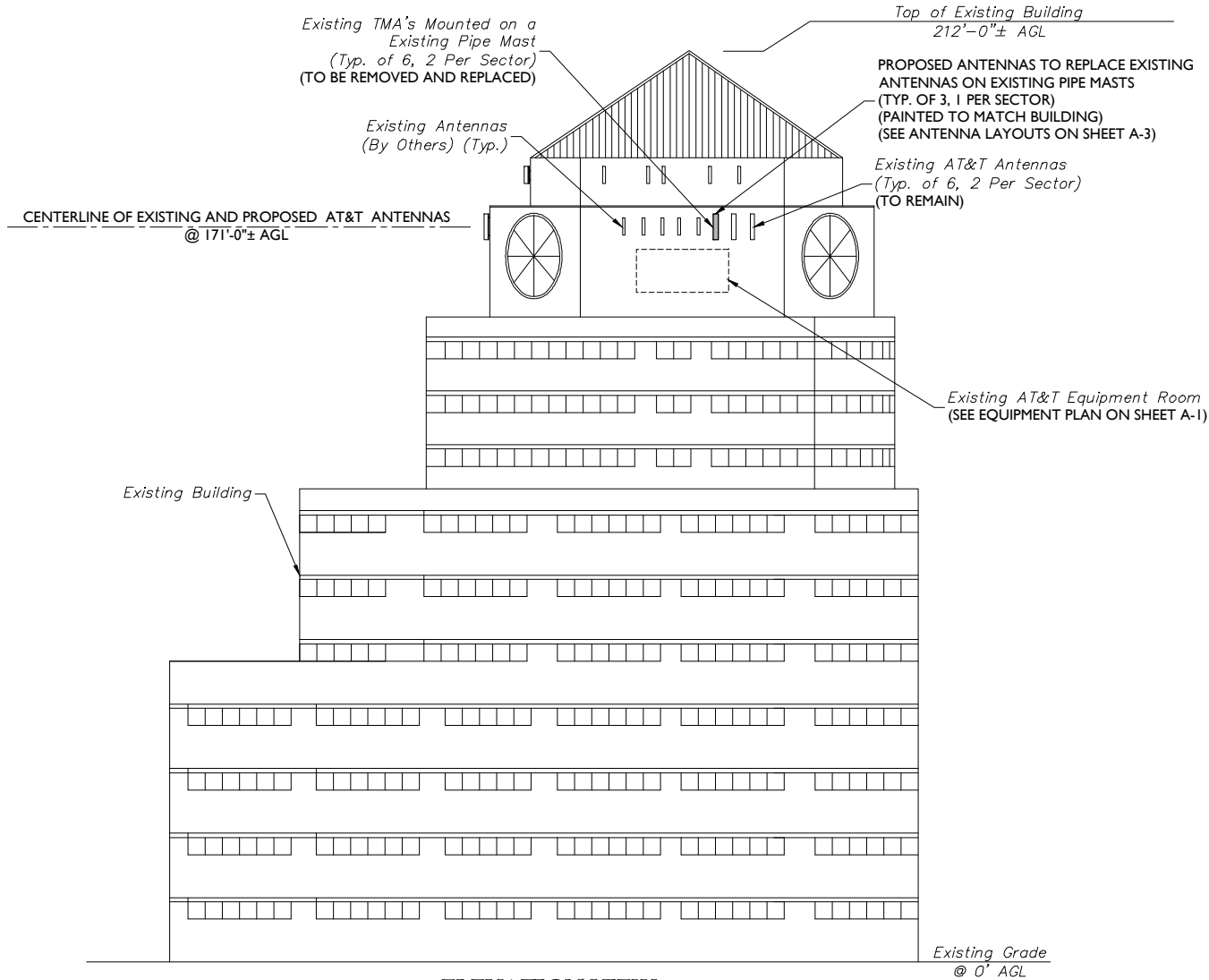
3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE

NOTE:

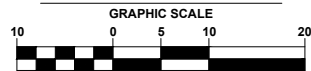
700 BAND 14 IS BEING PLUMED USING THE UMTS PANELS BUT SHOULD BE MOUNTED / COLOR CODED TO FOLLOW THE LTE ORIENTATION/ SECTOR DESIGNATION.

PROPOSED ANTENNA AND RRUS CONFIGURATION																
SECTOR	EXISTING ANTENNA CONFIGURATION	PROPOSED ANTENNA CONFIGURATION	TECHNOLOGY	ANTENNA STATUS	HEIGHT (in)	WIDTH (in)	DEPTH (in)	WEIGHT (lbs)	ANTENNA AZIMUTH	ANT. CL. ELEV. (ft.)	RRUS/TMA CONFIGURATION	STATUS	FEEDER COUNT	FEEDER TYPE	FEEDER STATUS	
ALPHA	A1	Quintel QS66512-2	Quintel QS66512-2	LTE	RELOCATE	72.00	12.00	9.60	111.00	40°	171'	(4) 5PX-0726-O DIPLEXER (GRADE) (2) TMA2117F00V1-V (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN NEW	4	7/8" COAX	REMAIN
	A2	KMW AM-X-CD-16-65-00T-RET	KMW AM-X-CD-16-65-00T-RET	UMTS	RELOCATE	72.00	11.80	5.90	48.50	160°	171'	(2) TPX-070821 DIPLEXER (GRADE) (1) DTMANP7819VG12A TMA (1) RRUS-B14 4478	REMAIN REMAIN NEW	2	7/8" COAX	REMAIN
	A4	KMW AM-X-CD-16-65-00T-RET	CCI OPA-65R-LCUU-H6	LTE	NEW	72	14.8	7.4	73	40°	171'	(4) QBC0007F1V51-1 DIPLEXER (GRADE) (2) TMABPD7823VG12A (1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN REMAIN NEW NEW	4	7/8" COAX	REMAIN
BETA	B1	Quintel QS66512-2	Quintel QS66512-2	LTE	RELOCATE	72.00	12.00	9.60	111.00	160°	171'	(4) 5PX-0726-O DIPLEXER (GRADE) (2) TMA2117F00V1-V (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN REMAIN NEW	4	7/8" COAX	REMAIN
	B2	KMW AM-X-CD-16-65-00T-RET	KMW AM-X-CD-16-65-00T-RET	UMTS	RELOCATE	72.00	11.80	5.90	48.50	270°	171'	(2) TPX-070821 DIPLEXER (GRADE) (1) DTMANP7819VG12A TMA (1) RRUS-B14 4478	REMAIN REMAIN NEW	2	7/8" COAX	REMAIN
	B4	KMW AM-X-CD-16-65-00T-RET	CCI OPA-65R-LCUU-H6	LTE	NEW	72	14.8	7.4	73	160°	171'	(4) QBC0007F1V51-1 DIPLEXER (GRADE) (2) TMABPD7823VG12A (1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN REMAIN NEW NEW	4	7/8" COAX	REMAIN
GAMMA	C1	Quintel QS66512-2	Quintel QS66512-2	LTE	RELOCATE	72.00	12.00	9.60	111.00	270°	171'	(4) 5PX-0726-O DIPLEXER (GRADE) (2) TMA2117F00V1-V (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN REMAIN NEW	4	7/8" COAX	REMAIN
	C2	KMW AM-X-CD-16-65-00T-RET	KMW AM-X-CD-16-65-00T-RET	UMTS	RELOCATE	72.00	11.80	5.90	48.50	40°	171'	(2) TPX-070821 DIPLEXER (GRADE) (1) DTMANP7819VG12A TMA (1) RRUS-B14 4478	REMAIN SHARED WITH BETA SECTOR	2	7/8" COAX	REMAIN
	C4	KMW AM-X-CD-16-65-00T-RET	CCI OPA-65R-LCUU-H6	LTE	NEW	72	14.8	7.4	73	270°	171'	(4) QBC0007F1V51-1 DIPLEXER (GRADE) (2) TMABPD7823VG12A (1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN REMAIN NEW NEW	4	7/8" COAX	REMAIN

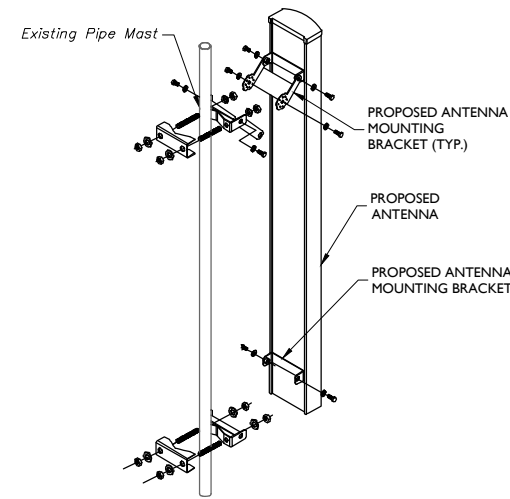
ANTENNA SCHEDULE



ELEVATION VIEW

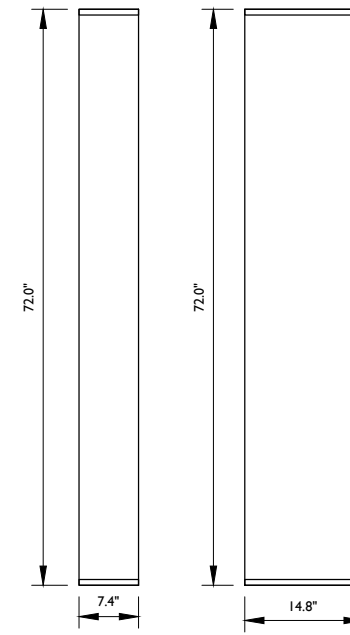


SCALE: 1" = 10' FOR 24"x36" DRAWINGS
(DO NOT SCALE 11"x17" DRAWINGS)



ANTENNA MOUNTING DETAIL

NOT TO SCALE



WEIGHT = 73.0 LBS
CCI OPA-65R-LCUU-H6

ANTENNA DETAIL

NOT TO SCALE

STRUCTURAL NOTES:

- NO CONSTRUCTION OF THE PROPOSED LOADING SHOWN SHALL PROCEED UNTIL ADEQUACY OF THE EXISTING STRUCTURE AND FOUNDATION, INCLUDING THE PROPOSED AT&T ANTENNA MOUNTING CONFIGURATION SHOWN HEREIN, HAS BEEN COMPLETED.
- THE STRUCTURE ELEVATION IS SHOWN FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REFLECT AS-BUILT FIELD CONDITIONS FOR ALL EXISTING INVENTORY LOADING/ANTENNAS/APPURTANANCES ON STRUCTURE. REFER TO THE LATEST STRUCTURAL ANALYSIS FOR EXISTING STRUCTURE LOADING AND THE PROPOSED METHOD OF ATTACHMENT OF THE PROPOSED ANTENNAS/CABLES.
- THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY IMPROVEMENTS AND REINFORCEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, CABLES, SUPPORTS AND APPURTANANCES PROPOSED ON THESE DRAWINGS OR OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.

NOTE:

THESE PLANS WERE DESIGNED WITH THE ASSUMPTION THAT THE PREVIOUS PLANS PREPARED BY MASER CONSULTING CONNECTICUT DATED 02/18/16 WILL BE COMPLETED PRIOR TO THE CURRENT SCOPE OF WORK BEING INSTALLED. ANY CHANGES IN PREVIOUS DESIGN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.



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16 ESQUIRE ROAD
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SCALE: AS SHOWN JOB NUMBER: 17963016A

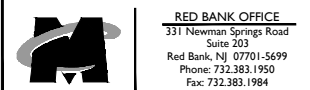
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4	03/08/18	REVISED PER COMMENTS	AJC	PET
3	03/01/18	FOR CONSTRUCTION	AJC	PET
2	02/09/18	REVISED PER COMMENTS	RA	RA
1	01/19/18	ISSUED FOR REVIEW	AJC	RA



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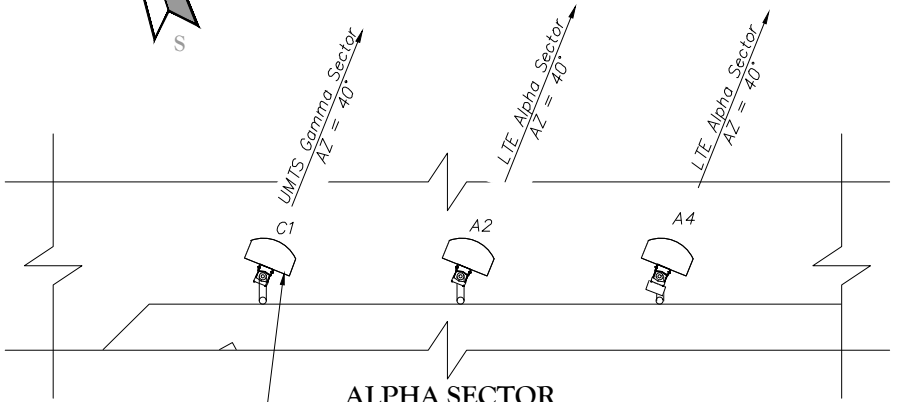
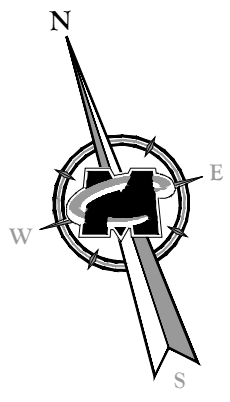


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SHEET TITLE:
**ELEVATION VIEW, DETAILS
AND ANTENNA SCHEDULE**

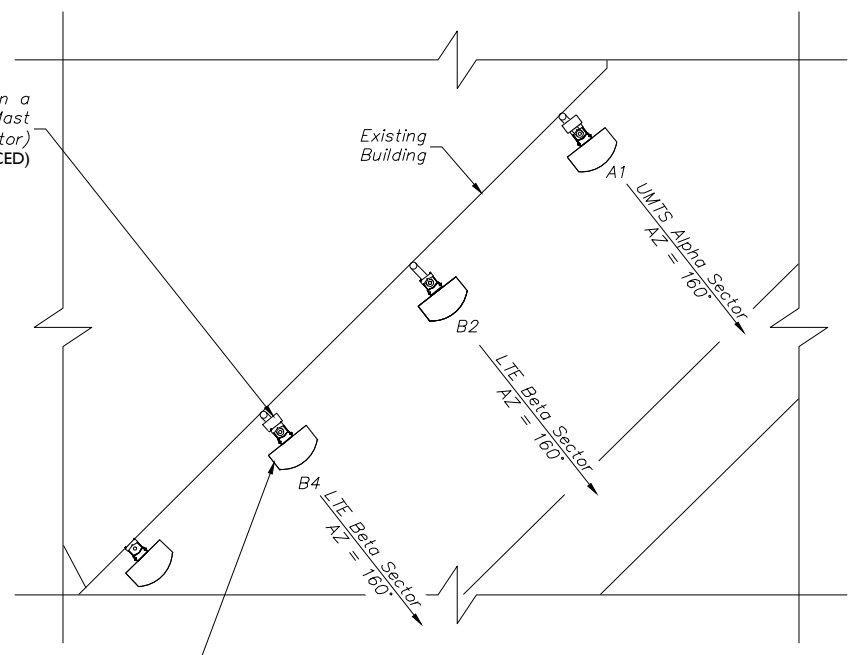
SHEET NUMBER:
A-3

3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE



Existing AT&T Antennas
(Typ. of 6, 2 Per Sector)
(EXISTING LTE & UMTS ANTENNAS
ARE TO SWAP POSITIONS TO CREATE
REQUIRED SEPARATION)

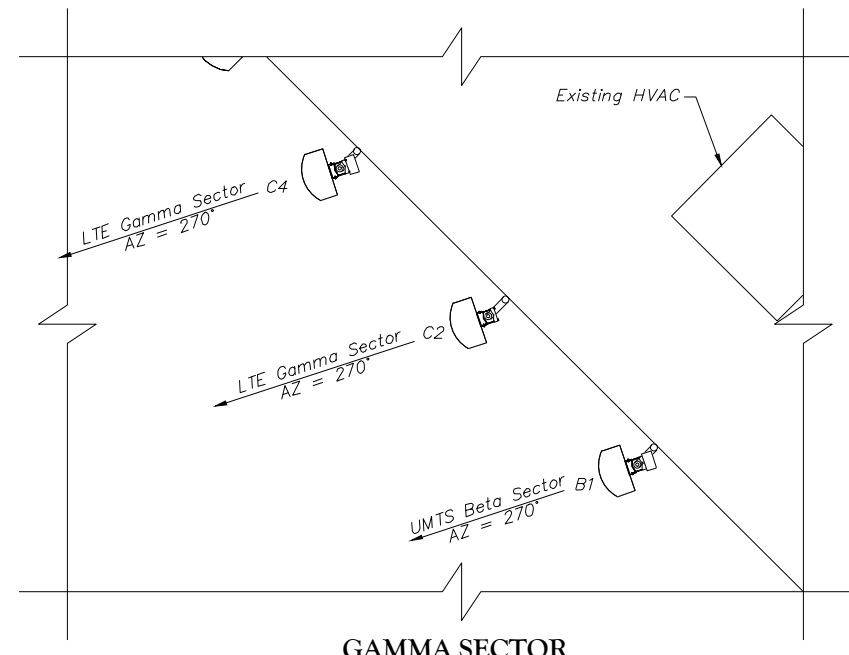
ALPHA SECTOR



Existing TMA's Mounted on a
Existing Pipe Mast
(Typ. of 6, 2 Per Sector)
(TO BE REMOVED AND REPLACED)

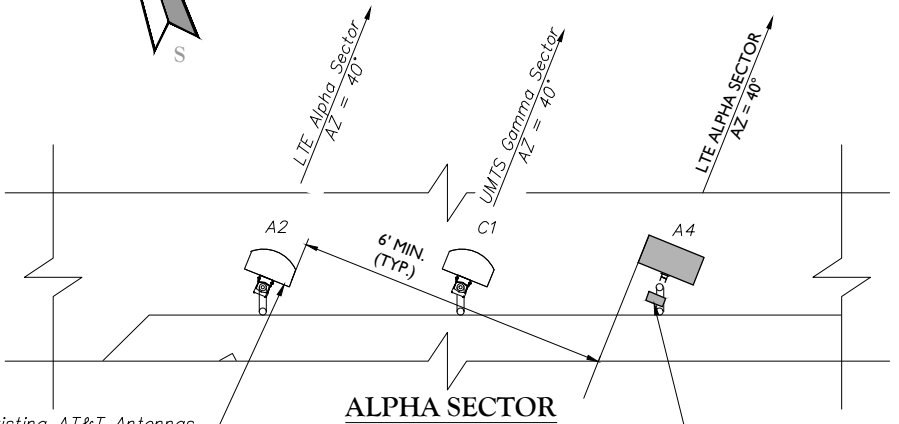
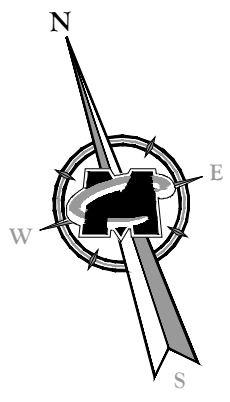
Existing AT&T Antennas
(Typ. of 3, 1 Per Sector)
(TO BE REMOVED AND REPLACED)

BETA SECTOR



GAMMA SECTOR

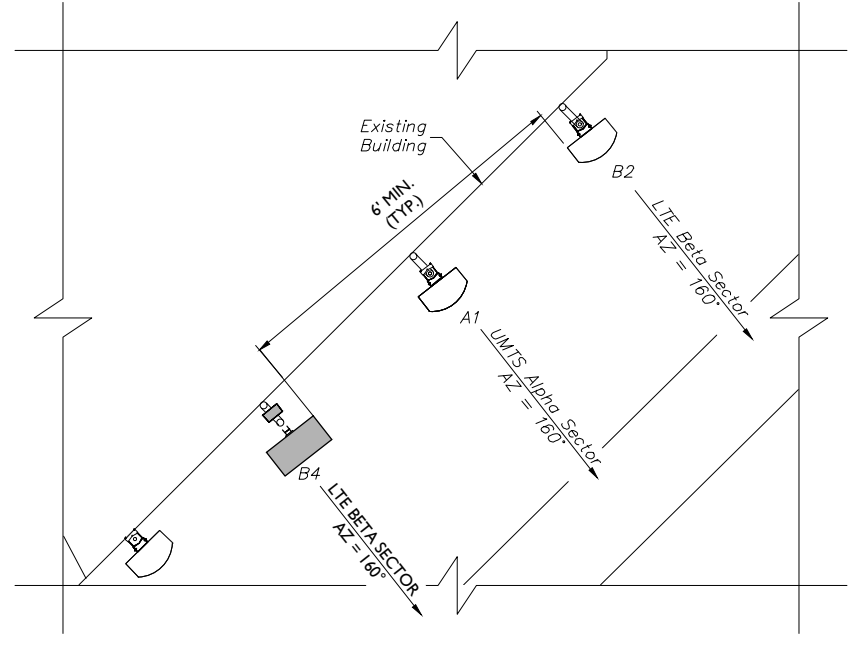
EXISTING - ANTENNA LAYOUT
NOT TO SCALE



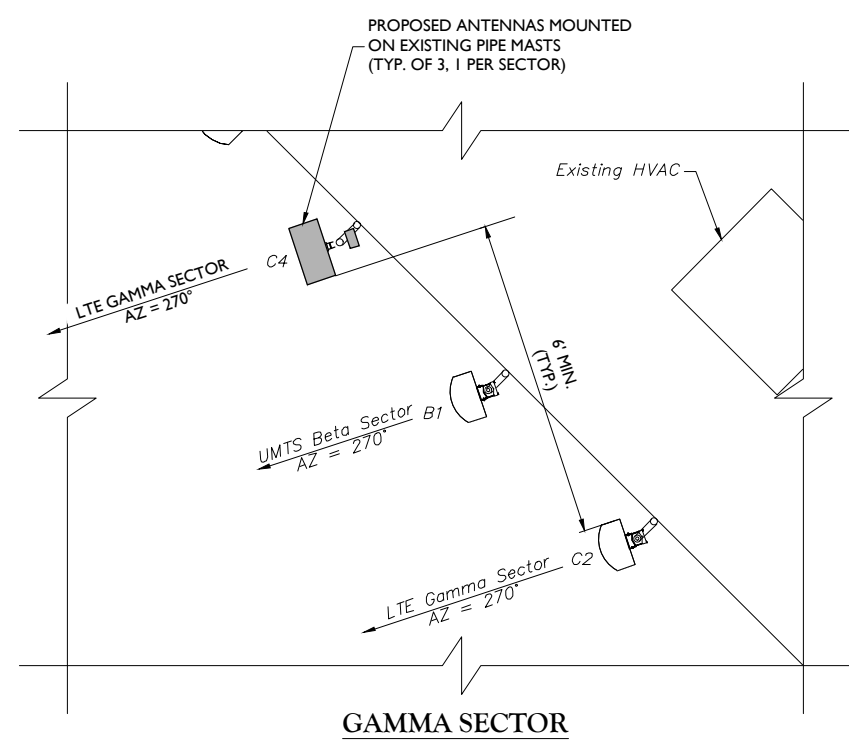
Existing AT&T Antennas
(Typ. of 6, 2 Per Sector)
(TO REMAIN)

PROPOSED TMA'S MOUNTED ON
AN EXISTING PIPE MAST
(TYP. OF 6, 2 PER SECTOR)

ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR

PROPOSED - ANTENNA LAYOUT
NOT TO SCALE

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4	03/08/18	REVISED PER COMMENTS	AJC	PET	
3	03/01/18	FOR CONSTRUCTION	AJC	PET	
2	02/09/18	REVISED PER COMMENTS	RA	RA	
1	01/19/18	ISSUED FOR REVIEW	AJC	RA	
REV	DATE	DESCRIPTION	DRAWN	CHECKED	BY

STATE OF CONNECTICUT
PETROS TSOUKALAS
REGISTERED PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.32577

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SHEET TITLE:
ANTENNA LAYOUTS

SHEET NUMBER:
A-3

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NEW CINGULAR WIRELESS PCS, LLC
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FRAMINGHAM, MA 01701

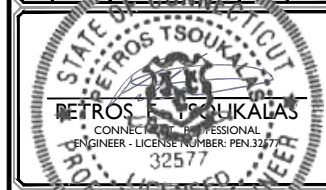


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2	02/09/18	REVISED PER COMMENTS	RA	RA
1	01/11/18	ISSUED FOR REVIEW	AJC	RA



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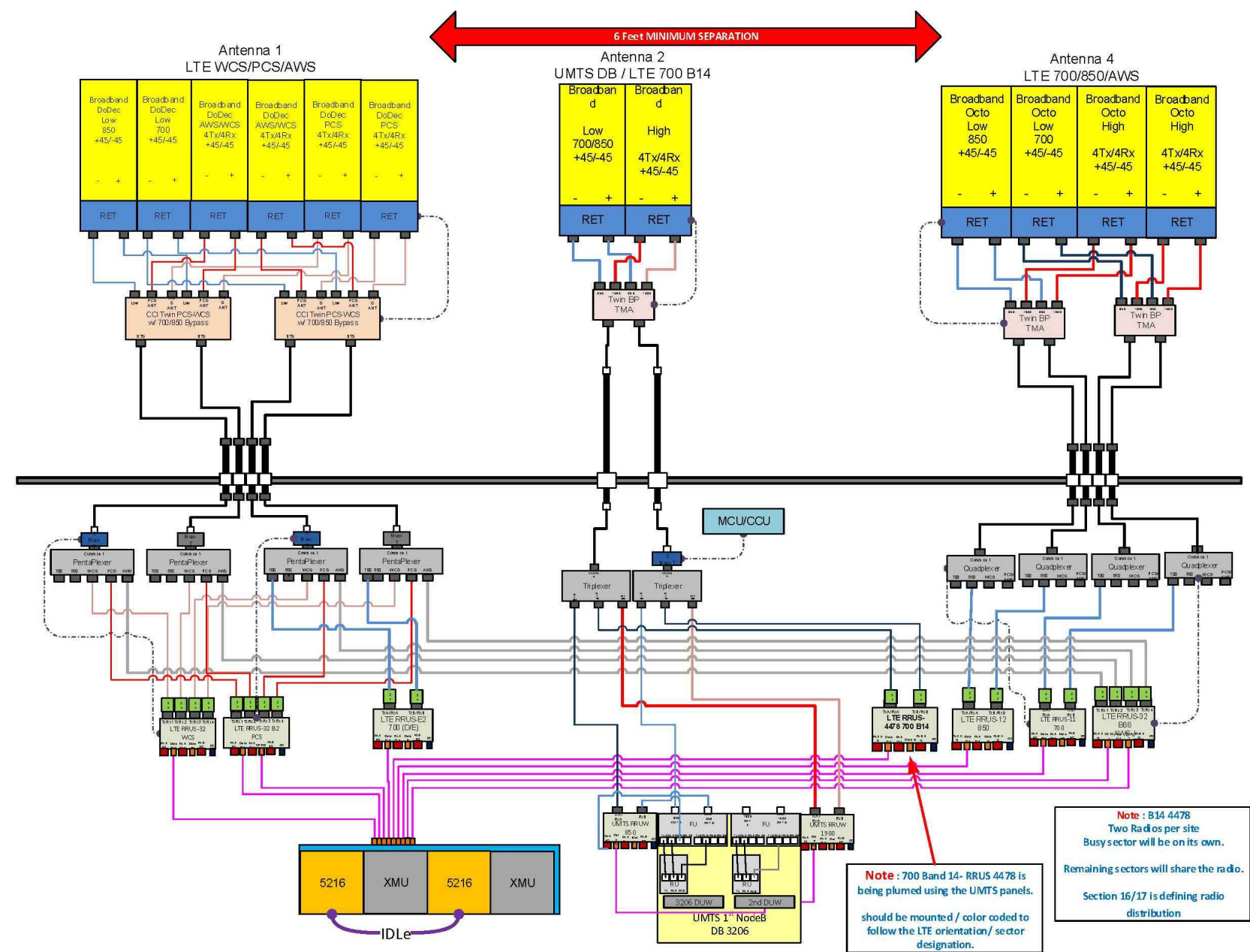
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SHEET TITLE:
RF PLUMBING DIAGRAMS

SHEET NUMBER:
A-5

Diagram - Sector: A Diagram File Name - CT1017_A_B_C_LTE7C_Rev4.0 vsd
Atoll Site Name - CTL01017 Location Name - MIDDLETOWN CORP CTR Market - CONNECTICUT Market Cluster - NEW ENGLAND
Comments: "Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/radio Port connections Field Notice (RF-HW-2016-265)"



ALL SECTORS

BASED ON: "NEW-ENGLAND_CONNECTICUT_CTL01017_2018-LTE-Next-Carrier_LTE_om636a_2051A0AFVN_10035254_59337_05-30-2017_Final-Approved_v4.00" Last Updated: 02/20/18

RF PLUMBING DIAGRAMS

I:\Projects\2017\17963016A\17963016A_Conserv\018.ctb: Rev 4.0g4A.5 By: ACCO



SITE NAME: MIDDLETOWN CORP CTR
PROJECT: LTE - 4C/5C/6C/7C
FA NUMBER: 10035254
SITE NUMBER: CT1017
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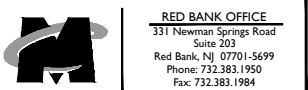
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4	03/08/18	REVISED PER COMMENTS	AJC	PET
3	03/01/18	FOR CONSTRUCTION	AJC	PET
2	02/09/18	REVISED PER COMMENTS	RA	RA
1	01/19/18	ISSUED FOR REVIEW	AJC	RA



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SHEET TITLE:

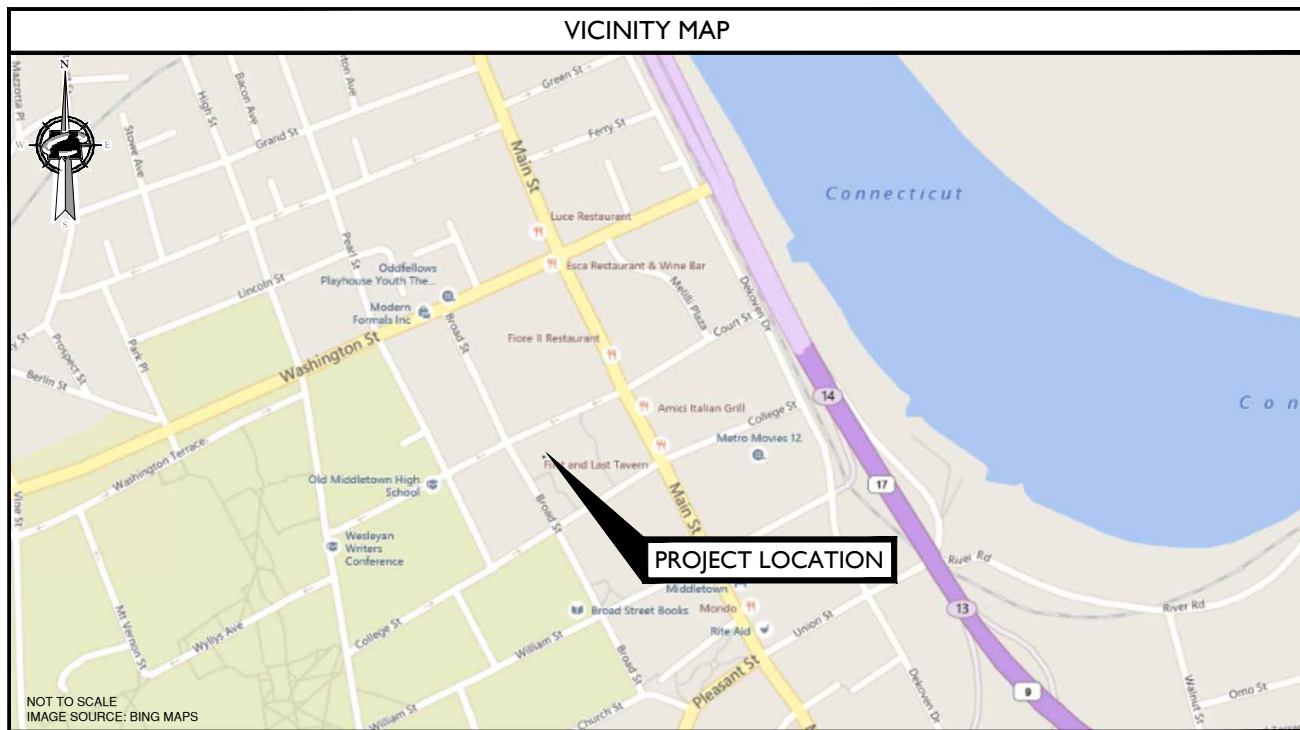
TITLE SHEET

SHEET NUMBER:

T-1

PROJECT TEAM	
CLIENT REPRESENTATIVE	
COMPANY:	EMPIRE TELECOM
ADDRESS:	16 ESQUIRE ROAD
CITY, STATE, ZIP:	BILLERICA, MA 01862
CONTACT:	DAVID COOPER
E-MAIL:	DCOOPER@EMPIRETEL.COM
ENGINEER	
COMPANY:	MASER CONSULTING CONNECTICUT
ADDRESS:	331 NEWMAN SPRINGS ROAD, SUITE 203
CITY, STATE, ZIP:	RED BANK, NJ 07701
CONTACT:	MICHAEL CLEARY
PHONE:	(856) 717-0412 x4105
E-MAIL:	MICLEARY@MASERCONSULTING.COM
RF ENGINEER	
COMPANY:	NEW CINGULAR WIRELESS PCS, LLC
ADDRESS:	550 COCHITUATE ROAD
CITY, STATE, ZIP:	FRAMINGHAM, MA 01701
CONTACT:	FATAH
E-MAIL:	FF5901@ATT.COM

SITE INFORMATION	
APPLICANT/LESSEE	
NEW CINGULAR WIRELESS PCS, LLC 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
TOWER OWNER:	
NAME:	MIDDLESEX MUTUAL INSURANCE
ADDRESS:	213 COURT STREET
CITY, STATE, ZIP:	MIDDLETOWN, CT 06457
LATITUDE:	41.5594639° N
LONGITUDE:	72.651081° W
LAT/LONG. TYPE:	NAD 83
AREA OF CONSTRUCTION:	EXISTING EQUIPMENT ROOM AND ROOFTOP
ZONING/JURISDICTION:	CITY OF MIDDLETOWN
CURRENT USE/PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY
HANDICAP REQUIREMENTS:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.
CONSTRUCTION TYPE:	IIB
USE GROUP:	U



DRIVING DIRECTIONS	
DIRECTIONS FROM AT&T OFFICE AT 550 COCHITUATE ROAD, FRAMINGHAM, MA:	
GET ON I-90 WEST/MASSACHUSETTS TURNPIKE. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK. FOLLOW SIGNS FOR INTERSTATE 90 WEST/MASSACHUSETTS TURNPIKE/WORCHESTER/SPRINGFIELD AND MERGE ONTO I-90 W/MASSACHUSETTS TURNPIKE. CONTINUE ON I-90 W/MASSACHUSETTS TURNPIKE. TAKE I-84 TO WASHINGTON STREET IN MIDDLETOWN. MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. USE THE RIGHT 2 LANES TO TAKE EXIT 9 FOR I-84 TOWARD US-20/HARTFORD/NEW YORK CITY. CONTINUE ONTO I-84. USE THE LEFT 2 LANES TO TAKE EXIT 57 FOR CT-15 S TOWARD I-91 SOUTH/CHARTER OAK BRIDGE/N.Y. CITY. CONTINUE ONTO CT-15 SOUTH/US-5 SOUTH. TAKE EXIT 86 TO MERGE ONTO I-91 S TOWARD NEW HAVEN/NEW YORK CITY. USE THE LEFT LANE TO TAKE EXIT 225 TO MERGE ONTO CT-9 S TOWARD MIDDLETOWN/OLD SAYBROOK. FOLLOW DEKOVEN DRIVE TO COURT STREET. TURN RIGHT ONTO WASHINGTON STREET. TURN LEFT ONTO DEKOVEN DRIVE. TURN RIGHT ONTO COURT STREET.	

CODE COMPLIANCE	
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. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.	
1. 2016 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE 2012 IBC	7. EIA/TIA-222 REVISION G
2. 2014 NATIONAL ELECTRICAL CODE-NFPA 70	8. TIA 607 FOR GROUNDING
3. 2012 NFPA 101	9. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81
4. LIGHTNING PROTECTION CODE 2011	10. IEEE C2 LATEST EDITION
5. AMERICAN CONCRETE INSTITUTE 318	11. TELCORDIA GR-1275
6. AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-10	12. ANSI T1.311

GENERAL CONTRACTOR NOTES	
DO NOT SCALE DRAWINGS	
CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.	

GENERAL NOTES	
THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.	

SHEET	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
A-1	ROOFTOP AND EQUIPMENT PLAN
A-2	ELEVATION VIEW, DETAILS AND ANTENNA SCHEDULE
A-3	ANTENNA LAYOUTS
A-4	DETAILS
A-5	RF PLUMBING DIAGRAMS
G-1	GROUNDING DETAILS

PROJECT DESCRIPTION/SCOPE OF WORK	
THIS PROJECT WILL BE COMPRISED OF:	
<ul style="list-style-type: none"> (3) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS, (1) PER SECTOR INSTALL (3) NEW RRUS-12, AT GRADE INSTALL (3) NEW RRUS-E2, AT GRADE INSTALL (2) NEW RRUS-B14 4478, AT GRADE INSTALL (3) NEW RRUS-32 B66, AT GRADE REPLACE EXISTING TMA'S WITH NEW TMA'S, TYP. OF 6, 2 PER SECTOR REPLACE EXISTING DIPLEXERS WITH NEW QUADPLEXERS AND TRIPLEXERS (AT GRADE) UPGRADE DUS WITH (2) 5216, ADD IDLE AND ADD (1) XMU ADD SURGE ARRESTORS TO RRUS, AT GRADE 	

Project: 0171793.000A 17963016A.ctb 01/03/2018 4:00:00 PM 17963016A.ctb Rev. 4.dwg



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NEW CINGULAR WIRELESS PCS, LLC
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

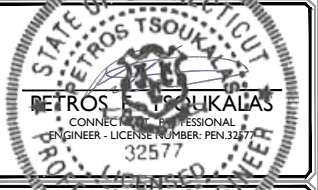


16 ESQUIRE ROAD
 BILLERICA, MA 01862

811 PROTECT YOURSELF
 ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE.
 Know what's below.
 Call before you dig.
 FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE:	JOB NUMBER:
AS SHOWN	17963016A

REV	DATE	DESCRIPTION	DRAWN	CHECKED BY
0	04/09/18	FOR CONSTRUCTION	AJC	RA
4	03/08/18	REVISED PER COMMENTS	AJC	PET
3	03/01/18	FOR CONSTRUCTION	AJC	PET
2	02/09/18	REVISED PER COMMENTS	RA	RA
1	01/19/18	ISSUED FOR REVIEW	AJC	RA



IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO PERFORM ANY OF THE ABOVE LISTED ACTIVITIES.

SITE NAME:

MIDDLETOWN CORP CTR
 FA#:10035254
 SITE #: CT1017
 213 COURT STREET
 MIDDLETOWN, CT 06457
 MIDDLESEX COUNTY

RED BANK OFFICE
 331 Newnan Springs Road
 Suite 203
 Red Bank, NJ 07701-5699
 Phone: 732.383.1950
 Fax: 732.383.1984

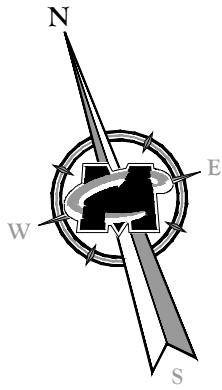
SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
GN-1

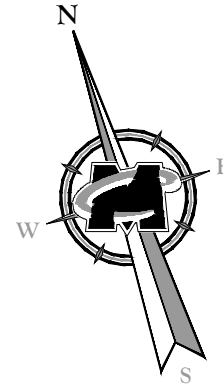
GENERAL NOTES:

- THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 50 HNS OR LESS.
- THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS, WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - EMPIRE TELECOM
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)
- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

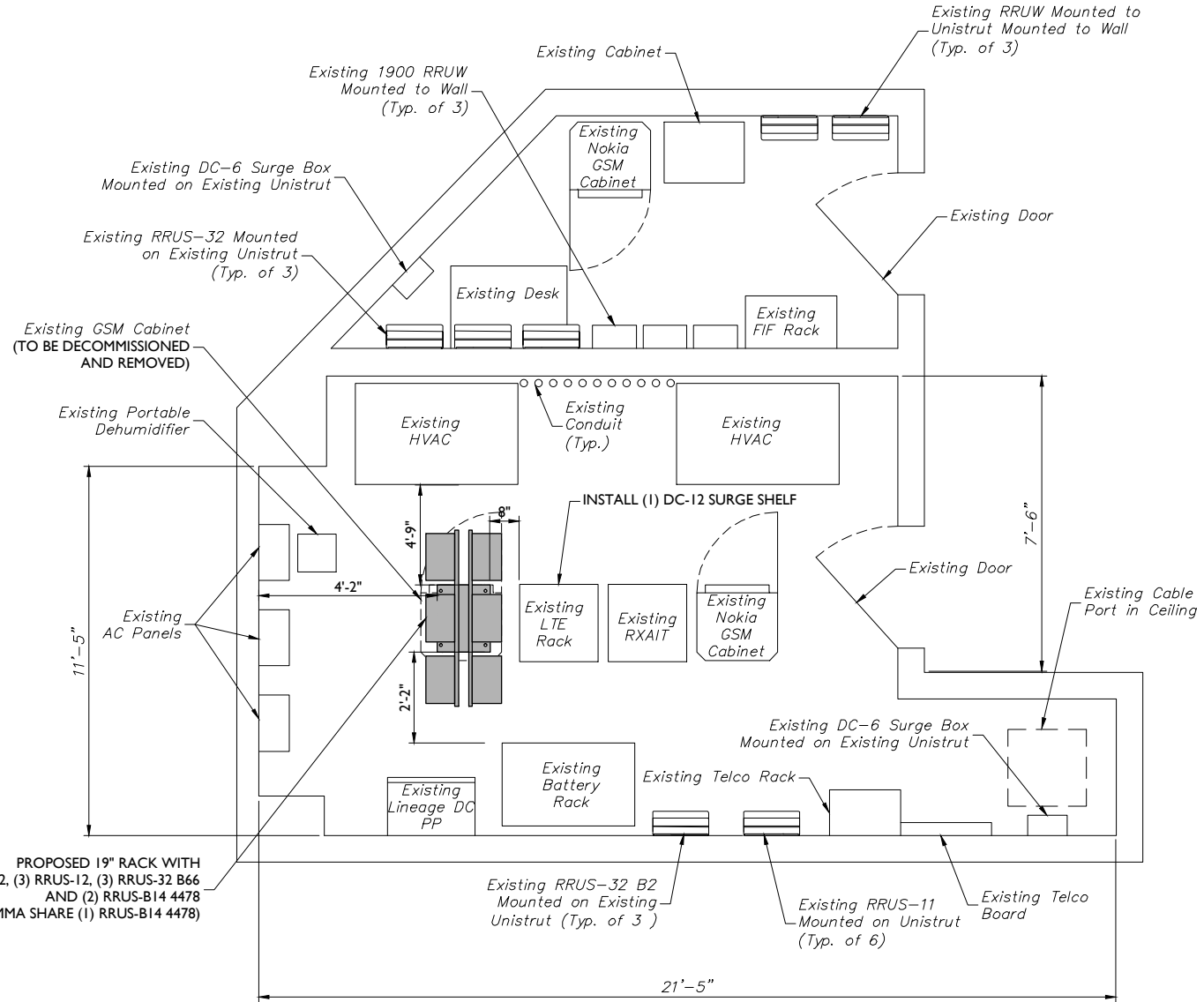
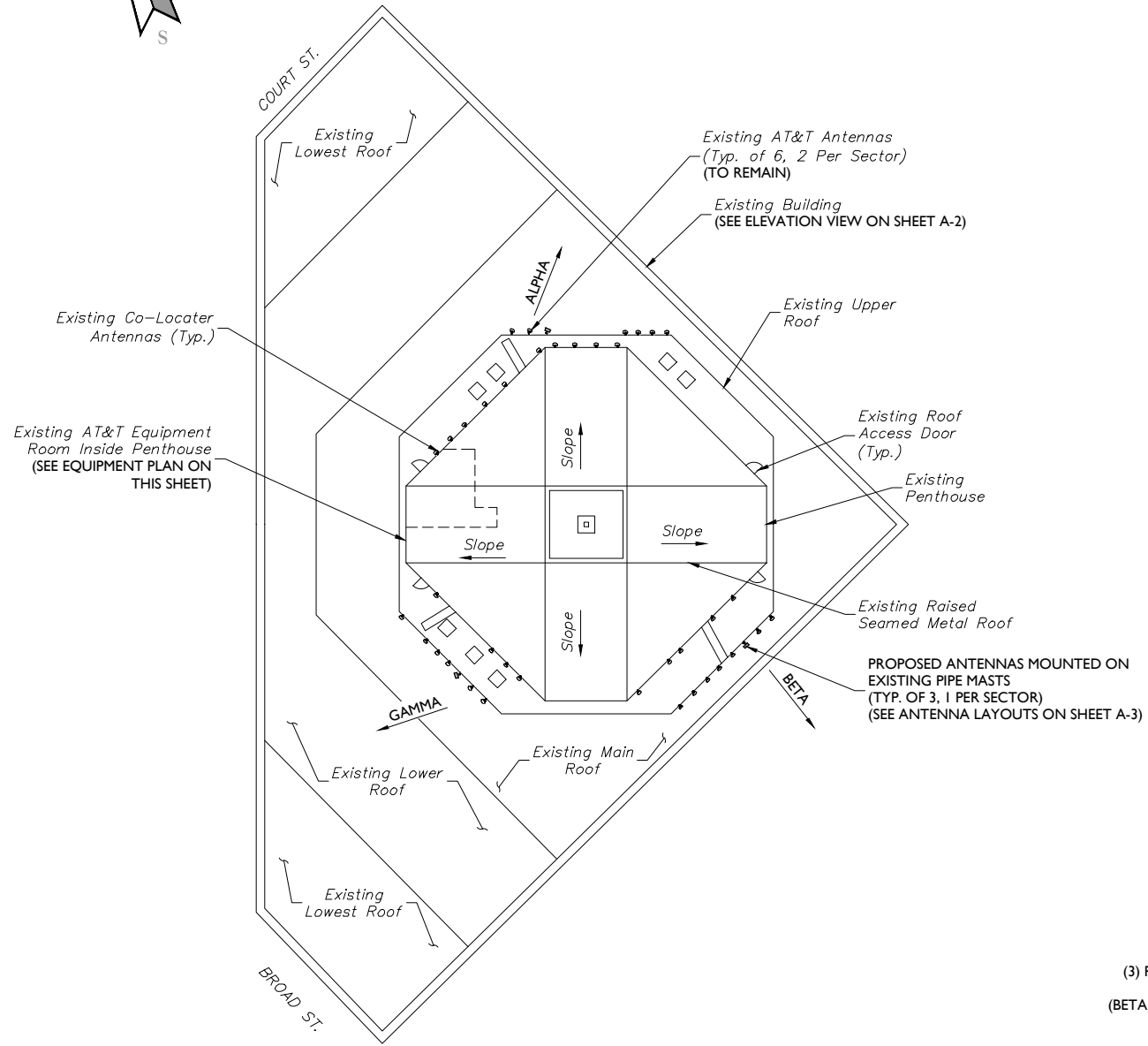
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING 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 THE RESPONSIBLE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL EXISTING 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, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
- 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.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
- ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.



NOTE:
 SITE INFORMATION OBTAINED FROM THE FOLLOWING:
 A. PLAN ENTITLED "MIDDLETOWN - CORP CTR" PREPARED BY MASER CONSULTING P.A., LAST REVISED 08/04/16.
 B. LIMITED FIELD OBSERVATION BY MASER CONSULTING P.A. ON 09/01/15.



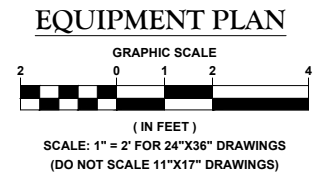
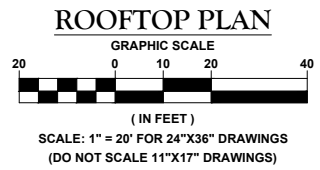
REPLACE (18) EXISTING DIPLEXERS WITH PROPOSED (12) NEW QUADPLEXERS AND (6) NEW TRIPLEXERS



PROPOSED 19" RACK WITH (3) RRUS-32, (3) RRUS-12, (3) RRUS-32 B66 AND (2) RRUS-B14 4478 (BETA & GAMMA SHARE (1) RRUS-B14 4478)

UPGRADE DUS TO (2) 5216, ADD IDLe AND ADD (1) XMU IN EXISTING LTE RACK

NOTE:
 THESE PLANS WERE DESIGNED WITH THE ASSUMPTION THAT THE PREVIOUS PLANS PREPARED BY MASER CONSULTING CONNECTICUT DATED 08/04/16 WILL BE COMPLETED PRIOR TO THE CURRENT SCOPE OF WORK BEING INSTALLED. ANY CHANGES IN PREVIOUS DESIGN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.



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NEW CINGULAR WIRELESS PCS, LLC
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701



16 ESQUIRE ROAD
 BILLERICA, MA 01862



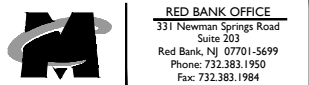
SCALE:	JOB NUMBER:
AS SHOWN	17963016A

REV	DATE	DESCRIPTION	DRAWN	CHECKED
0	04/09/18	FOR CONSTRUCTION	AJC	RA
4	03/08/18	REVISED PER COMMENTS	AJC	PET
3	03/01/18	FOR CONSTRUCTION	AJC	PET
2	02/09/18	REVISED PER COMMENTS	RA	RA
1	01/19/18	ISSUED FOR REVIEW	AJC	RA



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SITE NAME:
 MIDDLETOWN CORP CTR
 FA#:10035254
 SITE #: CT1017
 213 COURT STREET
 MIDDLETOWN, CT 06457
 MIDDLESEX COUNTY



SHEET TITLE:
ROOFTOP AND EQUIPMENT PLAN

SHEET NUMBER:
A-1

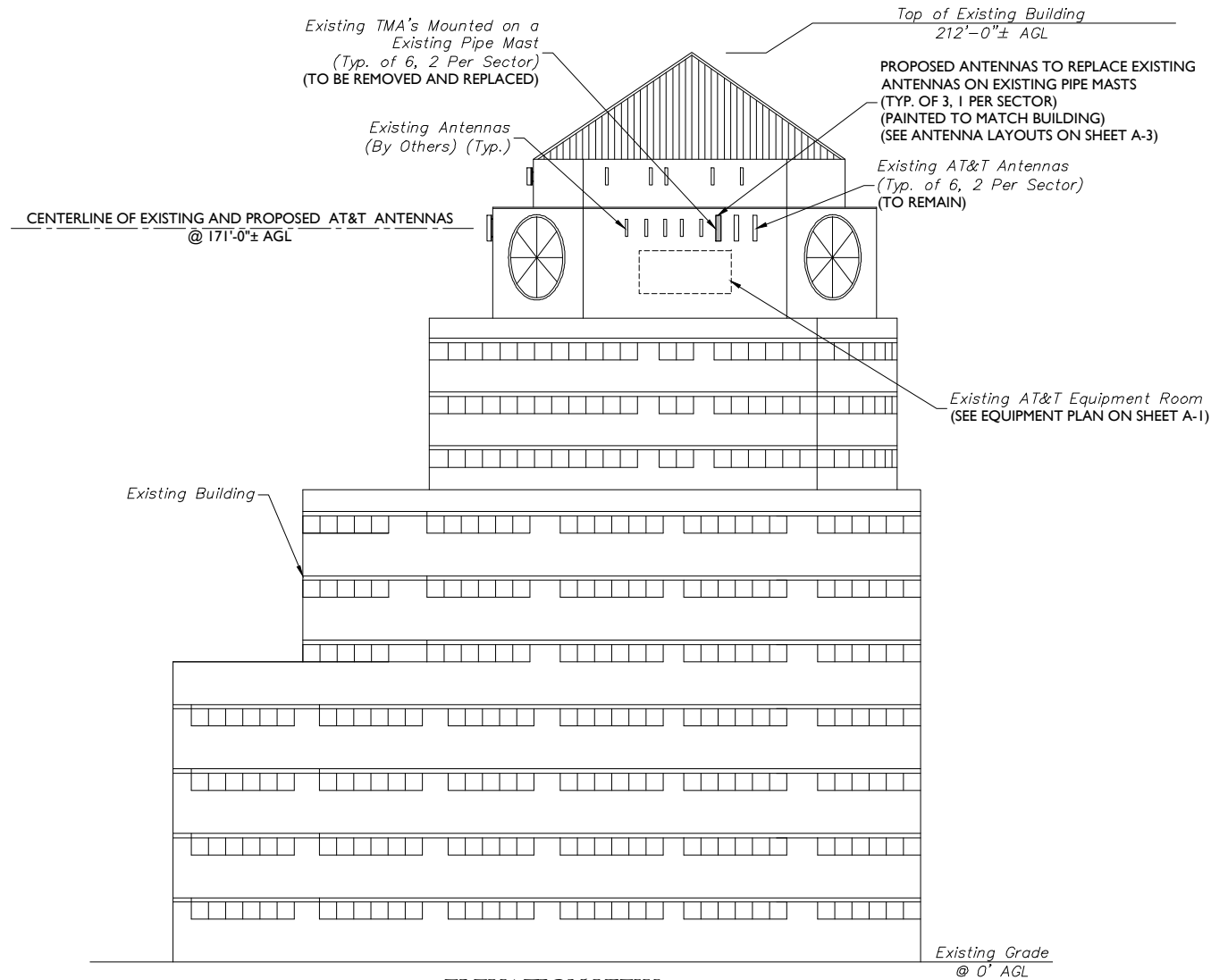
3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE

NOTE:

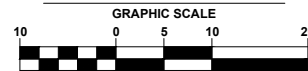
700 BAND 14 IS BEING PLUMED USING THE UMTS PANELS BUT SHOULD BE MOUNTED / COLOR CODED TO FOLLOW THE LTE ORIENTATION/ SECTOR DESIGNATION.

PROPOSED ANTENNA AND RRUS CONFIGURATION															
SECTOR	EXISTING ANTENNA CONFIGURATION	PROPOSED ANTENNA CONFIGURATION	TECHNOLOGY	ANTENNA STATUS	HEIGHT (in)	WIDTH (in)	DEPTH (in)	WEIGHT (lbs)	ANTENNA AZIMUTH	ANT. CL. ELEV. (ft.)	RRUS/TMA CONFIGURATION	STATUS	FEEDER COUNT	FEEDER TYPE	FEEDER STATUS
ALPHA	A1	Quintel QS66512-2	LTE	RELOCATE	72.00	12.00	9.60	111.00	40°	171'	(4) 5PX-0726-O DIPLEXER (GRADE) (2) TMA2117F00V1-V (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN NEW	4	7/8" COAX	REMAIN
	A2	KMW AM-X-CD-16-65-00T-RET	UMTS	RELOCATE	72.00	11.80	5.90	48.50	160°	171'	(2) TPX-070821 DIPLEXER (GRADE) (1) DTMANP7819VG12A TMA (1) RRUS-B14 4478	REMAIN REMAIN NEW	2	7/8" COAX	REMAIN
	A4	KMW AM-X-CD-16-65-00T-RET	LTE	NEW	72	14.8	7.4	73	40°	171'	(4) QBC0007F1V51-1 DIPLEXER (GRADE) (2) TMABPD7823VG12A (1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN REMAIN NEW NEW	4	7/8" COAX	REMAIN
BETA	B1	Quintel QS66512-2	LTE	RELOCATE	72.00	12.00	9.60	111.00	160°	171'	(4) 5PX-0726-O DIPLEXER (GRADE) (2) TMA2117F00V1-V (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN REMAIN NEW	4	7/8" COAX	REMAIN
	B2	KMW AM-X-CD-16-65-00T-RET	UMTS	RELOCATE	72.00	11.80	5.90	48.50	270°	171'	(2) TPX-070821 DIPLEXER (GRADE) (1) DTMANP7819VG12A TMA (1) RRUS-B14 4478	REMAIN REMAIN NEW	2	7/8" COAX	REMAIN
	B4	KMW AM-X-CD-16-65-00T-RET	LTE	NEW	72	14.8	7.4	73	160°	171'	(4) QBC0007F1V51-1 DIPLEXER (GRADE) (2) TMABPD7823VG12A (1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN REMAIN NEW NEW	4	7/8" COAX	REMAIN
GAMMA	C1	Quintel QS66512-2	LTE	RELOCATE	72.00	12.00	9.60	111.00	270°	171'	(4) 5PX-0726-O DIPLEXER (GRADE) (2) TMA2117F00V1-V (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-E2 (AT GRADE)	REMAIN REMAIN REMAIN NEW	4	7/8" COAX	REMAIN
	C2	KMW AM-X-CD-16-65-00T-RET	UMTS	RELOCATE	72.00	11.80	5.90	48.50	40°	171'	(2) TPX-070821 DIPLEXER (GRADE) (1) DTMANP7819VG12A TMA (1) RRUS-B14 4478	REMAIN SHARED WITH BETA SECTOR	2	7/8" COAX	REMAIN
	C4	KMW AM-X-CD-16-65-00T-RET	LTE	NEW	72	14.8	7.4	73	270°	171'	(4) QBC0007F1V51-1 DIPLEXER (GRADE) (2) TMABPD7823VG12A (1) RRUS-11 (1) RRUS-12 (AT GRADE) (1) RRUS-32 B66	REMAIN REMAIN NEW NEW	4	7/8" COAX	REMAIN

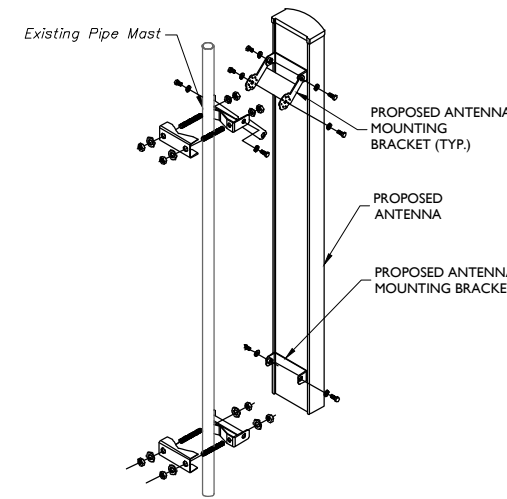
ANTENNA SCHEDULE



ELEVATION VIEW

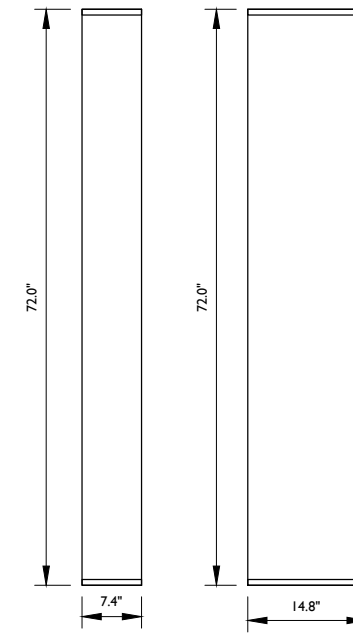


SCALE: 1" = 10' FOR 24"x36" DRAWINGS
(DO NOT SCALE 11"x17" DRAWINGS)



ANTENNA MOUNTING DETAIL

NOT TO SCALE



WEIGHT = 73.0 LBS
CCI OPA-65R-LCUU-H6

ANTENNA DETAIL

NOT TO SCALE

STRUCTURAL NOTES:

- NO CONSTRUCTION OF THE PROPOSED LOADING SHOWN SHALL PROCEED UNTIL ADEQUACY OF THE EXISTING STRUCTURE AND FOUNDATION, INCLUDING THE PROPOSED AT&T ANTENNA MOUNTING CONFIGURATION SHOWN HEREIN, HAS BEEN COMPLETED.
- THE STRUCTURE ELEVATION IS SHOWN FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REFLECT AS-BUILT FIELD CONDITIONS FOR ALL EXISTING INVENTORY LOADING/ANTENNAS/APPURTANANCES ON STRUCTURE. REFER TO THE LATEST STRUCTURAL ANALYSIS FOR EXISTING STRUCTURE LOADING AND THE PROPOSED METHOD OF ATTACHMENT OF THE PROPOSED ANTENNAS/CABLES.
- THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY IMPROVEMENTS AND REINFORCEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, CABLES, SUPPORTS AND APPURTANANCES PROPOSED ON THESE DRAWINGS OR OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.

NOTE:

THESE PLANS WERE DESIGNED WITH THE ASSUMPTION THAT THE PREVIOUS PLANS PREPARED BY MASER CONSULTING CONNECTICUT DATED 02/18/16 WILL BE COMPLETED PRIOR TO THE CURRENT SCOPE OF WORK BEING INSTALLED. ANY CHANGES IN PREVIOUS DESIGN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.



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SCALE: AS SHOWN JOB NUMBER: 17963016A

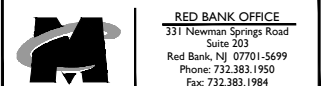
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4	03/08/18	REVISED PER COMMENTS	AJC	PET
3	03/01/18	FOR CONSTRUCTION	AJC	PET
2	02/09/18	REVISED PER COMMENTS	RA	RA
1	01/19/18	ISSUED FOR REVIEW	AJC	RA



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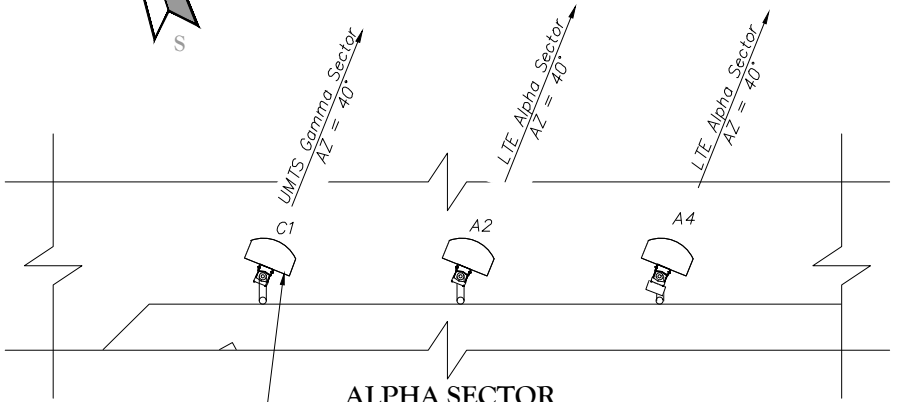
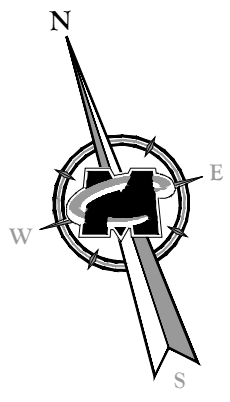


RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE: ELEVATION VIEW, DETAILS AND ANTENNA SCHEDULE

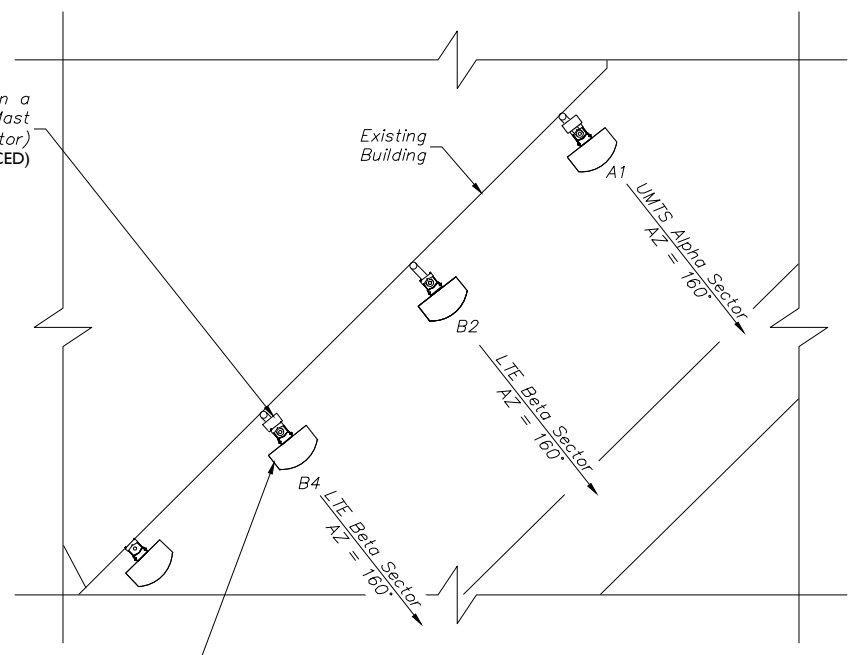
SHEET NUMBER: A-3

3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE



Existing AT&T Antennas
(Typ. of 6, 2 Per Sector)
(EXISTING LTE & UMTS ANTENNAS
ARE TO SWAP POSITIONS TO CREATE
REQUIRED SEPARATION)

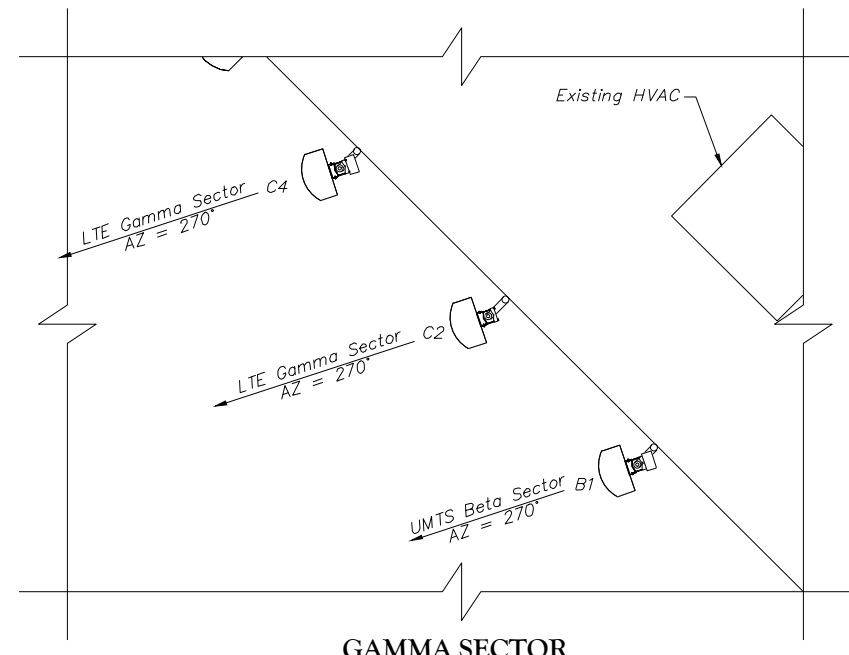
ALPHA SECTOR



Existing TMA's Mounted on a
Existing Pipe Mast
(Typ. of 6, 2 Per Sector)
(TO BE REMOVED AND REPLACED)

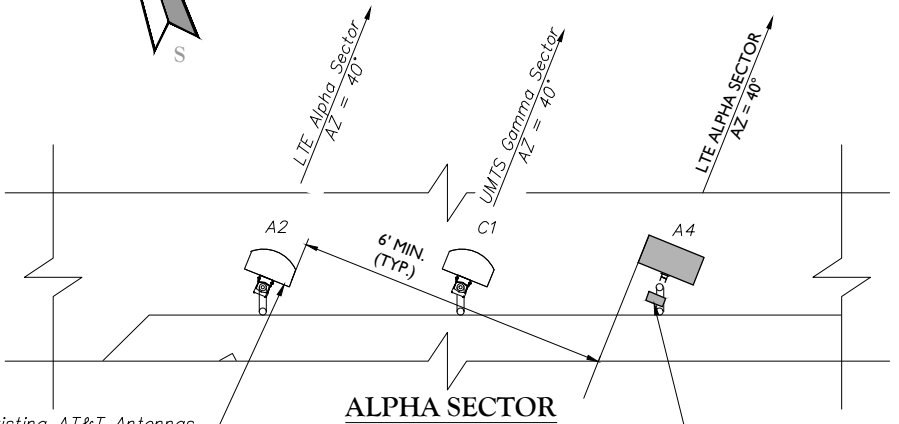
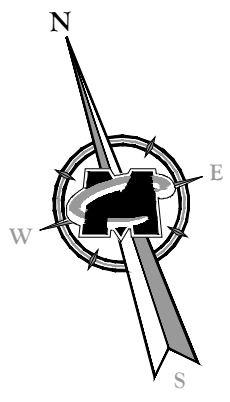
Existing AT&T Antennas
(Typ. of 3, 1 Per Sector)
(TO BE REMOVED AND REPLACED)

BETA SECTOR



GAMMA SECTOR

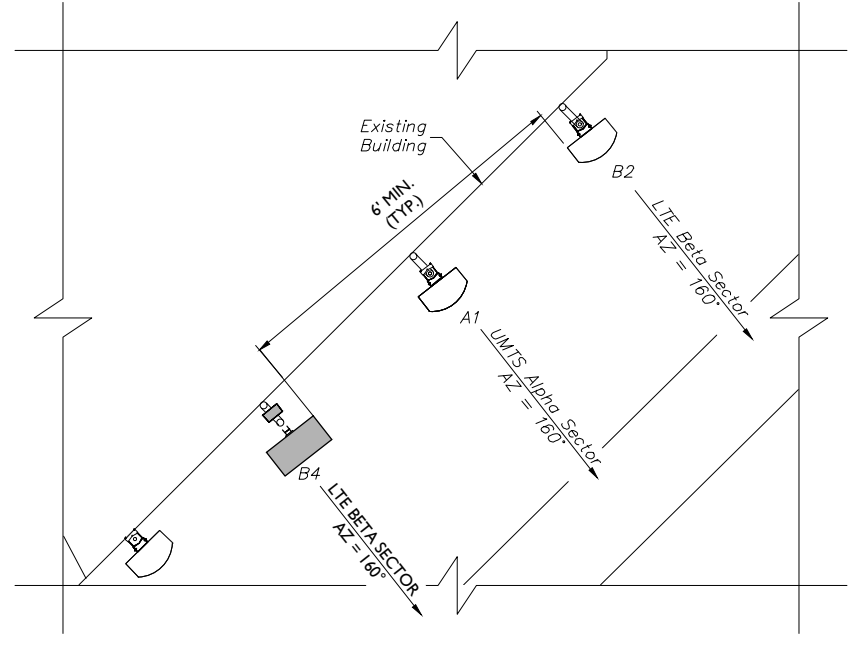
EXISTING - ANTENNA LAYOUT
NOT TO SCALE



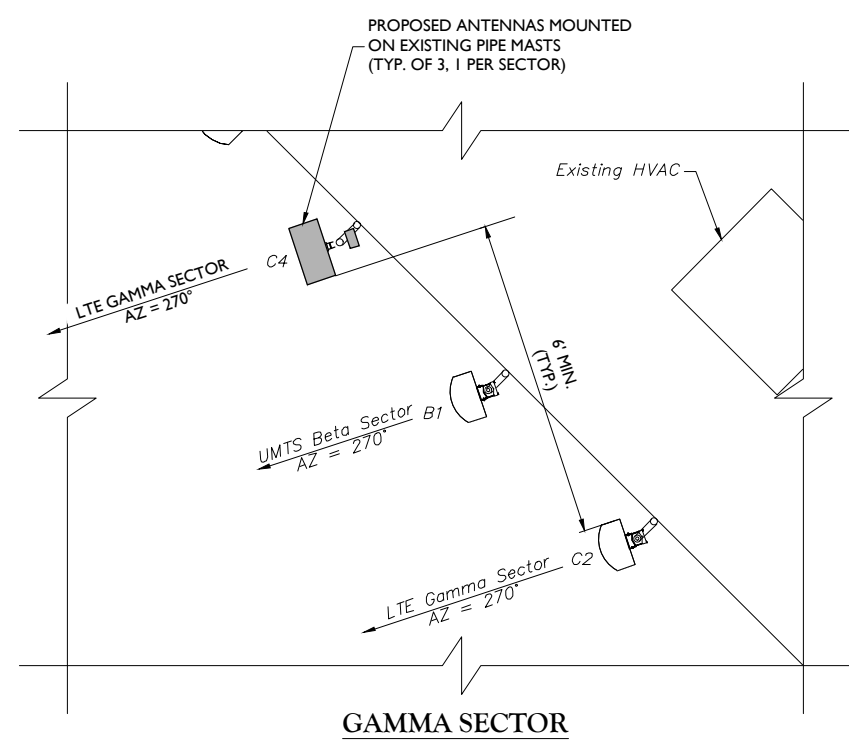
Existing AT&T Antennas
(Typ. of 6, 2 Per Sector)
(TO REMAIN)

PROPOSED TMA'S MOUNTED ON
AN EXISTING PIPE MAST
(TYP. OF 6, 2 PER SECTOR)

ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR

PROPOSED - ANTENNA LAYOUT
NOT TO SCALE

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SCALE:	JOB NUMBER:
AS SHOWN	17963016A
0	04/09/18 FOR CONSTRUCTION AJC RA
4	03/08/18 REVISED PER COMMENTS AJC PET
3	03/01/18 FOR CONSTRUCTION AJC PET
2	02/09/18 REVISED PER COMMENTS RA RA
1	01/19/18 ISSUED FOR REVIEW AJC RA
REV	DATE DESCRIPTION DRAWN CHECKED BY

STATE OF CONNECTICUT
PETROS TSOUKALAS
REGISTERED PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN 32577

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Fax: 732.383.1984

SHEET TITLE:
ANTENNA LAYOUTS
SHEET NUMBER:
A-3

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SCALE:	JOB NUMBER:			
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3	03/01/18	FOR CONSTRUCTION	AJC	PET
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1	01/11/18	ISSUED FOR REVIEW	AJC	RA

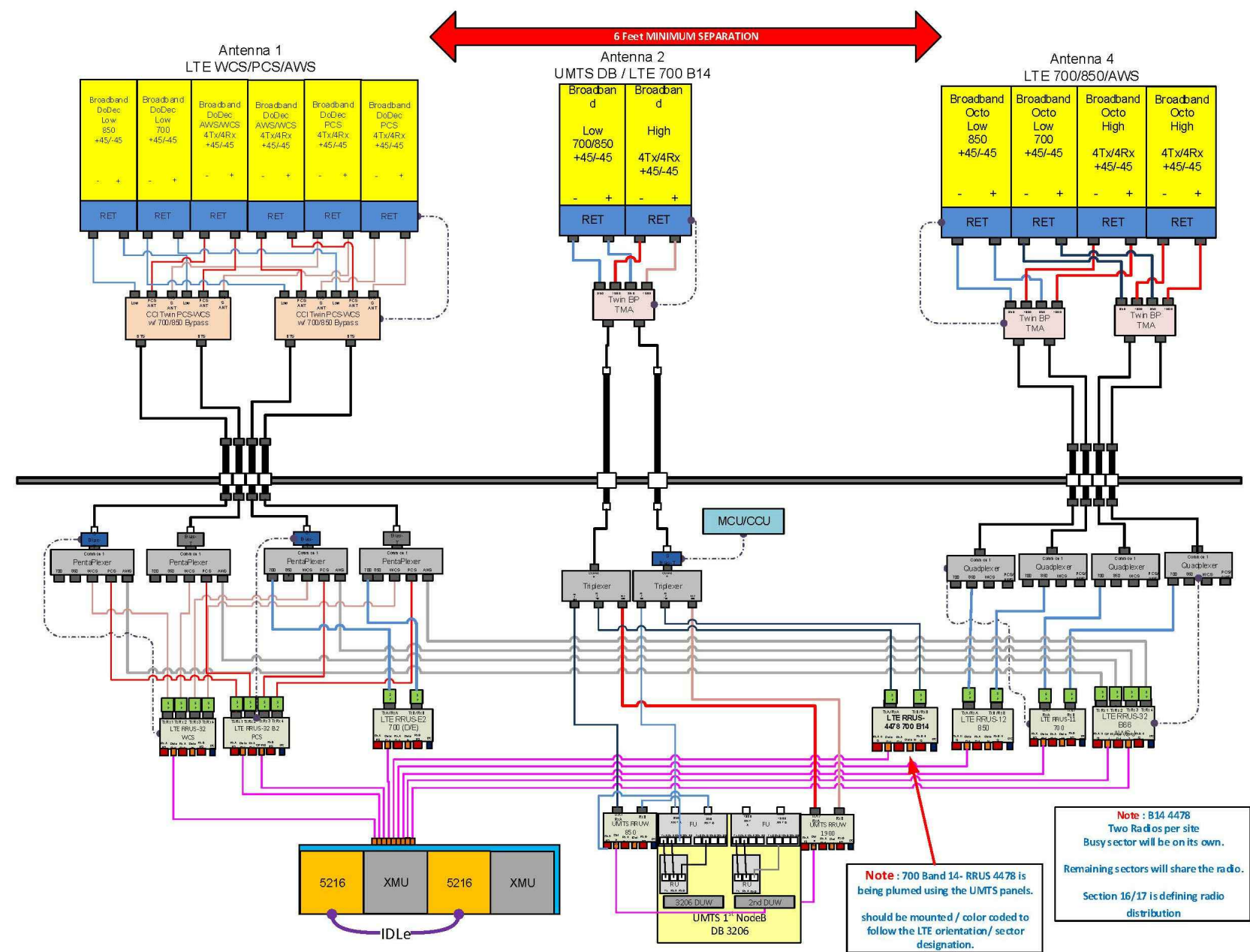


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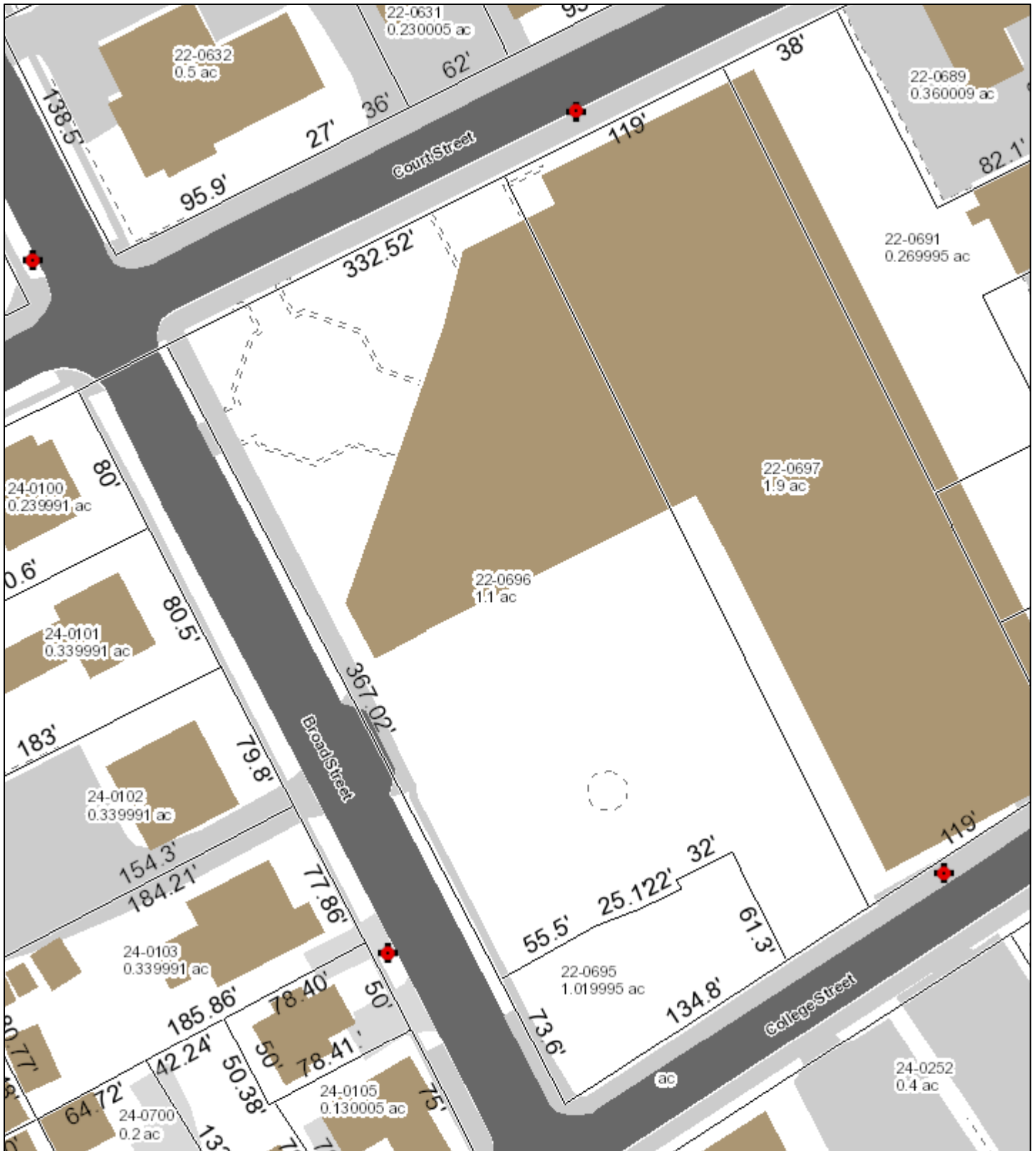
Diagram - Sector A Diagram File Name - CT1017_A_B_C_LTE7C_Rev4.0 vsd
 Atoll Site Name - CTL01017 Location Name - MIDDLETOWN CORP CTR Market - CONNECTICUT Market Cluster - NEW ENGLAND
 Comments: "Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/radio Port connections Field Notice (RF-HW-2016-265)"



ALL SECTORS

BASED ON: "NEW-ENGLAND_CONNECTICUT_CTL01017_2018-LTE-Next-Carrier_LTE_om636a_2051A0AFVN_10035254_59337_05-30-2017_Final-Approved_v4.00" Last Updated: 02/20/18

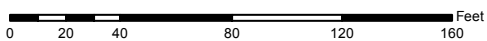
RF PLUMBING DIAGRAMS



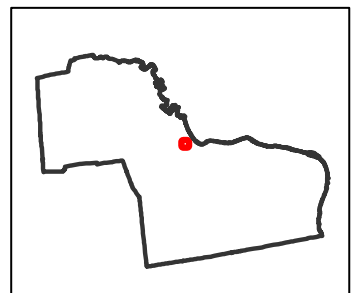
City of Middletown, Connecticut

Map generated 4/16/2018

Map Legend: <http://gis.cityofmiddletown.com/middletownct/legend.pdf>
 Property Card: <http://gis.vgsi.com/MiddletownCT/Parcel.aspx?pid=889>



1 in = 69 ft



MAP FOR REFERENCE ONLY - NOT A LEGAL DOCUMENT

Because of different update schedules, current property assessments may not reflect recent changes to property boundaries. Check with the Board of Assessors to confirm boundaries uses at the time of assessment.