Michael Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02739
Mobile: (508) 844-9813
mgentile@clinellc.com

December 21, 2018

EM-CING-076-181226

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

RE: Notice of Exempt Modification // Site Number: CT2178
8 Old Route 79, Madison, CT (Site Name: Norfolk – MADISON PD)
N 41.28553889 // W -72.60134722

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains nine (9) antennas at the 132-foot level of the existing 150-foot guyed tower at 8 Old Route 79, Madison, CT. The tower is owned by American Tower Corporation. The property is owned by CK Builders LLC. AT&T now intends to replace three (3) new LTE models for its LTE upgrade. These antennas would be installed at the 132-foot level of the tower. AT&T also intends to install six (6) small RRUS (radios), as well as one (1) DC Surge Arrestor and associated two (2) DC and one (1) Fiber cables.

AT&T was originally approved for nine (9) antennas on May 16, 2011.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Tom Banisch, First Selectman for the Town of Madison, as well as the tower owner, American Tower, and the Ground owner, CK Builders LLC.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

Attached to accommodate this filing are construction drawings dated December 20, 2018, by Hudson Design Engineering, a structural analysis dated December 17, 2018 by American Tower Corporation, a Mount Analysis dated December 17, 2018, by Hudson Design Group and an Emissions Analysis Report dated November 30, 2018, by Centerline Communications, LLC.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the 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 exceed state and local criteria.

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 as shown in the attached structural analysis by American Tower Engineering, dated December 17, 2018.

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

Sincerely,

Michael Gentile, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02739
Mobile: (508) 844-9813
mgentile@centerlincommunications.com

cc: Tom Banisch, First Selectman, Town of Madison - as elected official
American Tower Corporation - as tower owner
CK Builders LLC – as property owner
Town of Madison, Building and Zoning

8 OLD ROUTE 79

Location 8 OLD ROUTE 79 **MBLU** 48/ 53/ / /

Acct# 00321200 **Owner** CK BUILDERS LLC

Assessment $299,500 **Appraisal** $427,700

PID 3310 **Building Count** 1

Current Value

Appraisal					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2018	$0	$0	$22,500	$405,200	$427,700
Assessment					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2018	$0	$0	$15,800	$283,700	$299,500

Parcel Addreses

Additional Addresses		
Address	**City, State Zip**	**Type**
8 OLD ROUTE 79		Primary

Owner of Record

Owner CK BUILDERS LLC
Co-Owner
Care Of

Sale Price $0
Book & Page 1340/ 270
Sale Date 12/21/2004
Instrument 15

Ownership History

Ownership History				
Owner	**Sale Price**	**Book & Page**	**Instrument**	**Sale Date**
CK BUILDERS LLC	$0	1340/ 270	15	12/21/2004
TOWN OF MADISON	$0	136/ 597		

Building Information

Building 1 : Section 1

Year Built:

Building Photo

Living Area: 0

Building Attributes	
Field	**Description**
Style	Vacant Land
Model	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Fireplace(s)	
Xtra FPL Open	

(http://images.vgsi.com/photos/MadisonCTPhotos//\01\00\81/09

Building Layout

(http://images.vgsi.com/photos/MadisonCTPhotos//Sketches/331

Building Sub-Areas (sq ft)
No Data for Building Sub-Areas

Extra Features

Extra Features
No Data for Extra Features

Land

Land Use

Use Code 4310
Description TEL REL TW
Zone R-1

Land Line Valuation

Size (Acres) 1.02

Outbuildings

Outbuildings

Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FND	Foundation			1 UNITS	$22,500	1

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2178

FA#: 10035220

Madison PD
Old Route 79
Madison, CT 06443

December 3, 2018

Centerline Communications Project Number: 950012-190

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**14.65 %**

December 3, 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: **CT2178 – Madison PD**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **Old Route 79, Madison, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. 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 **Old Route 79, Madison, 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 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
5G	850 MHz	2	30
LTE	700 MHz	2	60
LTE	2300 MHz (WCS)	2	60
LTE	850 MHz	2	60
LTE	1900 MHz (PCS)	2	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) 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-14-65-00T-RET	132
A	2	Kathrein 800-10964	132
A	3	Commscope SBNHH-1D65A	132
B	1	KMW AM-X-CD-14-65-00T-RET	132
B	2	Kathrein 800-10964	132
B	3	Commscope SBNHH-1D65A	132
C	1	KMW AM-X-CD-14-65-00T-RET	132
C	2	Kathrein 800-10964	132
C	3	Commscope SBNHH-1D65A	132

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-14-65-00T-RET	850 MHz	12.65	2	60	1,104.46	0.44
Antenna A2	Kathrein 800-10964	850 MHz / 700 MHz / 2300 MHz (WCS)	12.15 / 11.45 / 15.55	10	330	7,556.92	2.37
Antenna A3	Commscope SBNHH-1D65A	1900 MHz (PCS)	14.55	4	240	6,842.44	1.55
						Sector A Composite MPE%	**4.36**
Antenna B1	KMW AM-X-CD-14-65-00T-RET	850 MHz	12.65	2	60	1,104.46	0.44
Antenna B2	Kathrein 800-10964	850 MHz / 700 MHz / 2300 MHz (WCS)	12.15 / 11.45 / 15.55	10	330	7,556.92	2.37
Antenna B3	Commscope SBNHH-1D65A	1900 MHz (PCS)	14.55	4	240	6,842.44	1.55
						Sector B Composite MPE%	**4.36**
Antenna C1	KMW AM-X-CD-14-65-00T-RET	850 MHz	12.65	2	60	1,104.46	0.44
Antenna C2	Kathrein 800-10964	850 MHz / 700 MHz / 2300 MHz (WCS)	12.15 / 11.45 / 15.55	10	330	7,556.92	2.37
Antenna C3	Commscope SBNHH-1D65A	1900 MHz (PCS)	14.55	4	240	6,842.44	1.55
						Sector C Composite MPE%	**4.36**

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	**4.36 %**
MetroPCS	1.06 %
Nextel	0.34 %
T-Mobile	0.83 %
Verizon Wireless	6.43 %
Town	0.04 %
Town Fire Dept	0.10 %
Sprint	1.49 %
Site Total MPE %:	**14.65 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	4.36 %
AT&T Sector B Total:	4.36 %
AT&T Sector C Total:	4.36 %
Site Total:	14.65 %

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 Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	552.23	132	2.50	850 MHz	567	0.44%
AT&T 850 MHz 5G	2	410.15	132	1.86	850 MHz	567	0.33%
AT&T 700 MHz LTE	2	558.55	132	2.53	700 MHz	467	0.54%
AT&T 2300 MHz (WCS) LTE	4	1,076.77	132	9.75	2300 MHz (WCS)	1000	0.98%
AT&T 850 MHz LTE	2	656.24	132	2.97	850 MHz	567	0.52%
AT&T 1900 MHz (PCS) LTE	4	1,710.61	132	15.49	1900 MHz (PCS)	1000	1.55%
						Total:	**4.36%**

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:	4.36 %
Sector B:	4.36 %
Sector C:	4.36 %
AT&T Maximum Total (per sector):	4.36 %
Site Total:	14.65 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **14.65 %** 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.

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.

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

December 17, 2018

CENTERLINE COMMUNICATIONS at&t

Centerline Communications, LLC
97 Ryan Drive Suite 1
Raynham, MA 02767

RE:		
	Site Number:	CT2178 (LTE 3C/4C)
	FA Number:	10035220
	PACE Number:	MRCTB033569
	PT Number:	2051A0JDAH
	Site Name:	MADISON PD
	Site Address:	Old Route 79 Madison, CT 06443

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline Communications, LLC to perform a mount analysis on the existing AT&T antenna/RRH mount to determine its capability of supporting the following loading:

- (3) AM-X-CD-14-65-00T-RET Antennas (48.0"x11.8"x5.9" – Wt. = 37 lbs. /each)
- (3) SBNHH-1D65A Antennas (55.6"x11.9"x7.1" - Wt. = 34 lbs. /each)
- (3) RRUS-12 RRH's (20.4"x18.5"x7.5" – Wt. = 58 lbs. /each)
- (3) A2 Modules (16.4"x15.2"x3.4" – Wt. = 22 lbs. /each)
- (3) TT19-08BP111-001 TMA's (9.9"x6.7"x5.4" - Wt. = 16 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7"Φ – Wt. = 33 lbs.) (tower mounted)
- **(3) 800-10964 Antennas (59.0"x20.0"x6.9" – Wt. = 84 lbs. /each)**
- **(3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each) (tower mounted)**
- **(3) 4449 B5/B12 RRH's (18.0"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7"Φ – Wt. = 33 lbs.) (tower mounted)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. Industrial Communications conducted a survey climb and mapping of the existing AT&T antenna mounts on December 10, 2016.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code Amendments and AT&T Mount Technical Directive – R11.

- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 115 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 0.75 in. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 130 mph converted to a nominal wind speed of 101 mph and an escalated ice thickness of 1.72 in was used for this analysis.

- HDG considers this site to be exposure category B; tower is located in an urban/suburban and wooded area with numerous closely spaced obstructions.

- HDG considers this site to be topographic category 1; tower is located in flat terrain.

- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 3.

- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

- The existing mount is secured to the existing monopole with ring mounts. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mount **IS CAPABLE** of supporting the proposed installation with the following modifications:

- **Install new handrail kit, SitePro1 P/N HRK14 (or approved equal). Handrail kit is required per AT&T Technical Directive to stabilize cantilevered antennas.**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Proposed (LTE 3C/4C) Mount Rating	3	LC2	77%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.

2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.

3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

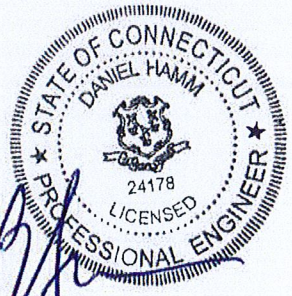
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.

5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.

6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC



Michael Cabral
Structural Dept. Head

Daniel P. Hamm, PE
Principal

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**148 ft Monopole**
ATC Site Name	:	**Madison CT 6, CT**
ATC Site Number	:	**302540**
Engineering Number	:	**OAA742859_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Madison PD**
Carrier Site Number	:	**CT2178**
Site Location	:	**8 Old 79** **Madison, CT 06443-2685** **41.285500,-72.601300**
County	:	**New Haven**
Date	:	**December 17, 2018**
Max Usage	:	**51%**
Result	:	**Pass**

Prepared By:
Christophe S. Quenum, E.I.
Structural Engineer I

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
Dec 18 2018 5:01 PM cosign

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

AMERICAN TOWER®
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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 148 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Summit, PJF Job #29299-729, dated November 12, 1999
Foundation Drawing	Spectrasite Project #F301896.00, dated August 13, 2003
Geotechnical Report	Dr. Clarence Welti, P.E., P.C., dated November 19, 1999

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	101 mph (3-Second Gust, V_{asd}) / 130 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.17, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
148.0	157.0	1	18' Dipole	Low Profile Platform	(12) 1 1/4" Coax (5) 7/8" Coax	Other
	153.0	1	8' Omni			
	152.0	1	8' Dipole			
	149.0	12	48" x 8" Panel			Sprint Nextel
140.0	140.0	3	Nokia AHCA AirScale RRH 4T4R B5 160W	Low Profile Platform	(11) 1 5/8" Coax (2) 1 5/8" Fiber	Verizon
		3	Alcatel-Lucent RRH4x30W-B25			
		3	Alcatel-Lucent B13 RRH4x30-4R			
		3	Alcatel-Lucent B66A RRH 4x45			
		2	RFS DB-T1-6Z-8AB-0Z			
		3	Andrew HBXX-6516DS-A2M			
		2	Andrew LNX-8513DS-A1M			
		1	Commscope LNX-6514DS-A1M			
		6	Commscope JAHH-65B-R3B			
132.0	132.0	6	Powerwave LGP13519	Low Profile Platform w/ Kickers	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	AT&T Mobility
		6	Powerwave TT19-08BP111-001			
		1	Raycap DC6-48-60-18-8F ("Squid")			
		3	Ericsson RRUS A2 B2			
		3	Ericsson RRUS-12 B2			
		3	KMW AM-X-CD-14-65-00T-RET			
		3	Commscope SBNHH-1D65A			
121.0	121.0	4	Ericsson KRY 112 144/1	Low Profile Platform	(16) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		4	Ericsson AIR 21, 1.3 M, B2A B4P			
		4	Ericsson AIR 21, 1.3M, B4A B2P			
112.0	112.0	6	6.7" x 10.7" TTA	Flush	-	Other
		3	48" x 12" Panel			
101.0	101.0	3	Alcatel-Lucent 800MHz 2X50W RRH w/ Filter	Platform w/ Handrails	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	RFS APXV9TM14-ALU-I20			
		3	RFS APXVSPP18-C-A20			
89.0	89.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	Metro PCS
75.0	75.0	1	GPS	Stand-Off	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
132.1	132.1	3	Ericsson RRUS 11 (Band 12) (55 lb)	-	-	AT&T Mobility
132.0	132.0	3	Powerwave 7770.00			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
132.0	132.0	1	Raycap DC6-48-60-18-8F ("Squid")	Low Profile Platform w/ Kickers	(2) 0.78" 8 AWG 6 (1) 2" conduit (1) 0.39" Fiber Trunk	AT&T Mobility
		3	Ericsson Radio 4449 B13, B5			
		3	Ericsson RRUS 32 B30 (53 lbs)			
		3	Kathrein 80010964			

[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax outside the pole shaft. Stacking coax is not allowed.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	47%	Pass
Shaft	51%	Pass
Base Plate	41%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	5,050.0	6,817.5	3,420.2	50%
Shear (Kips)	47.0	63.5	31.8	50%

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
132.0	Raycap DC6-48-60-18-8F ("Squid")	AT&T Mobility	0.861	0.767
	Ericsson Radio 4449 B13, B5			
	Ericsson RRUS 32 B30 (53 lbs)			
	Kathrein Scala 80010964			

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

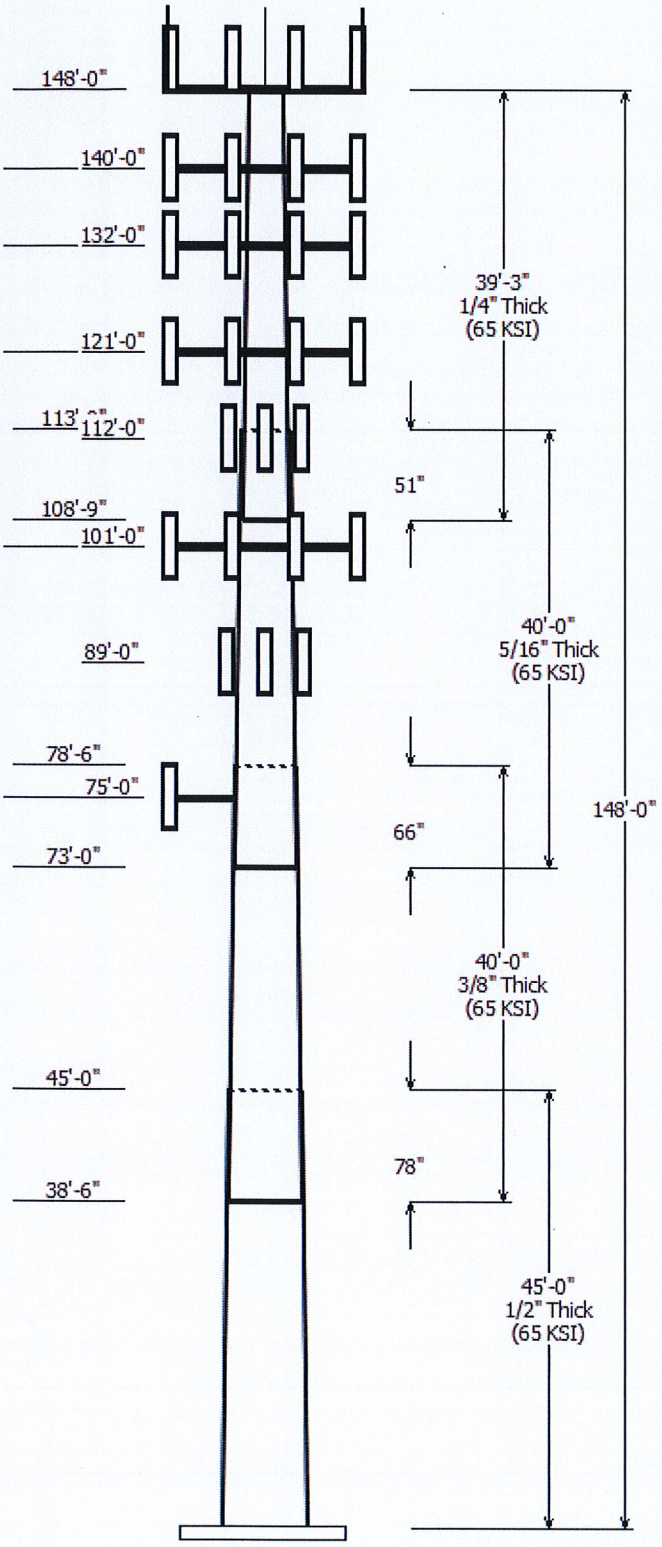
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

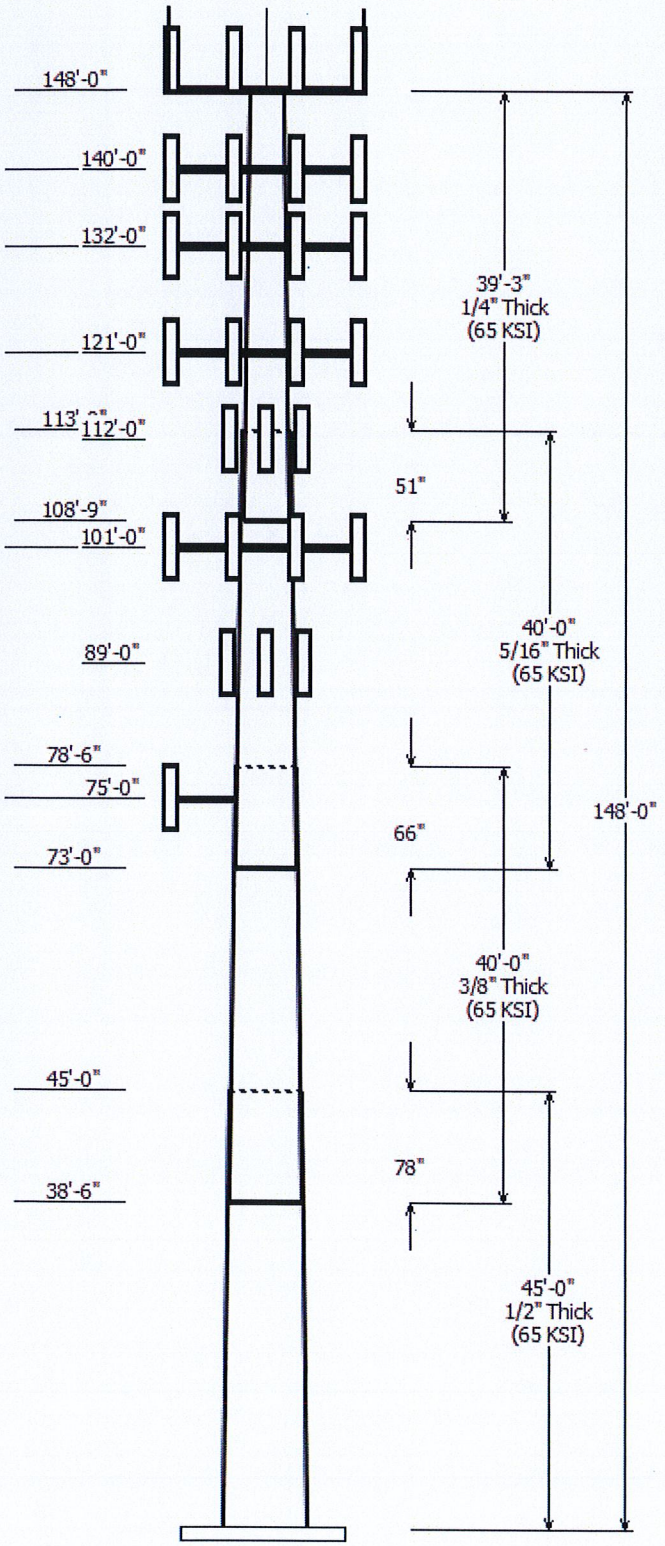
Pole :	302540	Code:	ANSI/TIA-222-G
Location :	Madison CT 6, CT		
Description :	148 ft Summit Monopole		
Client :	AT&T MOBILITY	Struct Class :	II
Shape :	18 Sides	Exposure :	B
Height :	148.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.263006 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	45.000	49.21	61.05	0.500		0.000	18 Sides	65
2	40.000	41.15	51.67	0.375	Slip Joint	78.000	18 Sides	65
3	40.000	32.70	43.22	0.313	Slip Joint	66.000	18 Sides	65
4	39.250	24.00	34.32	0.250	Slip Joint	51.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
148.000	157.000	1	18' Dipole
148.000	153.000	1	8' Omni
148.000	152.000	1	8' Dipole
148.000	149.000	12	48" x 8" Panel
148.000	148.000	1	Flat Low Profile Platform
140.000	140.000	3	Nokia AHCA AirScale RRH 4T4R
140.000	140.000	3	Alcatel-Lucent B13 RRH4x30-4R
140.000	140.000	3	Andrew HBXX-6516DS-A2M
140.000	140.000	3	Alcatel-Lucent B66A RRH 4x45
140.000	140.000	3	Alcatel-Lucent RRH4x30W-B25
140.000	140.000	2	RFS DB-T1-6Z-8AB-0Z
140.000	140.000	1	Commscope LNX-6514DS-A1M
140.000	140.000	1	Flat Low Profile Platform
140.000	140.000	2	Andrew LNX-8513DS-A1M
140.000	140.000	6	Commscope JAHH-65B-R3B
132.000	132.000	3	Kathrein Scala 80010964
132.000	132.000	3	Ericsson RRUS 32 B30 (53 lbs)
132.000	132.000	3	Ericsson Radio 4449 B13, B5
132.000	132.000	1	Raycap DC6-48-60-18-8F
132.000	132.000	1	Flat Low Profile Platform w/ K
132.000	132.000	1	Collar
132.000	132.000	3	Commscope SBNHH-1D65A
132.000	132.000	3	Ericsson RRUS-12 B2
132.000	132.000	3	Ericsson RRUS A2 B2
132.000	132.000	1	Raycap DC6-48-60-18-8F
132.000	132.000	6	Powerwave Allgon TT19-
132.000	132.000	6	Powerwave Allgon LGP13519
132.000	132.000	3	KMW AM-X-CD-14-65-00T-RET
121.000	121.000	1	Round Low Profile Platform
121.000	121.000	4	Ericsson AIR 21, 1.3M, B4A B2P
121.000	121.000	4	Ericsson AIR 21, 1.3 M, B2A B4
121.000	121.000	4	Ericsson KRY 112 144/1
112.000	112.000	3	48" x 12" Panel
112.000	112.000	6	6.7" x 10.7" TTA
101.000	101.000	1	Flat Platform w/ Handrails
101.000	101.000	3	RFS APXVSPP18-C-A20
101.000	101.000	3	RFS APXV9TM14-ALU-I20
101.000	101.000	3	Alcatel-Lucent TD-RRH8x20-25
101.000	101.000	3	Alcatel-Lucent 1900 MHz 4x45
101.000	101.000	3	Alcatel-Lucent 800 MHz 2X50W
89.000	89.000	3	RFS APXV18-206517S-C
75.000	75.000	1	Stand-Off
75.000	75.000	1	GPS



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	75.000	1/2" Coax	Yes
0.000	89.000	1 5/8" Coax	No
0.000	101.0	1 1/4" Hybriflex	Yes
0.000	121.0	1 1/4" Hybriflex	Yes
0.000	121.0	1 5/8" Coax	Yes
0.000	132.0	0.39" (10mm)	Yes
0.000	132.0	0.39" (10mm)	Yes
0.000	132.0	0.78" (19.7mm) 8	No
0.000	132.0	0.78" (19.7mm) 8	Yes
0.000	132.0	1 5/8" Coax	No
0.000	132.0	2" conduit	No
0.000	140.0	1 5/8" Coax	No
0.000	140.0	1 5/8" (1.63"-	No
0.000	148.0	1 1/4" Coax	No
0.000	148.0	7/8" Coax	No
0.000	148.0	7/8" Coax	No
0.000	148.0	7/8" Coax	No

Load Cases

1.2D + 1.6W	101 mph with No Ice
0.9D + 1.6W	101 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3420.24	31.80	60.88
0.9D + 1.6W	3347.74	31.26	45.65
1.2D + 1.0Di + 1.0Wi	850.32	7.96	99.07
(1.2 + 0.2Sds) * DL + E ELFM	250.23	2.14	60.39
(1.2 + 0.2Sds) * DL + E EMAM	311.79	2.72	60.39
(0.9 - 0.2Sds) * DL + E ELFM	247.76	2.14	42.17
(0.9 - 0.2Sds) * DL + E EMAM	308.44	2.71	42.17
1.0D + 1.0W	740.73	6.90	50.76

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING TOWER: • NEW AT&T ANTENNA: (800-10964) (TYP OF 1 PER SECTOR TOTAL OF 3) • NEW AT&T RRUS: RRUS-32 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3) • NEW AT&T RRUS: B5/B12 4449 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3) TO REPLACE EXISTING (3) RRUS. • INSTALL (1) SURGE ARRESTORS, (2) DC POWER CABLES, (1) FIBER RUNS, & (1) ALARM CABLES. • ANTENNA MODIFICATION/4TXRX ANTENNA RETROFIT ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: • SWAP DUS WITH 5216 • ADD (1) 6630. ITEMS TO REMAIN: • (6) ANTENNAS, (3) RRUS, (1) SURGE ARRESTOR, (2) DC POWER & (1) FIBER. SQUID ALARMING (NOT TO BE DAISY CHAINED). • THE 1ST SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED RRH/RRU ON THE ALPHA SECTOR, IN THE EVENT THE ALARM CABLE CANNOT BE CONNECTED TO ALPHA IT WILL BE ACCEPTABLE TO ALARM TO THE CLOSEST PHYSICAL SECTOR ON AN EXCEPTION BASIS. • 2ND SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE BETA SECTOR.
SITE ADDRESS:	OLD ROUTE 79 MADISON, CT 06443
LATITUDE:	41.285548 N, 41° 17' 7.97" N
LONGITUDE:	72.601360 W, 72° 36' 4.89" W
TYPE OF SITE:	MONOPOLE/INDOOR EQUIPMENT
STRUCTURE HEIGHT:	148'±
RAD CENTER:	132'±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	ANTENNA LAYOUTS & ELEVATION	1
A-3	DETAILS	1
SN-1	STRUCTURAL NOTES	1
S-1	MOUNT MODIFICATION DESIGN	1
RF-1	RF PLUMBING DIAGRAM	1
G-1	GROUNDING DETAILS	1

ATC SITE NAME: MADISON CT 6
ATC SITE #: 302540

at&t

SITE NUMBER: CT2178

SITE NAME: MADISON PD

FA CODE: 10035220

PACE ID: MRCTB033569, MRCTB033591, MRCTB033685

PROJECT: LTE 3C/4C/4TXRX ANTENNA RETROFIT 2019 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:
FROM ROCKY HILL, CT: HEAD EAST ON ENTERPRISE DR TOWARD CAPITOL BLVD – GO 0.4 MI. TURN LEFT AT CAPITOL BLVD – GO 0.3 MI. TURN LEFT AT WEST ST – GO 0.3 MI. TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN – GO 1.4 MI. TAKE EXIT 22S ON THE LEFT TO MERGE ONTO CT-9 S TOWARD MIDDLETOWN/OLD SAYBROOK – GO 29.3 MI. TAKE THE EXIT ONTO GOVERNOR JOHN DAVIS LODGE TURNPIKE/I-95 S/US-1 S TOWARD NEW HAVEN/N.Y. CITY. CONTINUE TO FOLLOW GOVERNOR JOHN DAVIS LODGE TURNPIKE/I-95 S – GO 13.1 MI. TAKE EXIT 61 FOR CT-79 TOWARD MADISON/ N MADISON – GO 0.3 MI. TURN LEFT ST CT-79/DURHAM RD – GO 0.2 MI. ARRIVE AT LOCATION.

GENERAL NOTES

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

72 HOURS

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45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT2178
SITE NAME: MADISON PD
ATC SITE #: 302540

OLD ROUTE 79
MADISON, CT 06443
NEW HAVEN COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	12/20/18	ISSUED FOR CONSTRUCTION	GA	AT	DJC
A	11/16/18	ISSUED FOR REVIEW	GA	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT — DEREK J. CREASEY — LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV
CT2178	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION 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.

2. 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.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. 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.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 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

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. 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.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. 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.

9. 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.

10. 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.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. 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.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. 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.

18. 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.

19. 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 TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

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

    BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS

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

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

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

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

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT2178
SITE NAME: MADISON PD
ATC SITE #: 302540

OLD ROUTE 79
MADISON, CT 06443
NEW HAVEN COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	12/20/18	ISSUED FOR CONSTRUCTION	GA	AT	DJC
A	11/16/18	ISSUED FOR REVIEW	GA	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREAMER · 30258 · LICENSED PROFESSIONAL ENGINEER

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GENERAL NOTES
(LTE 2C/3C/4TXRX)

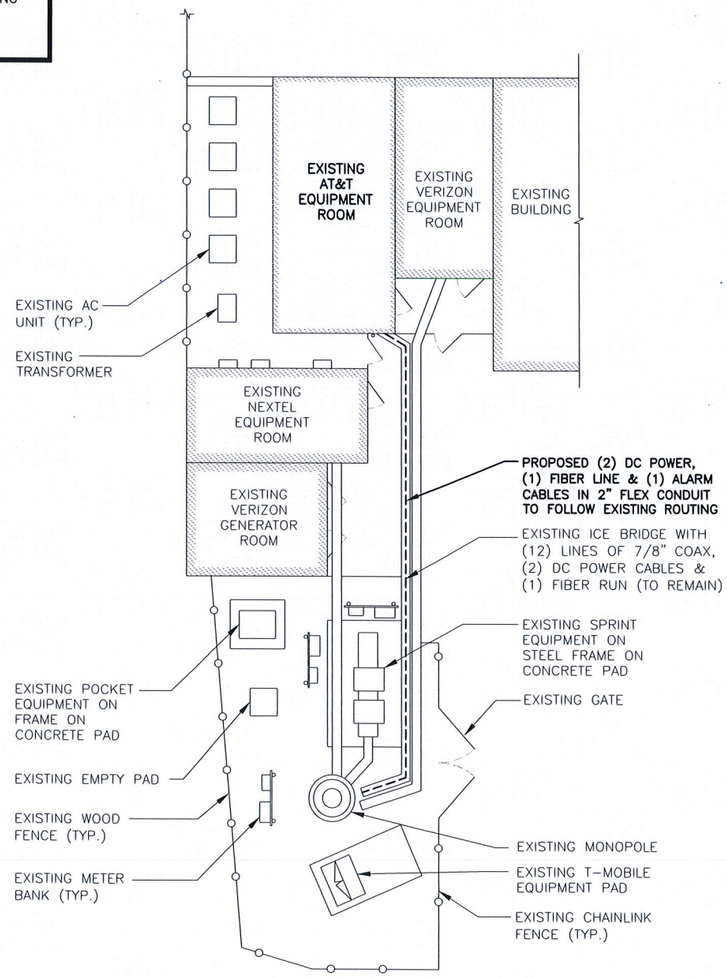
SITE NUMBER	DRAWING NUMBER	REV
CT2178	GN-1	1

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

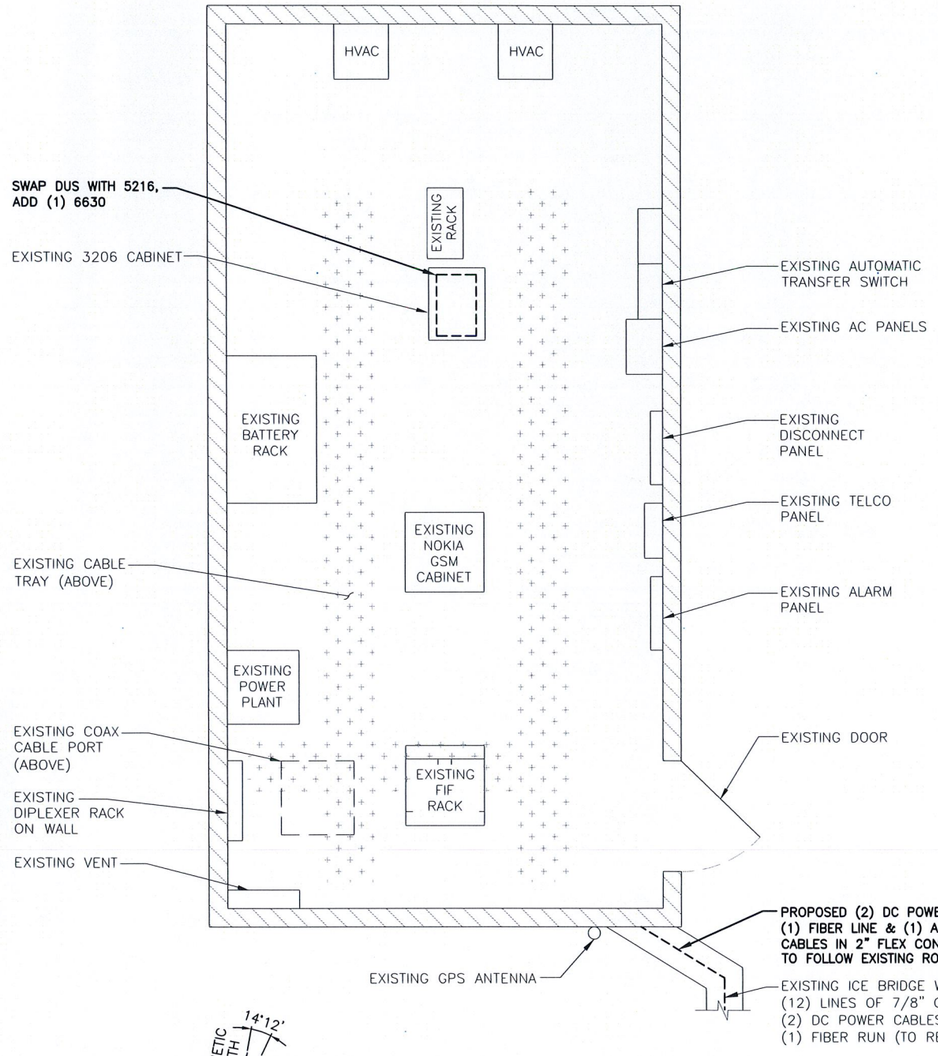
NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: DECEMBER 17, 2018



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"



EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
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FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT2178
SITE NAME: MADISON PD
ATC SITE #: 302540

OLD ROUTE 79
MADISON, CT 06443
NEW HAVEN COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

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STATE OF CONNECTICUT
DEREK J. CREASER
No. 25[illegible]
LICENSED PROFESSIONAL ENGINEER

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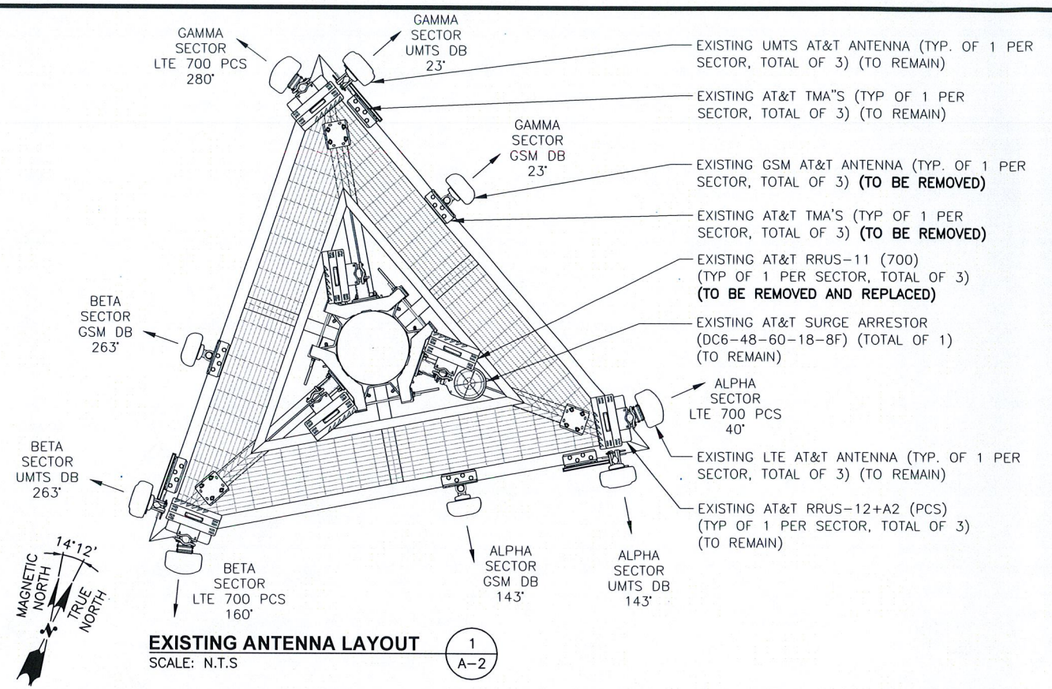
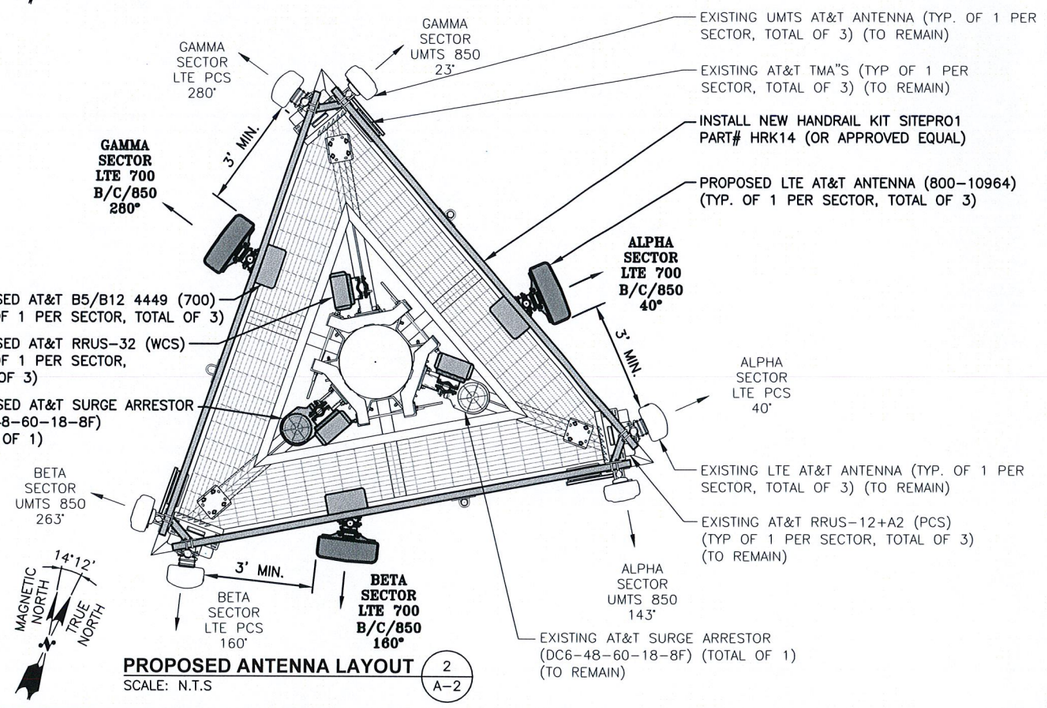
COMPOUND & EQUIPMENT PLANS
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV
CT2178	A-1	1



EXISTING ANTENNA LAYOUT (1 / A-2)
SCALE: N.T.S



PROPOSED ANTENNA LAYOUT (2 / A-2)
SCALE: N.T.S

NOTE:
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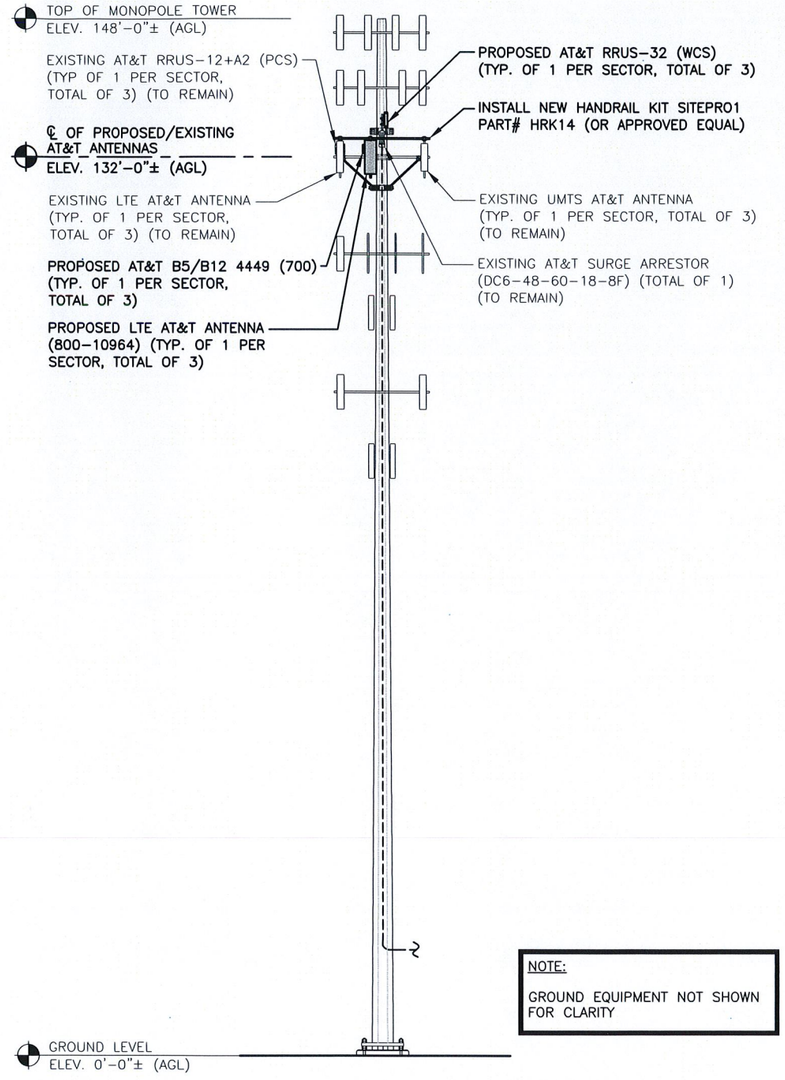

ELEVATION (3 / A-2)
22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"
0 5'-4" 10'-8" 21'-4" 32'-0"

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

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WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT2178
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STATE OF CONNECTICUT — DEREK J. CREASER — NO. 29857 — LICENSED PROFESSIONAL ENGINEER

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ANTENNA LAYOUTS & ELEVATION
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV
CT2178	A-2	1

NOTE:

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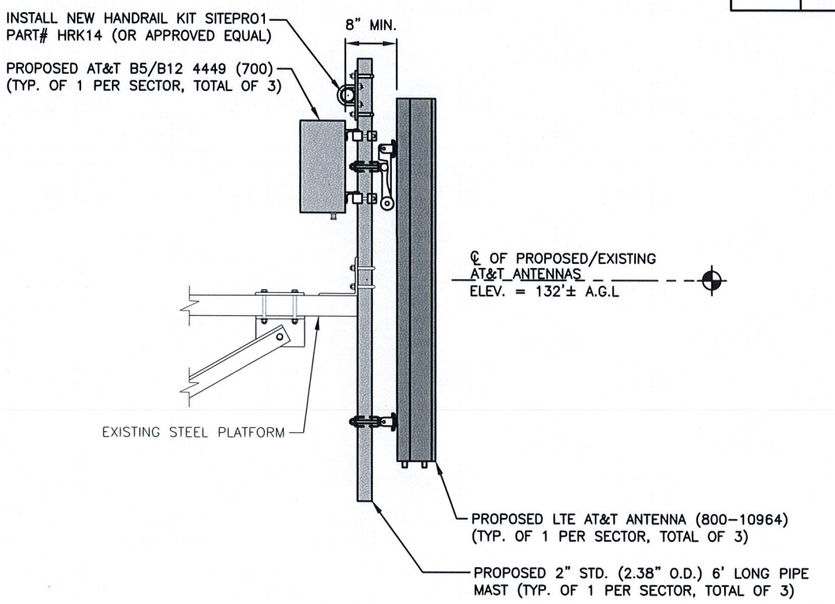
ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	AM-X-CD-14-65-00T-RET	48X11.8X5.9	±132'	143°	(E)(1) TT19-08BP111-001	--	--	(2) 7/8" COAX	--
A2	-	-	-	-	-	-	--	--	--	(2) 7/8" COAX	(E) (1) RAYCAP DC6-48-60-18-8F
A3	**PROPOSED**	**LTE 700 B/C/850**	**800-10964**	**59X20X6.9**	**±132'**	**40°**	--	**(P)(1) B5/B12 4449 (700) (P)(1) RRUS-32 (WCS)**	**15x13.2x5.4 27.2X12.1X7.0**	--	
A4	EXISTING	LTE PCS	SBNHH-1D65A	55X11.9X7.1	±132'	40°	--	(E)(1) RRUS-12+A2 (PCS)	--	--	
B1	EXISTING	UMTS 850	AM-X-CD-14-65-00T-RET	48X11.8X5.9	±132'	263°	(E)(1) TT19-08BP111-001	--	--	(2) 7/8" COAX	--
B2	-	-	-	-	-	-	--	--	--	(2) 7/8" COAX	**(P) (1) RAYCAP DC6-48-60-18-8F**
B3	**PROPOSED**	**LTE 700 B/C/850**	**800-10964**	**59X20X6.9**	**±132'**	**160°**	--	**(P)(1) B5/B12 4449 (700) (P)(1) RRUS-32 (WCS)**	**15x13.2x5.4 27.2X12.1X7.0**	--	
B4	EXISTING	LTE PCS	SBNHH-1D65A	55X11.9X7.1	±132'	160°	--	(E)(1) RRUS-12+A2 (PCS)	--	--	
C1	EXISTING	UMTS 850	AM-X-CD-14-65-00T-RET	48X11.8X5.9	±132'	23°	(E)(1) TT19-08BP111-001	--	--	(2) 7/8" COAX	--
C2	-	-	-	-	-	-	--	--	--	(2) 7/8" COAX	SHARED
C3	**PROPOSED**	**LTE 700 B/C/850**	**800-10964**	**59X20X6.9**	**±132'**	**280°**	--	**(P)(1) B5/B12 4449 (700) (P)(1) RRUS-32 (WCS)**	**15x13.2x5.4 27.2X12.1X7.0**	--	
C4	EXISTING	LTE PCS	SBNHH-1D65A	55X11.9X7.1	±132'	280°	--	(E)(1) RRUS-12+A2 (PCS)	--	--	

FINAL ANTENNA SCHEDULE (3 / A-3)
SCALE: N.T.S



PROPOSED ANTENNA & PROPOSED RRH MOUNTING DETAIL (1 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

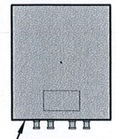
0 0'-6" 1'-0" 2'-0" 3'-0"

RRU CHART				
QUANTITY	MODEL	L	W	D
3(E)	RRUS-12	20.4"	18.5"	7.5"
3(E)	A2	16.4"	15.2"	3.4"
3(P)	RRUS-32	27.2"	12.1"	7.0"
3(P)	B5/B12 4449	15.0"	13.2"	5.4"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:

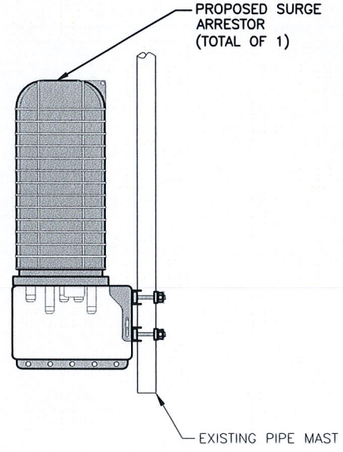
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



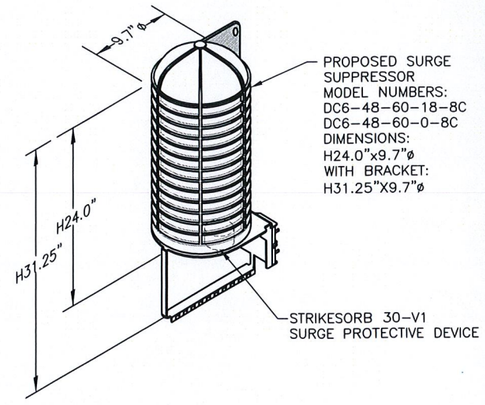
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (2 / A-3)
SCALE: N.T.S



PROPOSED SURGE ARRESTOR MOUNTING DETAIL (4 / A-3)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (5 / A-3)
SCALE: N.T.S

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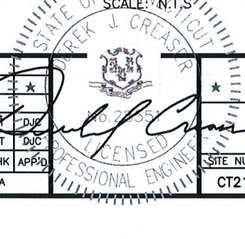

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DETAILS
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV
CT2178	A-3	1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-70 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

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STATE OF CONNECTICUT — DEREK J. CREASER — No. 23551 — LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL NOTES
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV
CT2178	SN-1	1

NOTE:

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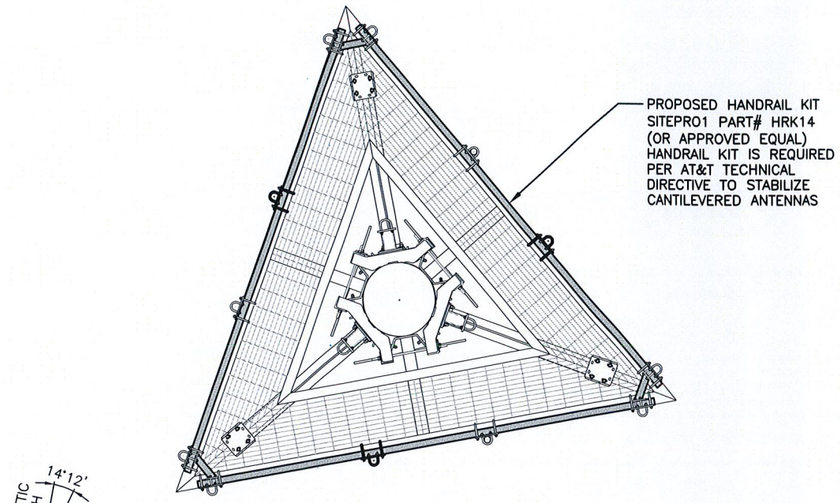
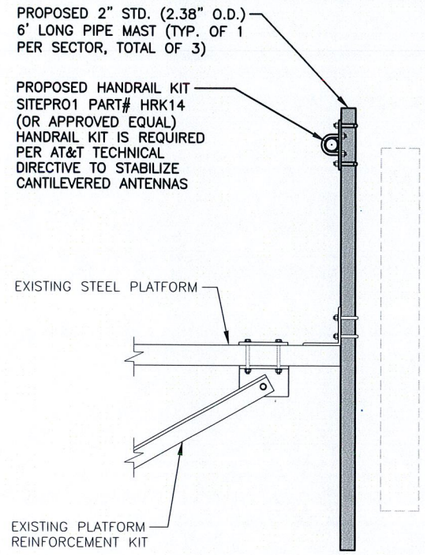
HUDSON DESIGN GROUP, LLC.
DATED: DECEMBER 17, 2018



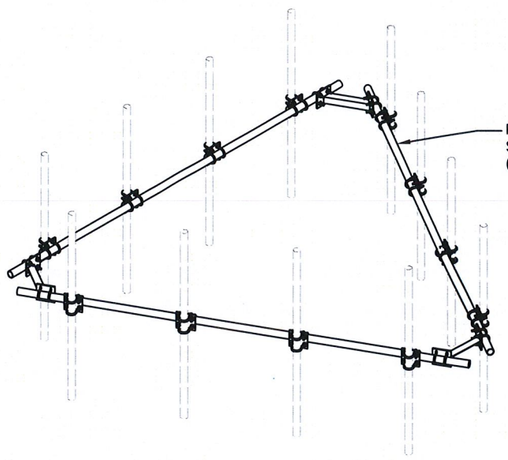
MOUNT REINFORCEMENT PLAN (1 / S-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

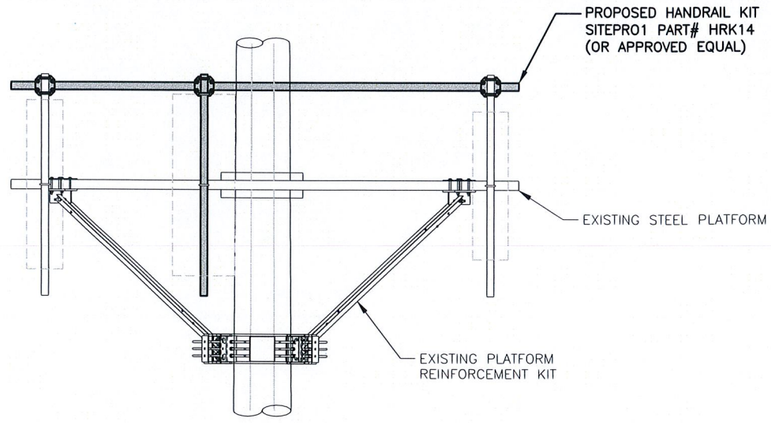


PROPOSED MODIFICATIONS DETAIL (2 / S-1)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"



PROPOSED HANDRAIL KIT (4 / S-1)
SCALE: N.T.S



PROPOSED MODIFICATIONS ELEVATION (3 / S-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

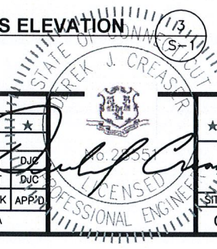
SITE NUMBER: CT2178
SITE NAME: MADISON PD
ATC SITE #: 302540

OLD ROUTE 79
MADISON, CT 06443
NEW HAVEN COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	12/20/18	ISSUED FOR CONSTRUCTION	GA	AT	DJC
A	11/16/18	ISSUED FOR REVIEW	GA	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA



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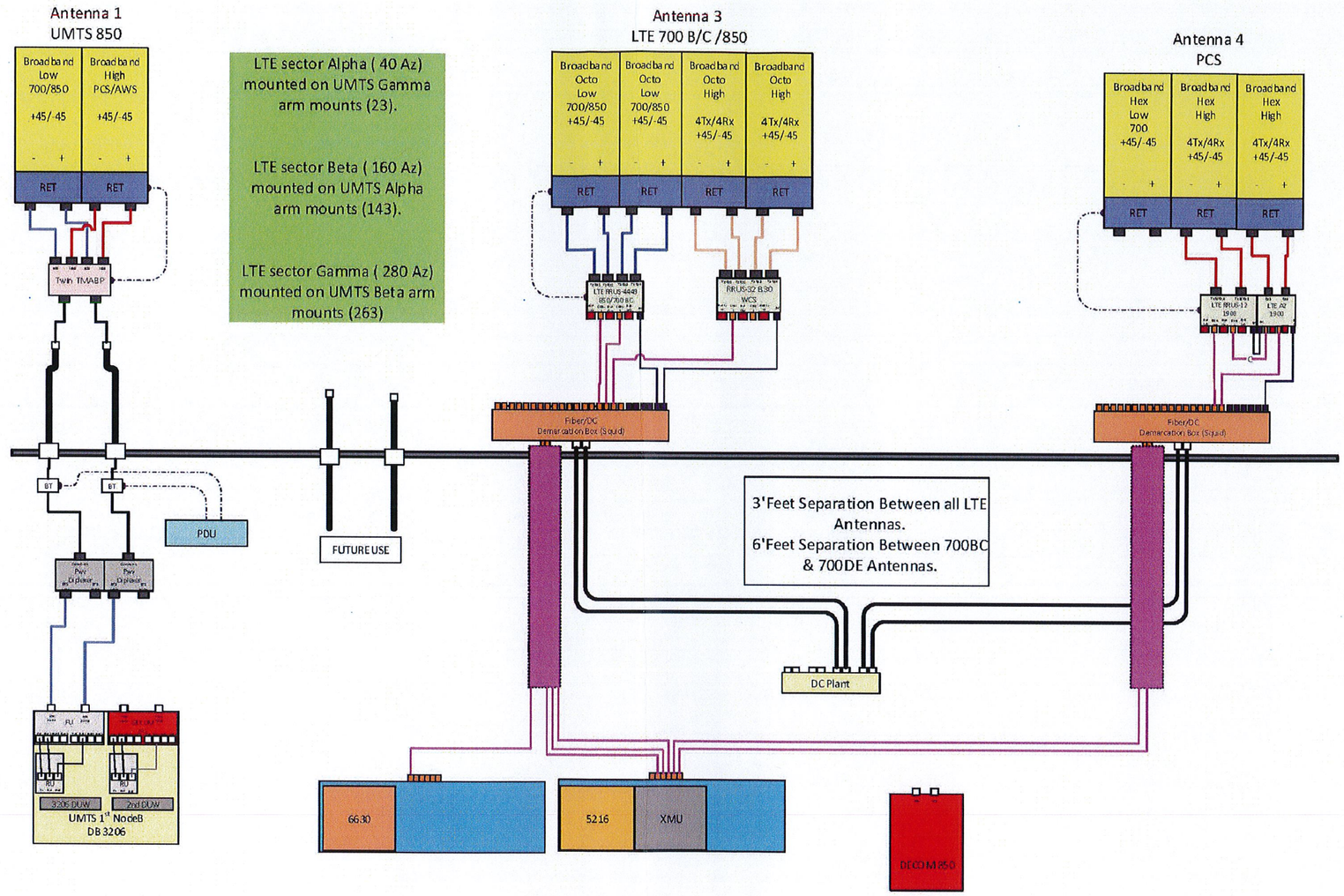
MOUNT MODIFICATION DESIGN
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV.
CT2178	S-1	1



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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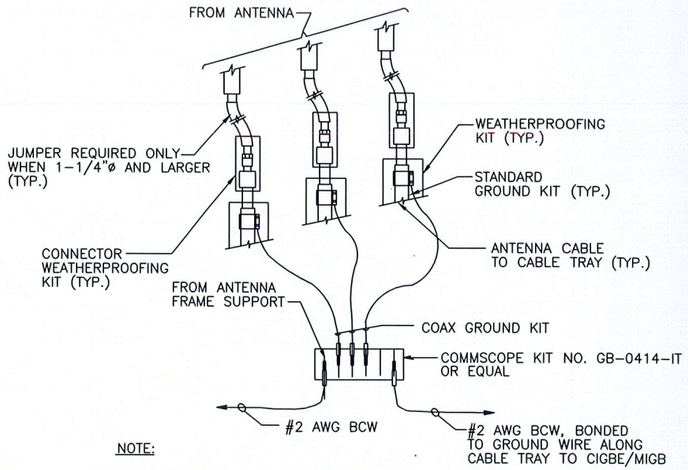
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT — DEREK J. CREASER — No. 25858 — LICENSED PROFESSIONAL ENGINEER

AT&T

RF PLUMBING DIAGRAM
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV
CT2178	RF–1	1



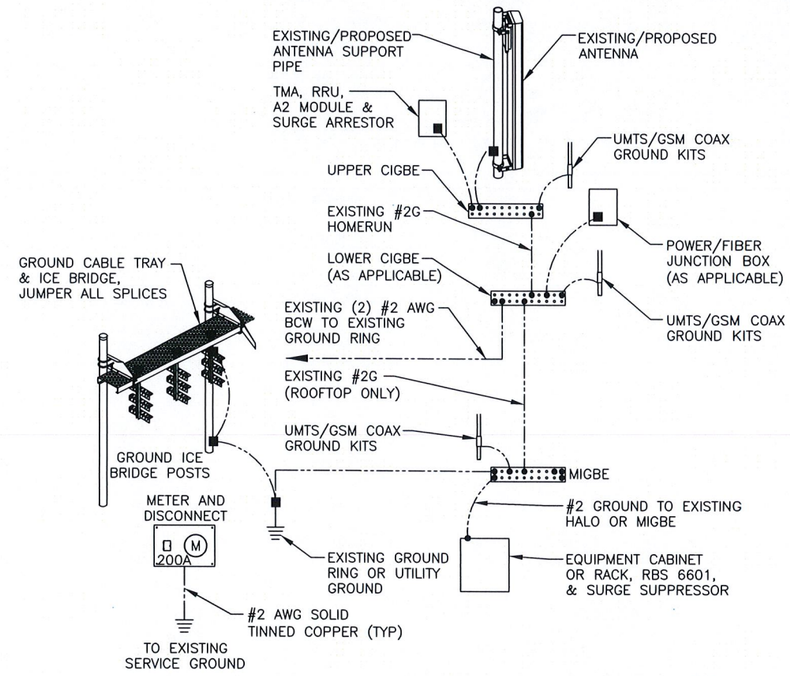
NOTE:

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

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

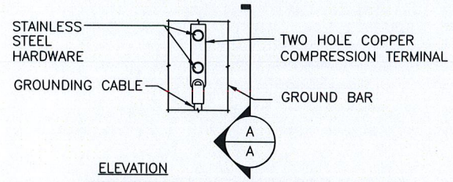
1 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1



NOTE:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

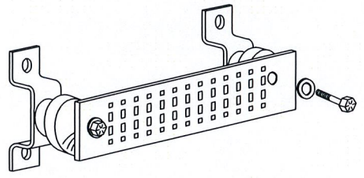
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL

SCALE: N.T.S

4 / G-1

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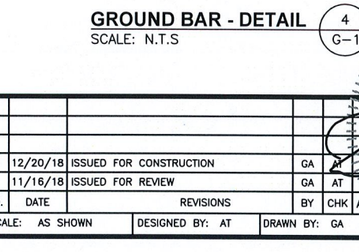

AT&T

GROUNDING DETAILS
(LTE 2C/3C/4TXRX)

SITE NUMBER	DRAWING NUMBER	REV
CT2178	G-1	1