Centek Engineering, Inc.
3-2 North Branford Road
Branford, Connecticut 06405
Phone: (203) 488-0580
Fax: (203) 488-8587

Steven L. Levine
Real Estate Consultant

HAND DELIVERED

September 16, 2015

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

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 48 Newtown Road, Danbury

Dear Ms. Bachman:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, copies of this letter are being sent to the chief elected official of the municipality in which the affected cell site is located, the property owner of record, and the tower owner or operator.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile ("GSM") communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

LTE is a high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

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

The changes to the facility do not constitute modifications as defined in Connecticut General

Statutes ("C.G.S.") Section 16-50i(d) because the general physical and environmental characteristics of the site will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will not increase.

2. The proposed changes will not extend the site boundaries.

3. The proposed changes will not increase the noise level at the site boundary by six decibels or more, or to levels that exceed state and local criteria.

4. The changes will not add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996, as amended, and the State Department of Energy and Environmental Protection, pursuant to Section 22a-162 of the Connecticut General Statutes.

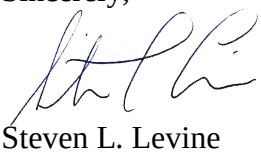
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The structure and its foundation can support the proposed antennas and equipment with certain modifications.

For the foregoing reasons, AT&T respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 830-0380 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Steven L. Levine
Real Estate Consultant

cc: Town CEO – Honorable Mark D. Boughton, Mayor, City of Danbury
Land Owner of Record – 48 Newtown Road Corporation
Tower Owner / Operator – 48 Newtown Road Corporation
Holder of Lessor Rights – Crown Castle

Attachments

NEW CINGULAR WIRELESS PCS, LLC
Equipment Modification

48 Newtown Road, Danbury, CT
Site Number CT6157 a/k/a CT2157
Prior CSC Decisions: Exempt Mods 12/99, 7/01, 8/02, 9/02, 3/03, 7/07, 9/11, 6/12

Tower Owner / Manager: 48 Newtown Road Corporation

Land Owner of Record: 48 Newtown Road Corporation

Lessor Rights to AT&T Lease Agreement: Crown Castle

Lease Area: Prior to the merger of AT&T Wireless and Cingular Wireless in 2004, these companies operated separate telecommunications facilities on the 48 Newtown Road structure with radio equipment situated in equipment areas at both 48 Newtown Road and 50 Newtown Road. The merger resulted in consolidation of tower equipment onto a single tower level and placement of all ground equipment in a single indoor equipment room at 48 Newtown Road. The consolidated facility was first illustrated on the site plan included with EM-CING-034-110830, acknowledged 9/16/11 (see attachment). Comparison of this site plan with the attached construction drawings demonstrates that the proposed modifications will not increase the size of the AT&T lease area or the overall dimensions of the 48 Newtown Road facility. All modifications will occur either on the tower or in the existing AT&T equipment room.

Equipment configuration: Monopole

Current and/or approved:
Six Powerwave ("PW") 7770 antennas at 100 ft c.l.
Three KMW AM-X-CD-14-65-00T- RET antennas at 100 ft c.l.
Six Powerwave LGP21401 TMA's @ 100 ft
Three Powerwave TT19-08BP111 TMA's @ 100 ft
Twelve diplexers @ 100 ft
Twelve runs 1 5/8 inch coax on exterior of monopole
Six Ericsson RRUS-11 remote radio heads @ 100 ft
One Raycap DC6-48-60-18-8F surge arrestor @ 104 ft
One fiber and two DC power cables to 100 ft AGL
Equipment room in existing building

Planned Modifications:
Remove three Powerwave 7770 antennas.
Install one CCI Products OPA-65R-LCUU-H6 antennas @ 100 ft c.l.
Install two CCI Products OPA-65R-LCUU-H4 antennas @ 100 ft c.l.
Install three Ericsson RRUS-32 remote radio heads @ 100 ft.
Install one additional Raycap DC6-48-60-18-8F surge arrestor @ 104 ft.
Install two additional DC power cables to 100 ft AGL.
Remove existing fiber line and replace with two new fiber lines.

Power Density:

Worst-case calculations with 10 dB reduction for existing wireless operations at the site indicate a radio frequency electromagnetic radiation power density, measured at six feet above ground level beside the tower, of approximately 10.6 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 10.4 % of the standard.

Existing

Carrier & Technology	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *							8.47
AT&T GSM	100	880 - 894	6	296	0.0723	0.5867	1.23
AT&T GSM	100	1900 Band	1	427	0.0174	1.0000	0.17
AT&T UMTS	100	880 - 894	1	500	0.0203	0.5867	0.35
AT&T LTE	100	740	1	500	0.0203	0.4933	0.41
Total							**10.6%**

* Per CSC Records

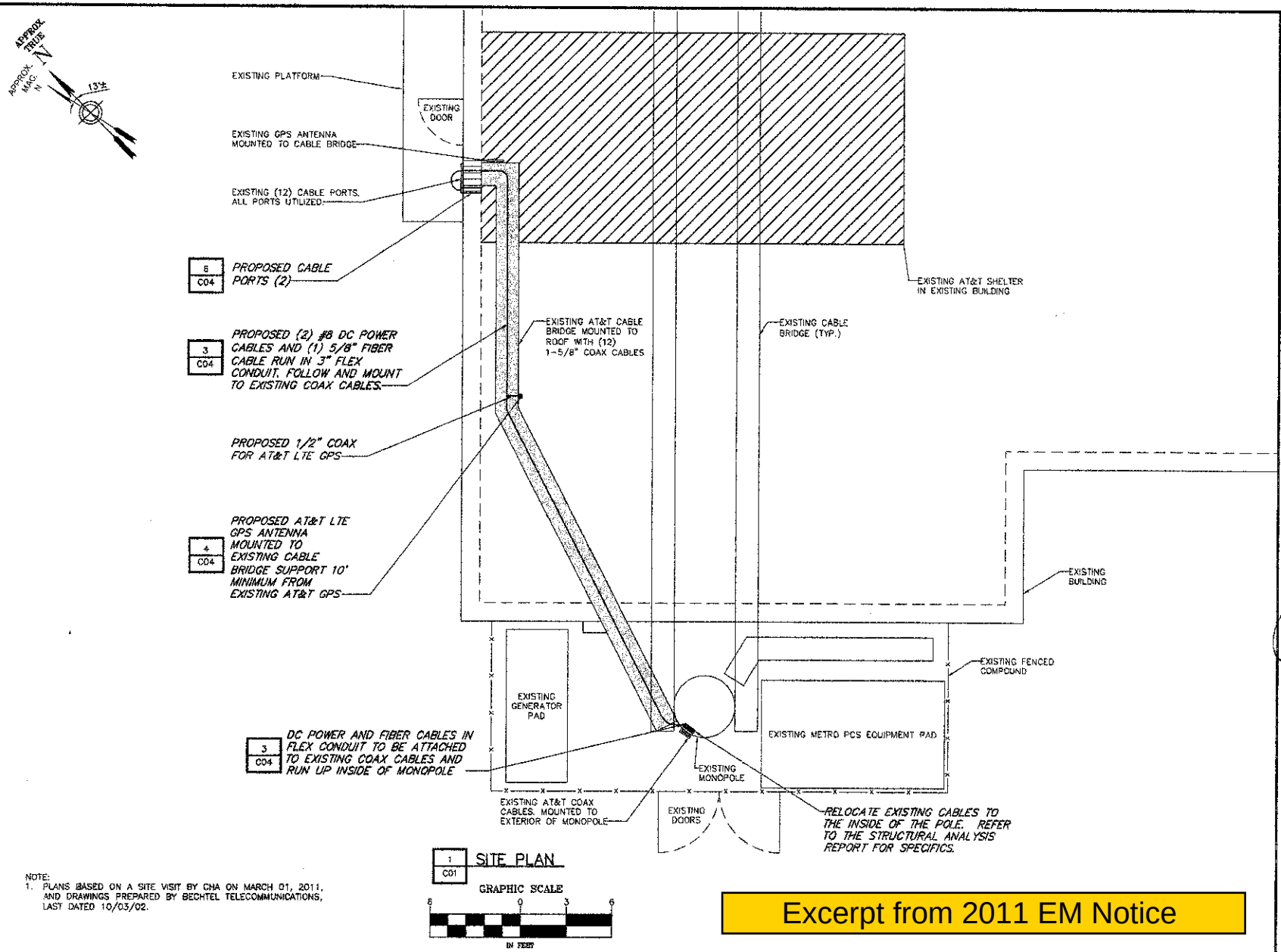
Proposed

Carrier & Technology	Centerline Ht (feet)	Antenna	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Other Users *								8.47
AT&T LTE	100	KMW	700 Band	1	500	0.0203	0.4667	0.44
AT&T LTE	100	KMW	1900 Band	1	500	0.0203	1.0000	0.20
AT&T LTE	100	CCI	2300 Band	1	500	0.0203	1.0000	0.20
AT&T UMTS	100	PW	880 - 894	2	500	0.0407	0.5867	0.69
AT&T UMTS	100	PW	1900 Band	1	500	0.0203	1.0000	0.20
AT&T GSM	100	CCI	880 - 894	1	296	0.0120	0.5867	0.21
Total								**10.4%**

* Per CSC Records

Structural information:

The attached structural analysis (Hudson Design Group LLC, 8/26/15) demonstrates that the existing monopole is structurally adequate to support the proposed equipment modifications upon completion of the recommended structural modifications (see attachment).



NOTE:
1. PLANS BASED ON A SITE VISIT BY CHA ON MARCH 01, 2011, AND DRAWINGS PREPARED BY BECHTEL TELECOMMUNICATIONS, LAST DATED 10/03/02.

Excerpt from 2011 EM Notice

at&t
Your world. Delivered.

NEW CINGULAR WIRELESS PCS, LLC
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

Drawing Copyright © 2011

CHA

2139 Silas Deane Highway, Suite 212 - Rocky Hill, CT 06067-2330
Main: (860) 257-4557 - www.chacompanies.com

CHA PROJECT NO:
22702 - 1013 - 43000

NO.		SUBMITTAL	
0	03/10/11	ISSUED FOR REVIEW	
	BY: JDM	CHK: PAL	APP'D: JPS
1	04/05/11	ISSUED FOR CONSTRUCTION	
	BY: PAL	CHK: PAL	APP'D: JPS
2	08/25/11	REVISED CABLE LAYOUT	
	BY: PAL	CHK: PAL	APP'D: JPS

STATE OF CONNECTICUT
JOHN P. SOBIECKI
No. 17827
LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE ID:
CT2157
SITE NAME:
DANBURY - EAST
SITE ADDRESS:
48 NEWTOWN ROAD
DANBURY, CT
06810
FAIRFIELD COUNTY

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
C01

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
SITE ADDRESS:	48 NEWTOWN RD. DANBURY, CT 06810
LATITUDE:	41.403403° N 41° 24' 12.27" N
LONGITUDE:	-73.424431° W -73° 25' 27.99" W
JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
NOC#	800-638-2822

SITE NUMBER: CT6157
SITE NAME: DANBURY

DRAWING INDEX

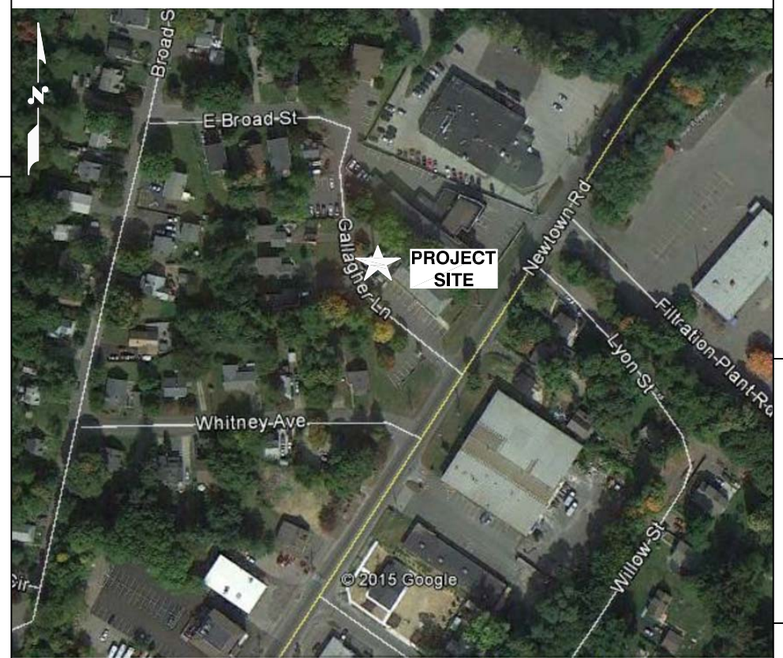
CROWN CASTLE SITE ID: 852850
WCP SITE #: 69910

VICINITY MAP

DIRECTIONS TO SITE:

FROM 550 COCHITUATE RD. FRAMINGHAM, MA 01701:

HEAD NORTHEAST. TURN RIGHT TOWARD SPEEN ST. TURN RIGHT ONTO COCHITUATE RD. TAKE RAMP TO I-90 MASSPIKE/SPRINGFIELD/BOSTON. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-90 E/I-95/MASSPIKE/BOSTON AND MERGE ONTO I-90 E/MASSPIKE. MERGE ONTO I-90 E/MASSACHUSETTS TURNPIKE. MERGE ONTO I-90 E/MASSPIKE. TAKE EXIT 9 FOR I-84 TOWARD US-20/HARTFORD/NEW YORK CITY. CONTINUE ONTO I-84. TAKE EXIT 8 TO MERGE ONTO NEWTOWN RD. TOWARD BETHEL. MERGE ONTO NEWTOWN RD.



GENERAL NOTES

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

72 HOURS

BEFORE YOU DIG

CALL TOLL FREE 888-DIG-SAFE

UNDERGROUND SERVICE ALERT

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
27 NORTHWESTERN DR.
SALEM, NH 03079

SITE NUMBER: CT6157
SITE NAME: DANBURY
CCI SITE #:852850
WCP #:69910
48 NEWTOWN RD.
DANBURY, CT 06810
FAIRFIELD COUNTY

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/26/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH
0	06/08/15	ISSUED FOR REVIEW	MR	AT	DPH
A	03/30/15	ISSUED FOR REVIEW	MR	AT	DPH

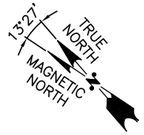
SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: MR

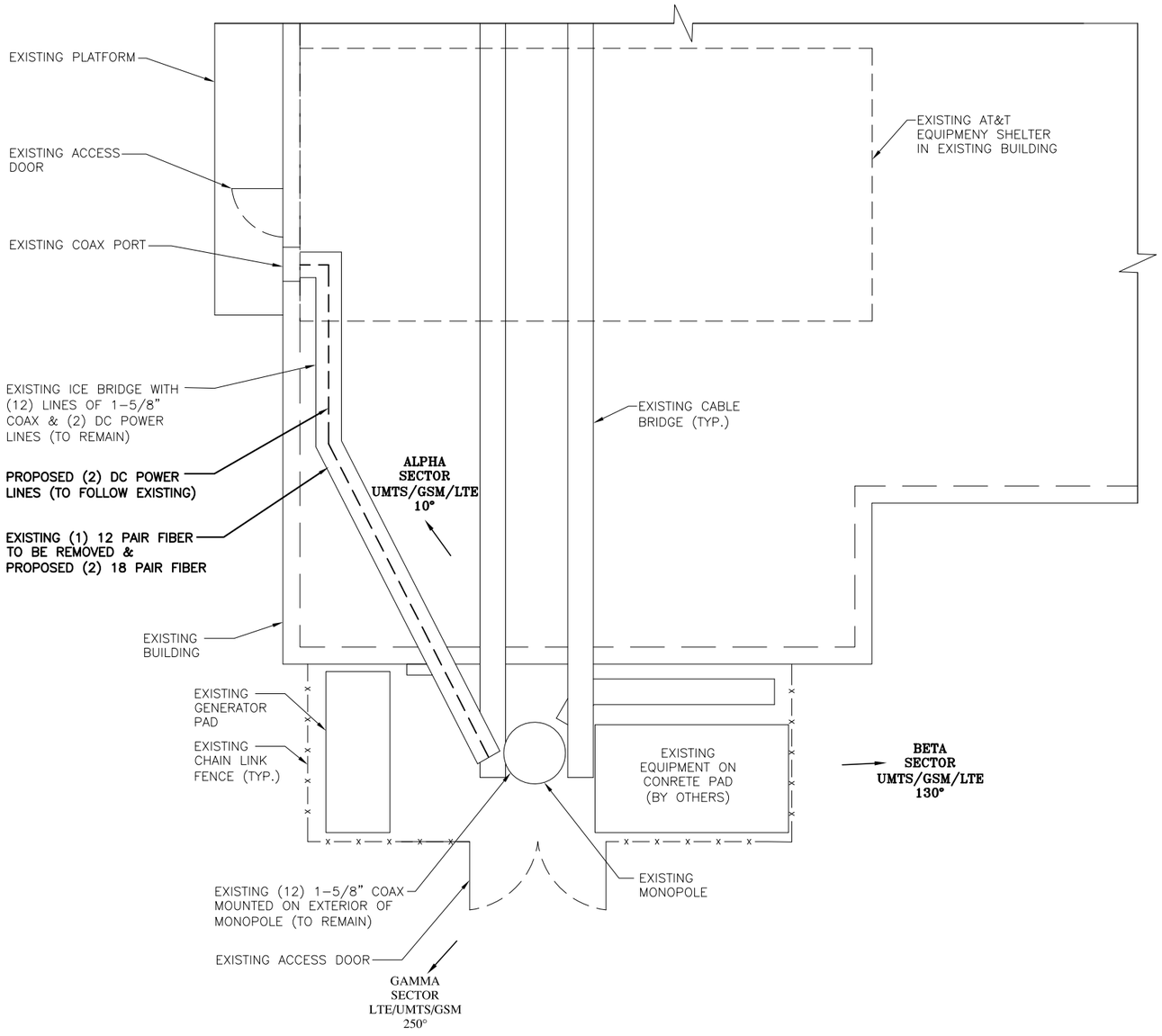
STATE OF CONNECTICUT · DEPARTMENT OF · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(LTE-3C)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	T-1	1





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: FEBRUARY 17, 2015

NOTE:

ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE AND FINAL AT&T RF DATA SHEET.

NOTE:

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

COMPOUND PLAN

SCALE: 1/4"=1'-0"

0 2'-0" 4'-0" 8'-0" 12'-0"

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

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at&t
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MR

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

COMPOUND PLAN
(LTE-3C)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	A-1	1

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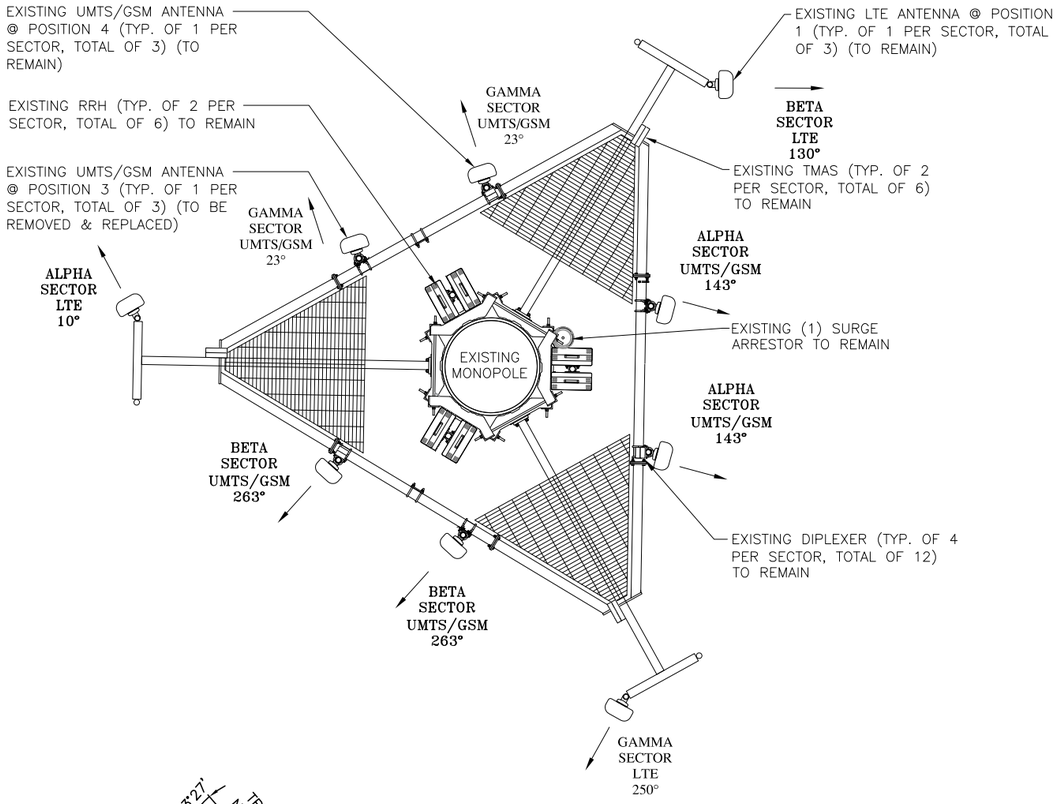
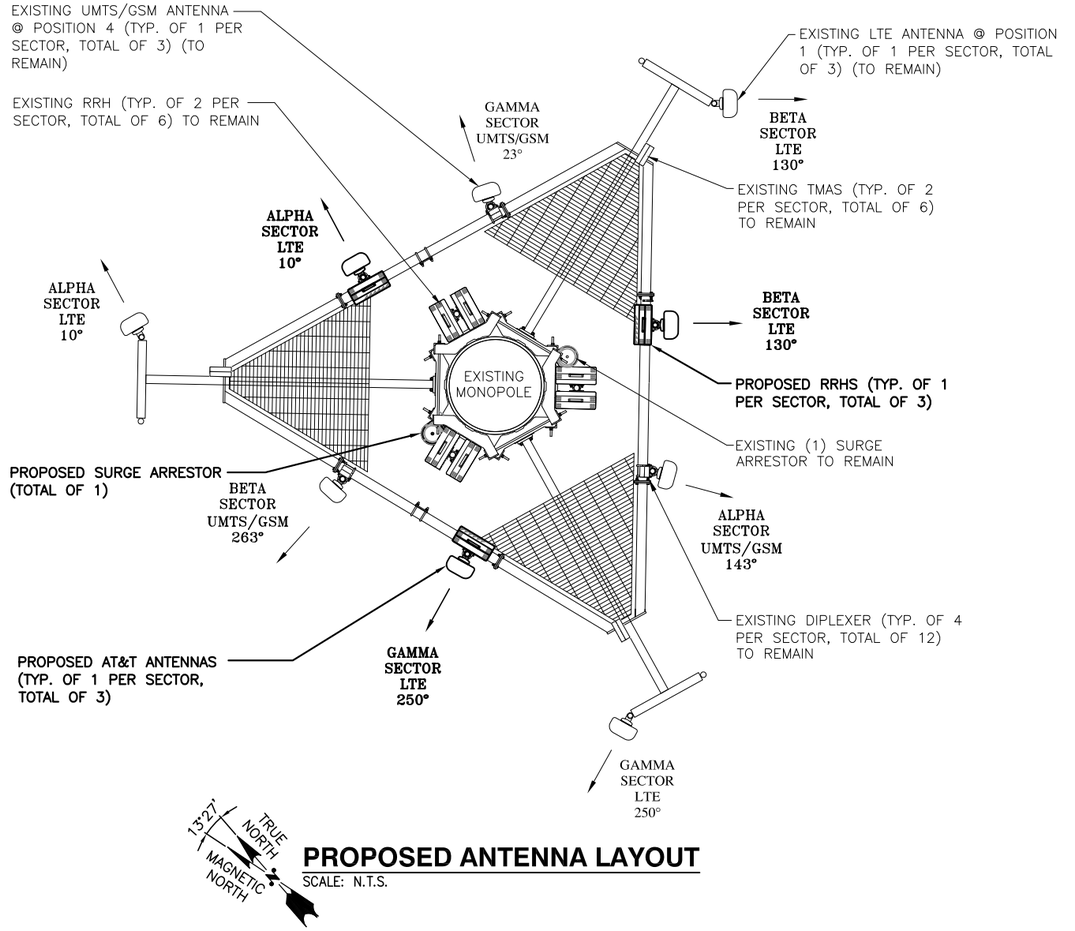


EXISTING ANTENNA LAYOUT

SCALE: N.T.S.



PROPOSED ANTENNA LAYOUT

SCALE: N.T.S.

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FRAMINGHAM, MA 01701

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0	06/08/15	ISSUED FOR REVIEW	MR	AT	DPH
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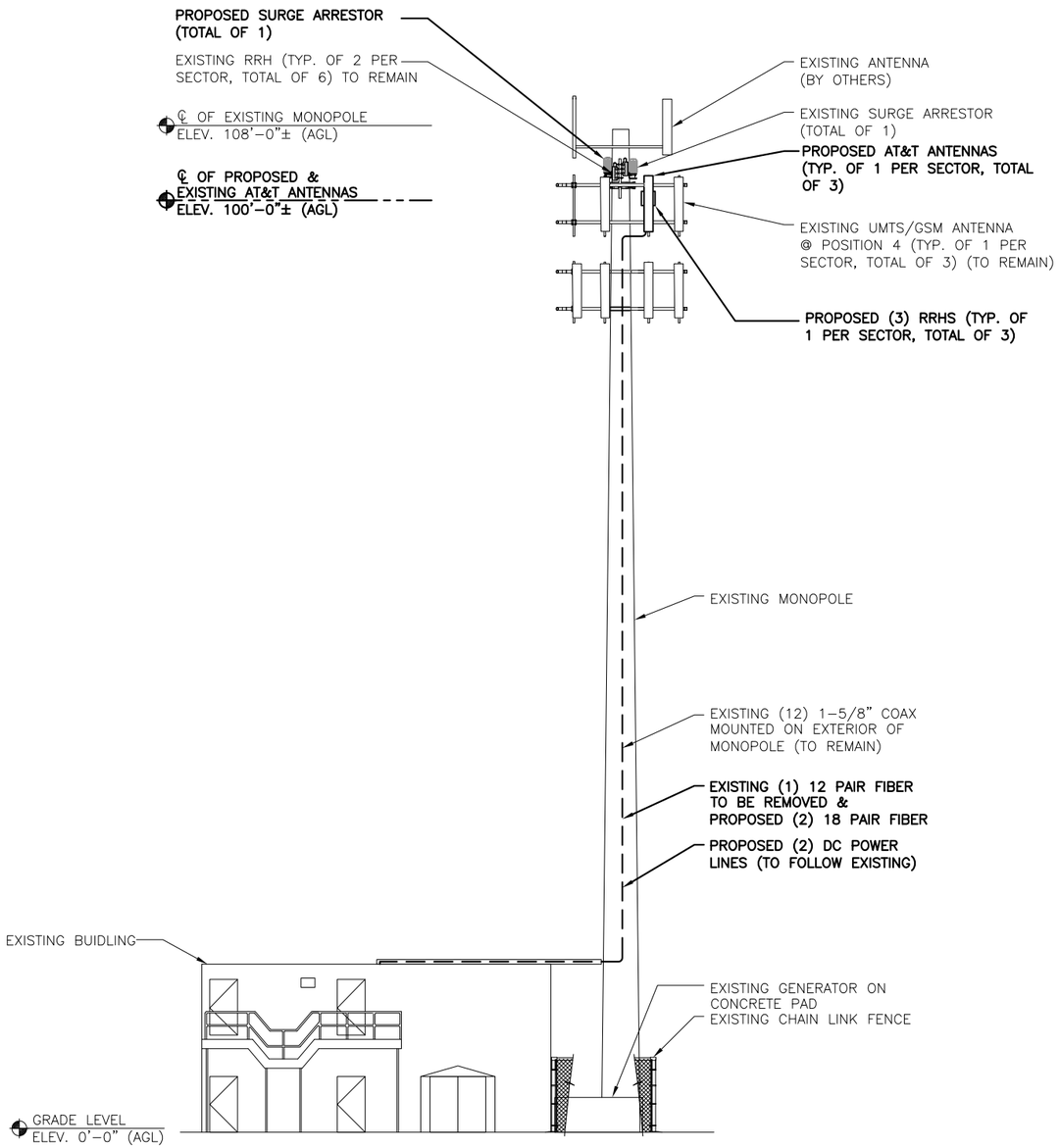
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: MR

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUT
(LTE–3C)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	A–2	1



WEST ELEVATION

SCALE: 1/8" = 1'-0"

1 / A-3

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

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DATED: FEBRUARY 17, 2015

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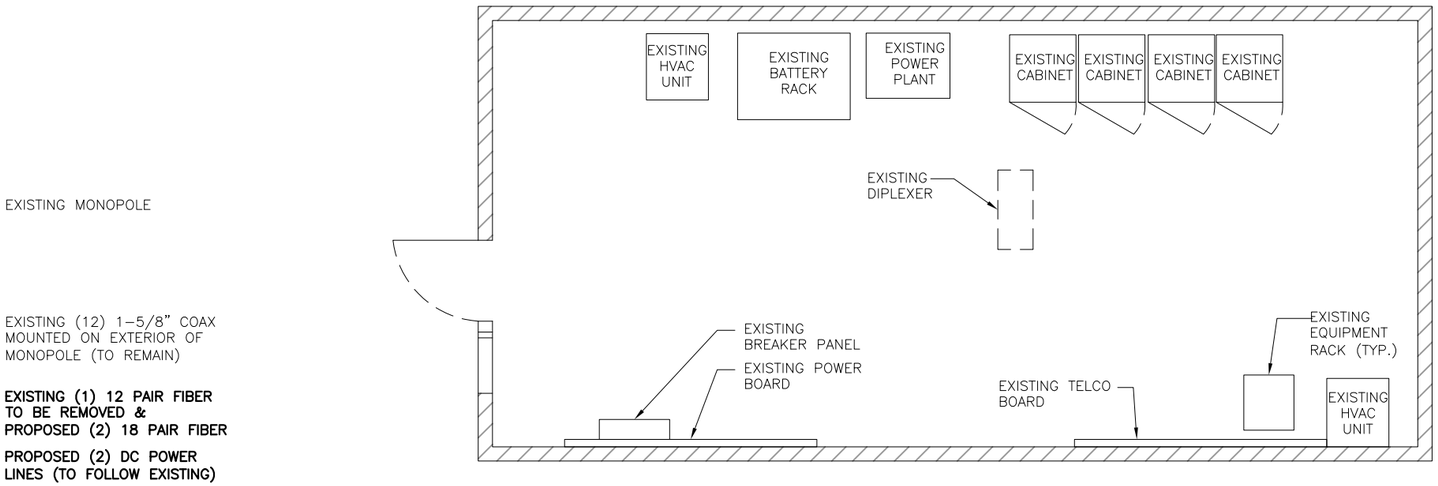

EQUIPMENT PLAN

SCALE: 3/8" = 1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"

Hudson Design Group LLC
1600 OSGOOD STREET
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A	03/30/15	ISSUED FOR REVIEW	MR	AT	DPH

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

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

ELEVATIONS & EQUIPMENT PLAN (LTE-3C)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	A-3	1

(Revised)
STRUCTURAL ANALYSIS REPORT

For

CT6157
DANBURY

48 NEWTOWN ROAD
DANBURY, CT 06810

Antennas Mounted to the Monopole

Prepared for:

SAI

at&t

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

Dated: August 26, 2015 (Rev 1)
Dated: August 12, 2015

Prepared by:

Hudson Design Group LLC

1600 Osgood Street Bldg. 20N Suite 3090
North Andover, MA 01845
(P) 978.557.5553 (F) 978.336.5586
www.hudsondesigngroupllc.com

STATE OF CONNECTICUT
GI KAI WANG
No. 28220
LICENSED
PROFESSIONAL ENGINEER

Gi Kai Wang 8/26/2015

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the 110' monopole supporting the existing and proposed AT&T's antennas located at elevation 100' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of AT&T's existing and proposed antennas listed below.

Record drawings of the existing monopole were not available for our use. The previous structural analysis report prepared by Centek Engineering, dated December 18, 2014, was available and obtained for our use.

CONCLUSION SUMMARY:

HDG performed structural analysis of the existing monopole with the following proposed modifications:

1. **Add steel reinforcing plates to the existing monopole from El.21' to El.72'.**
2. **Add base plate and anchor bolts.**

Based on our evaluation, we have determined that the existing monopole with proposed modifications and foundation **are in conformance** with the ANSI/TIA-222-F Standard for the loading considered under the criteria listed in this report. The monopole structure is rated at **94.6%** - (Pole Section L4 from El.47' to El.72' Controlling).

APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
METRO PCS	(3) 800-10504 Antennas	108'	T-Frame
METRO PCS	(3) 742 351 Antennas	108'	T-Frame
AT&T	(3) Powerwave 7770 Antennas	100'	Low Profile Platform
AT&T	(3) AM-X-CD-14-65 Antennas	100'	Low Profile Platform
AT&T	(6) LGP21400 TMA	100'	Low Profile Platform
AT&T	(3) TT19-08BP111 TMA	100'	Low Profile Platform
AT&T	(12) LGP21900	100'	Low Profile Platform
AT&T	(6) RRUS-11	100'	Low Profile Platform
AT&T	(1) Surge Arrestor DC6-48-60-18-8F	100'	Low Profile Platform
AT&T	***(1) OPA-65R-LCUU-H6 Antennas***	100'	Low Profile Platform
AT&T	***(2) OPA-65R-LCUU-H4 Antennas***	100'	Low Profile Platform
AT&T	***(3) RRUS-32***	100'	Low Profile Platform
AT&T	***(1) Surge Arrestor DC6-48-60-18-8F***	100'	Low Profile Platform
VERIZON	(3) BXA-80080-6CF Antennas	90'	Low Profile Platform
VERIZON	(6) HBXX-6516DS-VTM Antennas	90'	Low Profile Platform
VERIZON	(3) X7C-FRO-660 Antennas	90'	Low Profile Platform
VERIZON	(3) RRH2X40-07-U	90'	Low Profile Platform
VERIZON	(3) RRH2X40 AWS	90'	Low Profile Platform
VERIZON	(3) RRH2X60 PCS	90'	Low Profile Platform
VERIZON	(2) DB-T1-6Z-8AB-0Z	90'	Low Profile Platform

Proposed AT&T Appurtenances shown in Bold.

AT&T EXISTING/PROPOSED COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
AT&T	(12) 1 5/8" Cables	100'	Outside Monopole
AT&T	(2) DC Power Cables	100'	Outside Monopole
AT&T	***(2) Fiber Cables***	100'	Outside Monopole
AT&T	***(2) DC Power Cables***	100'	Outside Monopole

Proposed AT&T Coax Cables shown in Bold.

ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Pole Section-L1	19.8 %	97.5 – 111	PASS	
Pole Section-L2	19.8 %	97 – 97.5	PASS	
Pole Section-L3	83.2 %	72 – 97	PASS	
Pole Section-L4	**94.6 %**	47 – 72	PASS	**Controlling**
Pole Section-L5	91.2 %	21 – 47	PASS	
Pole Section-L6	91.5 %	1 – 21	PASS	

DESIGN CRITERIA:

1. EIA/TIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

   City/Town: Danbury
   County: Fairfield
   Wind Load: 85 mph (fastest mile)
   105 mph (3 second gust)
   Nominal Ice Thickness: 1/2 inch

2. Approximate height above grade to proposed antennas: 100'

***Calculations and referenced documents are attached.**

ASSUMPTIONS:

1. The monopole dimensions, member sizes, material strength and foundation are as indicated in the previous structural analysis report prepared by Centek Engineering, dated December 18, 2014.

2. The appurtenances configuration is as stated in the previous structural analysis report prepared by Centek Engineering, dated December 18, 2014. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

3. The monopole and foundation are properly constructed and maintained. 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.

4. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

5. All prior structural modification, if any, are assumed to be as per the data supplied (if available), and installed properly.

SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed antennas and RRHs be mounted on the existing steel platform supported by the monopole; the proposed surge arrestor be mounted on the mount pipe.

Reference HDG's Latest Construction Drawings for all component and connection requirements (attached).

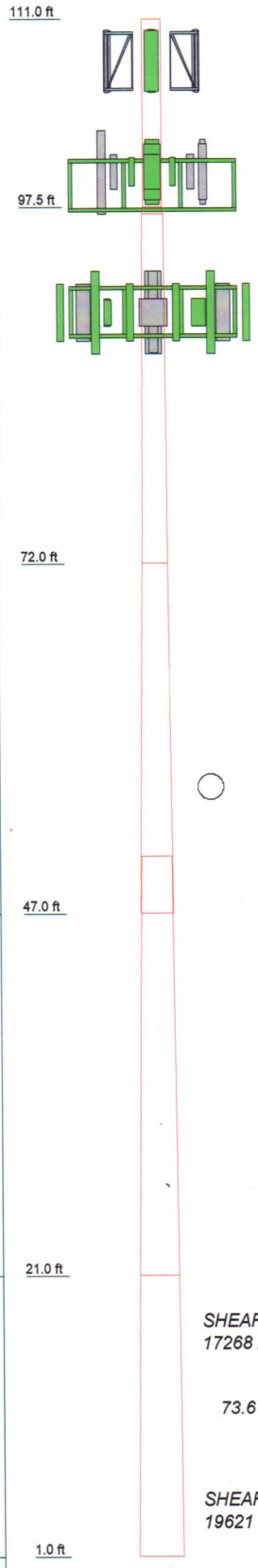
ONGOING AND PERIODIC INSPTECTION AND MAINTENANCE:

After the Contractor has successfully completed the installation and the work has been accepted, the Owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

Section	1	2	3	4	5	6
Length (ft)	13.50	0.50	25.00	25.00	30.00	20.00
Number of Sides	1	1	18	18	18	18
Thickness (in)	0.3750	0.3750	0.2500	0.3000	0.3650	0.3890
Socket Length (ft)				4.00		
Top Dia (in)	16.0000	16.0000	17.4900	22.7350	26.5408	33.3920
Bot Dia (in)	16.0000	17.4900	22.7350	27.9800	33.3920	37.0000
Grade	A36	A36	A36	A572-65	A572-65	A572-65
Weight (lb)	845.6	32.8	1340.8	2029.7	3500.8	2924.7

Total Weight (lb): 10674.5



DESIGNED APPURTENANCE LOADING

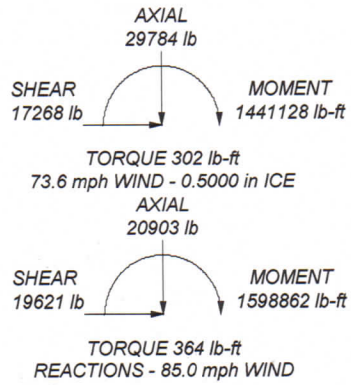
TYPE	ELEVATION	TYPE	ELEVATION
2' Standoff T-Arm (10' face width) (Metro)	108	OPA-65R-LCUU-H4 w/mount pipe	100
		OPA-65R-LCUU-H4 w/mount pipe	100
2' Standoff T-Arm (10' face width)	108	Ericsson RRUS-32	100
2' Standoff T-Arm (10' face width)	108	Ericsson RRUS-32	100
Kathrein 800 10504 w/mount pipe	108	Ericsson RRUS-32	100
Kathrein 800 10504 w/mount pipe	108	Surge Arrestor DC6-48-60-18-8F	100
Kathrein 800 10504 w/mount pipe	108	PiROD 13' Platform w/handrail (ATI - existing)	99
Kathrein 742 351 w/mount pipe	108		
Kathrein 742 351 w/mount pipe	108	PiROD 13' Platform w/handrail (Verizon)	90
Kathrein 742 351 w/mount pipe	108		
Powerwave 7770 w/mount pipe	100	BXA-80080-6CF-EDIN w/mount pipe	90
Powerwave 7770 w/mount pipe	100	BXA-80080-6CF-EDIN w/mount pipe	90
Powerwave 7770 w/mount pipe	100	BXA-80080-6CF-EDIN w/mount pipe	90
KMW AM-X-CD-14-65-00T-RET w/mount pipe	100	(2) HBXX-6516DS-VTM w/mount pipe	90
KMW AM-X-CD-14-65-00T-RET w/mount pipe	100	(2) HBXX-6516DS-VTM w/mount pipe	90
KMW AM-X-CD-14-65-00T-RET w/mount pipe	100	(2) HBXX-6516DS-VTM w/mount pipe	90
(2) Powerwave TMA LGP21401	100	CSS X7C FRO-660 w/mount pipe	90
(2) Powerwave TMA LGP21401	100	CSS X7C FRO-660 w/mount pipe	90
(2) Powerwave TMA LGP21401	100	CSS X7C FRO-660 w/mount pipe	90
Powerwave TT19-08BP111-001	100	RRH2X40-07-U	90
Powerwave TT19-08BP111-001	100	RRH2X40-07-U	90
Powerwave TT19-08BP111-001	100	RRH2X40-07-U	90
(4) Powerwave LGP21900	100	RRH2X40 AWS	90
(4) Powerwave LGP21900	100	RRH2X40 AWS	90
(4) Powerwave LGP21900	100	RRH2X40 AWS	90
(2) Ericsson RRUS-11	100	RRH2x60 PCS	90
(2) Ericsson RRUS-11	100	RRH2x60 PCS	90
(2) Ericsson RRUS-11	100	RRH2x60 PCS	90
Surge Arrestor DC6-48-60-18-8F	100	RFS DB-T1-6Z-8AB-0Z	90
OPA-65R-LCUU-H6 w/mount pipe (ATI - proposed)	100	RFS DB-T1-6Z-8AB-0Z	90

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85.0 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 73.6 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50.0 mph wind.
5. TOWER RATING: 94.6%



Hudson Design Group LLC
1600 Osgood Street Bldg. 20N Suite 3090
North Andover, MA 01845
Phone: (978) 557-5553
FAX: (978) 336-5586

Job: CT6157 Modifications Danbury, CT		
Project: 110 ft Monopole		
Client: AT&T	Drawn by: kw	App'd:
Code: TIA/EIA-222-F	Date: 08/26/15	Scale: NTS
Path: C:\Users\kwang\Documents\HUDSON DESIGN GROUP\AAA\CT 6157 Mod - MP /AT&T SAI\CT 6157 Mod\CT 6157 Mod.eri		Dwg No. E-1

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data

BU#:	*CT6157 Modifications*
Site Name:	*0*
App #:	*0*
Pole Manufacturer:	*Other*

Reactions		
Moment:	900	ft-kips
Axial:	14	kips
Shear:	14	kips

Anchor Rod Data		
Qty:	8	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	45	in

Plate Data		
Diam:	51	in
Thick:	1.5	in
Grade:	60	ksi
Single-Rod B-eff:	14.68	in

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data		
Diam:	37	in
Thick:	0.389	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	

If No stiffeners, Criteria:	AISC ASD	<-Only Applcable to Unstiffened Cases

Anchor Rod Results

Maximum Rod Tension:	118.3	Kips	Non-Rigid
Allowable Tension:	195.0	Kips	Service, ASD
Anchor Rod Stress Ratio:	60.7%	**Pass**	Fty*ASIF

Base Plate Results Flexural Check

Base Plate Stress:	53.6	ksi	Non-Rigid
Allowable Plate Stress:	60.0	ksi	Service ASD
Base Plate Stress Ratio:	89.4%	**Pass**	0.75*Fy*ASIF
			Y.L. Length: 25.61

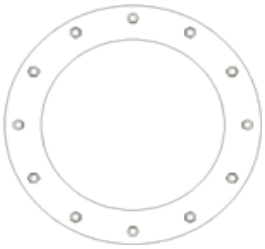
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check:	n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data

BU#:	*CT6157 Modifications*
Site Name:	*0*
App #:	*0*
Pole Manufacturer:	*Other*

Reactions		
Moment:	700	ft-kips
Axial:	7	kips
Shear:	6	kips

If No stiffeners, Criteria:	AISC ASD	<-Only Applcable to Unstiffened Cases

Anchor Rod Data		
Qty:	6	
Diam:	2.25	in
Rod Material:	Other	
Strength (Fu):	125	ksi
Yield (Fy):	105	ksi
Bolt Circle:	55	in

Anchor Rod Results

Maximum Rod Tension:	100.7 Kips	Non-Rigid
Allowable Tension:	218.6 Kips	Service, ASD
Anchor Rod Stress Ratio:	46.0% **Pass**	Fty*ASIF

Plate Data		
Diam:	61	in
Thick:	1.75	in
Grade:	60	ksi
Single-Rod B-eff:	19.57	in

Base Plate Results

	Flexural Check	Non-Rigid
Base Plate Stress:	45.7 ksi	Service ASD
Allowable Plate Stress:	60.0 ksi	0.75*Fy*ASIF
Base Plate Stress Ratio:	76.2% **Pass**	Y.L. Length: 40.69

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a

Stiffener Results

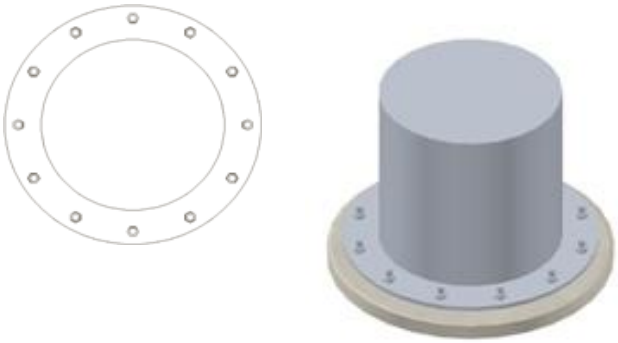
Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check:	n/a

Pole Data		
Diam:	37	in
Thick:	0.389	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

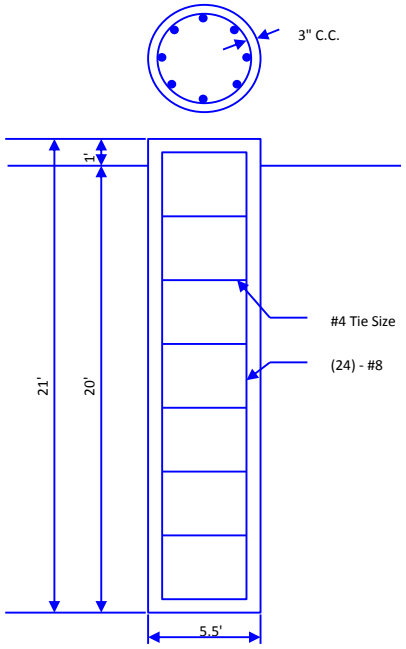
CCI Foundation Tool Suite - Monopole Pier

CCIFTS 1.1.103.14128 - Phase 1 Date: 8/24/2015

BU:	CT6157
Site Name:	
App Number:	N/A
Work Order:	

Monopole Drilled Pier

Input



Criteria		
TIA Revision:	F	
ACI 318 Revision:	2002	
Seismic Category:	B	
Forces		
Compression	21	kips
Shear	20	kips
Moment	1600	k-ft
Swelling Force	0	kips
Foundation Dimensions		
Pier Diameter:	5.5	ft
Ext. above grade:	1	ft
Depth below grade:	20	ft
Material Properties		
Number of Rebar:	24	
Rebar Size:	8	
Tie Size	4	
Rebar tensile strength:	60	ksi
Concrete Strength:	3000	psi
Ultimate Concrete Strain	0.003	in/in
Clear Cover to Ties:	3	in

Soil Profile: Profile 1

Layer	Thickness (ft)	From (ft)	To (ft)	Unit Weight (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Uplift Skin Friction (ksf)	Ultimate Comp. Skin Friction (ksf)	Ultimate Bearing Capacity (ksf)	SPT 'N' Counts
1	3	0	3	120	0	28				
2	10	3	13	78	0	38				
3	16	13	29	43	0	38				

Analysis Results

Soil Lateral Capacity

Depth to Zero Shear:	3.42	ft
Max Moment, Mu:	1669.18	k-ft
Soil Safety Factor:	2.65	
Safety Factor Req'd:	2	
RATING:	75.6%	

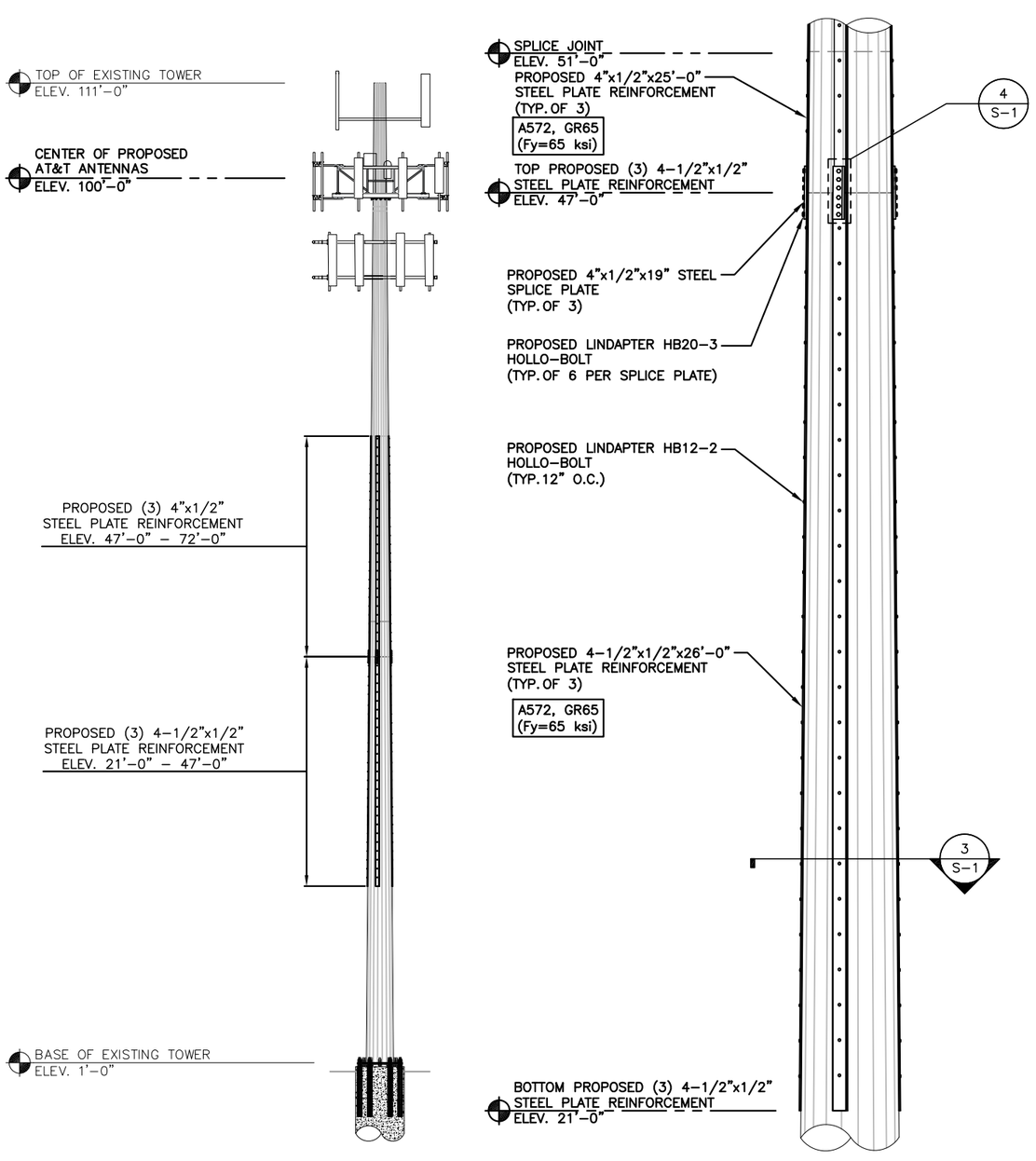
Soil Axial Capacity

Skin Friction (k):	79.86	kips
End Bearing (k):	0.00	kips
Comp. Capacity (k), ϕCn:	79.86	kips
Comp. (k), Cu:	27.30	kips
RATING:	34.2%	

Concrete/Steel Check

Mu (from soil analysis)	2169.94	k-ft
ϕMn	2367.71	k-ft
RATING:	91.6%	
rho provided	0.55	
rho required	0.33	OK
Rebar Spacing	6.59	
Spacing required	16.00	OK
Dev. Length required	16.33	
Dev. Length provided	43.82	OK

Overall Foundation Rating: 91.6%



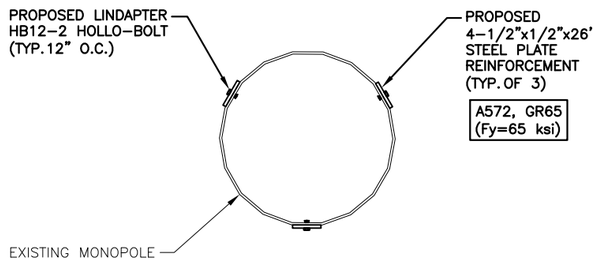
1 S-1 **TOWER ELEVATION**
SCALE: 1/8"=1'-0"
0 4'-0" 8'-0" 16'-0" 24'-0"

2 S-1 **REINFORCEMENT ELEVATION ELEV. 21'-0" - 47'-0"**
SCALE: 1/2"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

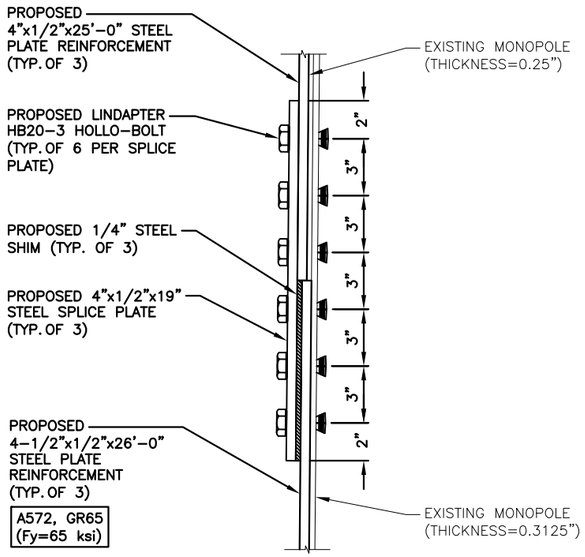
NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: AUGUST 26, 2015, (REV1) FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

ALL DIMENSIONS, MEASUREMENTS, QUANTITIES, PART NUMBERS, AND COAX/ANTENNA/STEP BOLT PLACEMENTS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO MATERIAL ORDERS AND CONSTRUCTION.



3 S-1 **REINFORCEMENT PLAN ELEV. 21'-0" - 47'-0"**
SCALE: 1"=1'-0"
0 0'-6" 1'-0" 2'-0" 3'-0"



4 S-1 **SPLICE DETAIL ELEV. 47'-0"**
SCALE: 3"=1'-0"
0 0'-2" 0'-4" 0'-8" 1'-0"

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES. IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL PERMITS NECESSARY TO COMPLETE THE PROJECT AND ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO HUDSON DESIGN GROUP FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREA.
3. INCORRECTLY FABRICATED, DAMAGED, OTHERWISE MISFITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO HUDSON DESIGN GROUP PRIOR TO ANY REMEDIAL OR CORRECTIVE ACTION. ALL ACTIONS SHALL REQUIRE HUDSON DESIGN GROUP, LLC APPROVAL.
4. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AFTER COMPLETION OF THE PROJECT.
5. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL DEBRIS FROM SITE AND RESTORE AS BEST AS POSSIBLE TO PRE-CONSTRUCTION CONDITION.

STEEL:

1. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE AND ASTM SPECIFICATIONS.
2. ALL CONNECTIONS Of STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES E-70XX OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325N, THREAD INCLUDED WITH SHEAR PLANE UNLESS OTHERWISE NOTED.
3. ALL BOLTED CONNECTIONS TO BE INSTALLED TO A SNUG-TIGHTENED CONDITION IN ACCORDANCE WITH AISC 13 PART 16.2, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 8.1, UNLESS OTHERWISE NOTED.
4. ALL STEEL (EXCEPT A490 BOLTS), AFTER FABRICATION, SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH 2 COATS OF ZRC COLD GALVANIZING COMPOUND.
5. ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED.
6. STRUCTURAL STEEL MAY NOT BE TORCH CUT FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC STANDARDS.
7. NEW STEEL MEMBERS AND CONNECTIONS SHALL BE PAINTED TO MATCH EXISTING TOWER.

MISC. NOTES:

1. ALL MODIFICATIONS ARE ASSUMED TO BE MADE ON AN EMPTY TOWER. CONTRACTOR IS RESPONSIBLE TO MAKE PROVISIONS TO SUPPORT OR WORK AROUND EXISTING ANTENNAS AND TRANSMISSION LINES. MODIFICATIONS MUST BE CONTINUOUS THROUGH ALL AREAS SHOWN.
2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

FABRICATION NOTES:

1. ALL DIMENSIONS ARE PRELIMINARY UNTIL FIELD VERIFIED BY CONTRACTOR. ANY CHANGES MUST BE APPROVED BY ENGINEER OF RECORD IN WRITING PRIOR TO FABRICATION AND INSTALLATION.
2. NEW STEEL MEMBERS MUST HAVE SINGLE DRILLED HOLES. SLOTTED AND DOUBLE DRILLED HOLES ARE NOT ACCEPTABLE MEANS OF FABRICATION.

CONTRACTOR QUALIFICATION NOTES:

1. ALL REPAIRS SHALL BE PERFORMED BY A TOWER CONTRACTOR WITH A MINIMUM OF 5 YEARS EXPERIENCE IN TOWER ERECTION AND RETROFIT AND WITH WORKING KNOWLEDGE OF THE ANSI/TIA-222-G "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS".
2. CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. SHOULD THE CONTRACTOR REQUIRE DIRECT CONSULTATION, HUDSON DESIGN GROUP, LLC IS WILLING TO OFFER SERVICES BASED UPON AN AGREED FEE FOR THE WORK REQUIRED.
3. ALL SUBMITTAL INFORMATION MUST BE SENT TO HUDSON DESIGN GROUP, LLC 1600 OSGOOD ST. BUILDING 20N, SUITE 3090, NORTH ANDOVER, MA 01845 TEL: (978)557-5553, FAX: (978)336-5586. ANY VARIATION OF THESE SPECIFICATIONS OR DRAWINGS WITHOUT CONSENT FROM HUDSON DESIGN GROUP WILL VOID ANY RESPONSIBILITY OR LIABILITY FOR DAMAGE (MATERIAL OR PHYSICAL) TOWARDS HUDSON DESIGN GROUP, LLC.

JOB SITE SAFETY AND NOTES:

NEITHER THE PROFESSIONAL ACTIVITIES OF HUDSON DESIGN GROUP, LLC NOR THE PRESENCE OF HUDSON DESIGN GROUP, LLC OR EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND/OR SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES, OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE GENERAL CONTRACTOR AND/OR SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY, AND WARRANTS THAT THIS INTENT IS EVIDENT BY ACCEPTING THIS WORK.

SUBSTITUTES AND/OR EQUALS:

IF CONTRACTOR WISHES TO FURNISH OR USE A SUBSTITUTE ITEM OF MATERIAL OR EQUIPMENT, CONTRACTOR SHALL MAKE WRITTEN APPLICATION TO ENGINEER FOR ACCEPTANCE THEREOF, CERTIFYING THAT THE PROPOSED SUBSTITUTE WILL ADEQUATELY PERFORM THE FUNCTIONS AND ACHIEVE THE RESULTS CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR IN SUBSTANCE TO THAT SPECIFIED, AND SUITED TO THE SAME USE AS THAT SPECIFIED. ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED WILL BE IDENTIFIED IN THE APPLICATION AND AVAILABLE MAINTENANCE, REPAIR, AND REPLACEMENT SERVICE WILL BE INDICATED. THE APPLICATION WILL ALSO CONTAIN AN ITEMIZED ESTIMATE OF ALL COSTS OR CREDITS THAT WILL RESULT DIRECTLY OR INDIRECTLY FROM ACCEPTANCE OF SUCH SUBSTITUTE INCLUDING COSTS OF REDESIGN AND CLAIMS OF OTHER CONTRACTORS AFFECTED BY THE RESULTING CHANGE, ALL OF WHICH WILL BE CONSIDERED BY ENGINEER IN EVALUATION OF THE PROPOSED SUBSTITUTE. ENGINEER MAY REQUIRE CONTRACTOR TO FURNISH ADDITIONAL DATA ABOUT THE PROPOSED SUBSTITUTE.

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
27 NORTHWESTERN DR.
SALEM, NH 03079

SITE NUMBER: CT6157
SITE NAME: DANBURY
CCI SITE #:852850
WCP #:69910
48 NEWTOWN RD.
DANBURY, CT 06810
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/03/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH
A	08/31/15	ISSUED FOR REVIEW	SG	AT	DPH

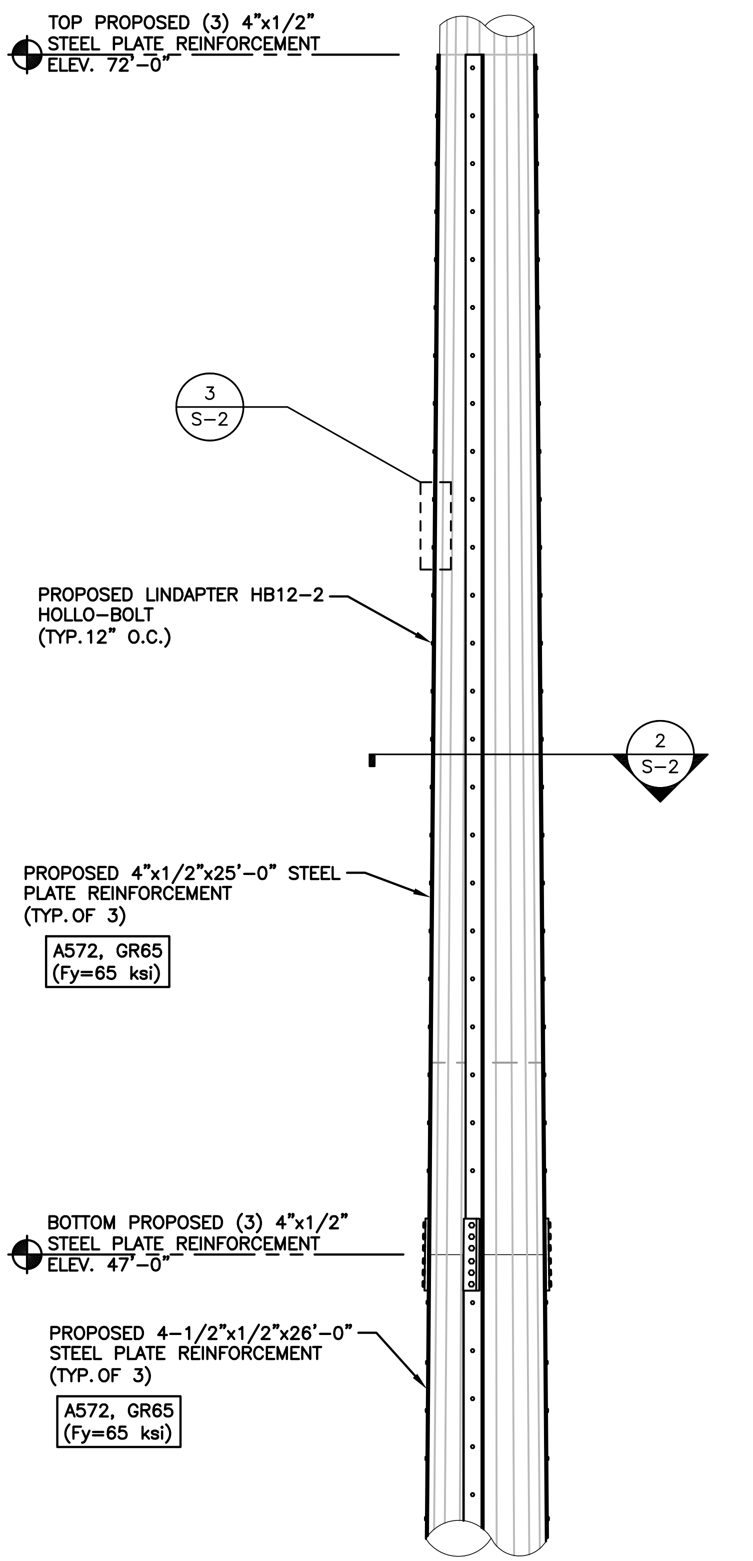
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SG

LICENSED PROFESSIONAL ENGINEER

AT&T

TOWER MODIFICATION DETAILS (MOD)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	S-1	1



REINFORCEMENT ELEVATION

1 S-2 **ELEV. 47'-0" - 72'-0"**

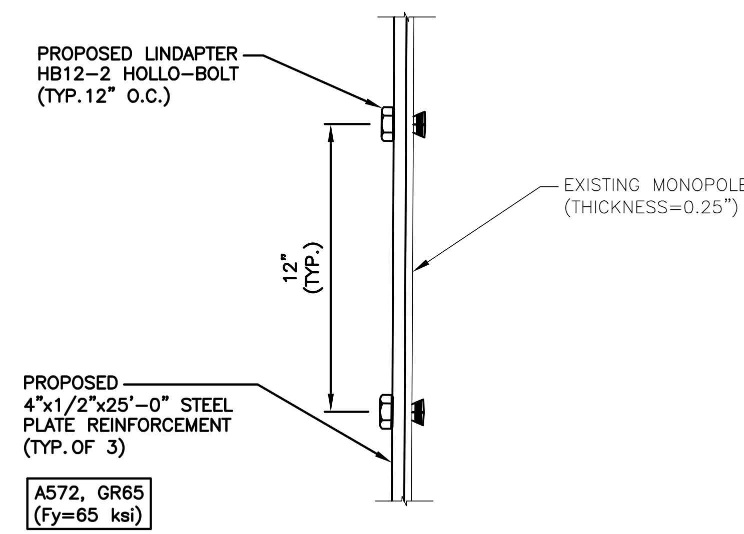
SCALE: 1/2"=1'-0"

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: AUGUST 26, 2015, (REV1) FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

ALL DIMENSIONS, MEASUREMENTS, QUANTITIES, PART NUMBERS, AND COAX/ANTENNA/STEP BOLT PLACEMENTS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO MATERIAL ORDERS AND CONSTRUCTION.

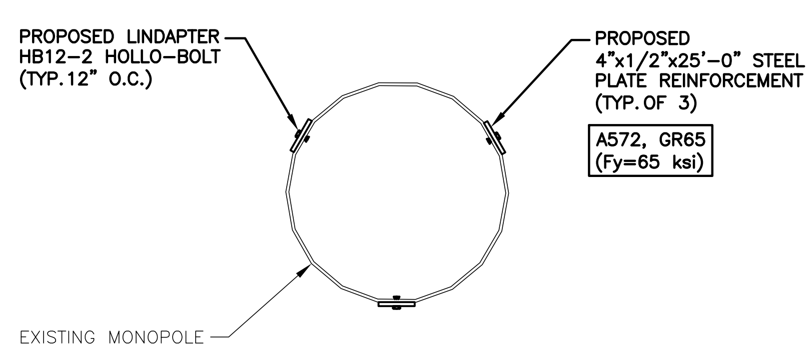


CONNECTION DETAIL

4 S-1 **ELEV. 47'-0" - 72'-0"**

SCALE: 3"=1'-0"

0 0'-2" 0'-4" 0'-8" 1'-0"



REINFORCEMENT PLAN

2 S-2 **ELEV. 47'-0" - 72'-0"**

SCALE: 1"=1'-0"

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

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.

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. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

SPECIAL INSPECTION CHECKLIST

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

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
27 NORTHWESTERN DR.
SALEM, NH 03079

SITE NUMBER: CT6157
SITE NAME: DANBURY
CCI SITE #:852850
WCP #:69910
48 NEWTOWN RD.
DANBURY, CT 06810
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/03/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH
A	08/31/15	ISSUED FOR REVIEW	SG	AT	DPH

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

STATE OF CONNECTICUT — DEREK J. CREASER — No. 28551 — LICENSED PROFESSIONAL ENGINEER

AT&T

TOWER MODIFICATION DETAILS (MOD)

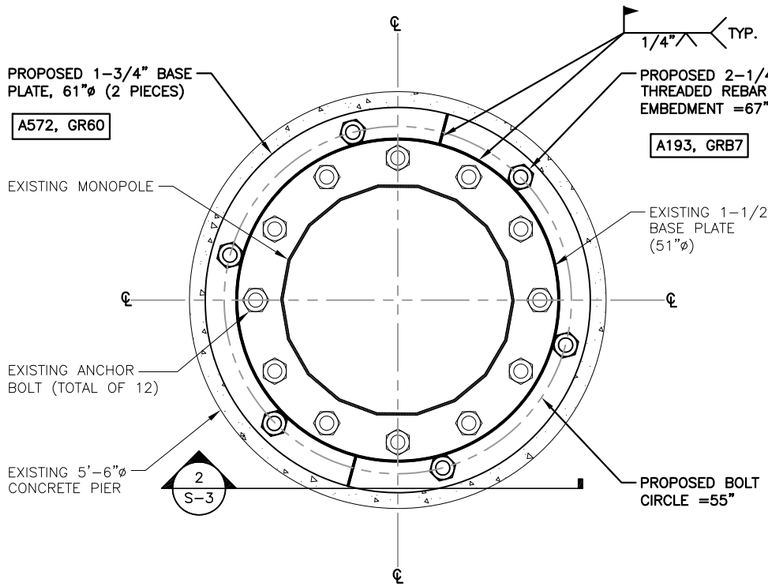
JOB NUMBER	DRAWING NUMBER	REV
6157.00	S-2	1

NOTES:

1. CONTRACTOR TO TEMPORARILY RELOCATE ANY EXISTING EQUIPMENT AS NECESSARY TO ACCOMMODATE THE PROPOSED FOUNDATION MODIFICATION. REPLACE RELOCATED EQUIPMENT AFTER COMPLETION OF PROPOSED FOUNDATION MODIFICATION.

2. CONTRACTOR TO REPLACE ANY GROUNDING MATERIAL THAT IS DAMAGED OR REMOVED DURING INSTALLATION.

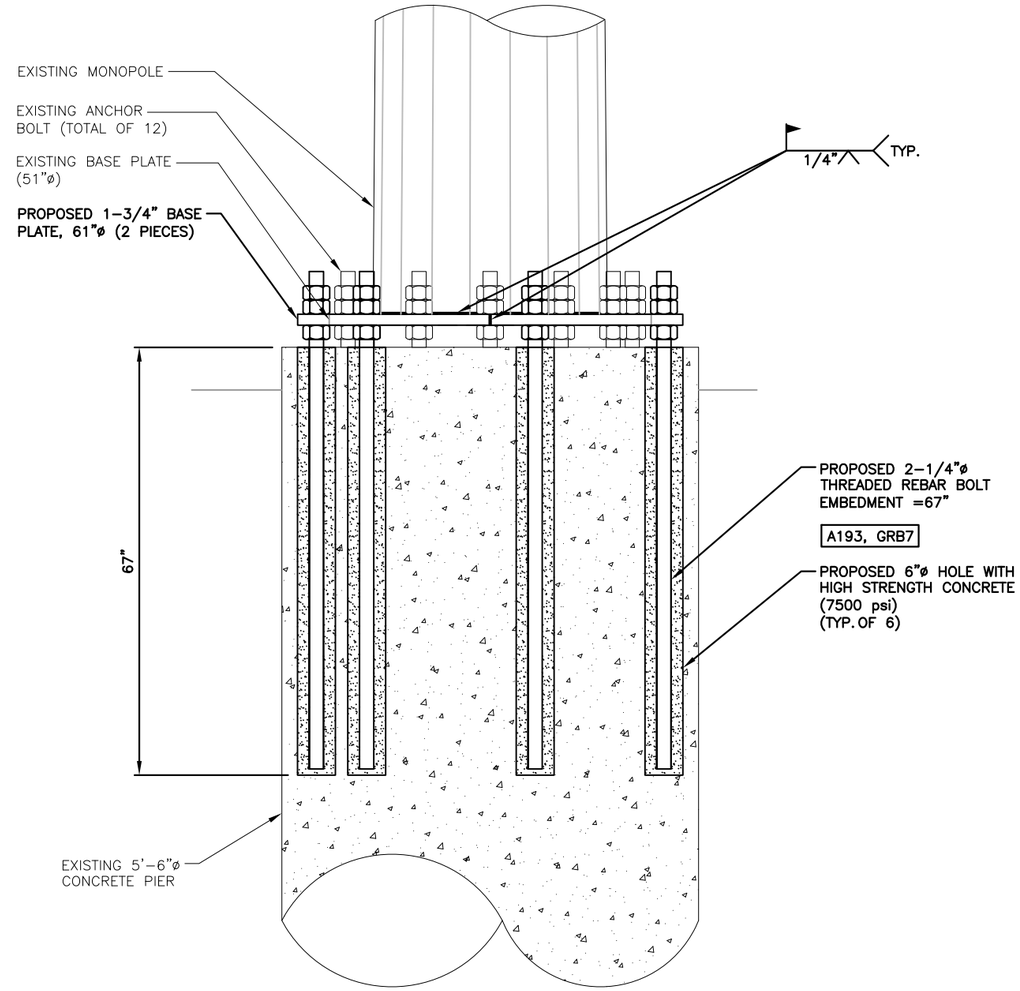
3. CONTRACTOR TO INSTALL TEMPORARY SUPPORT FOR THE EXISTING TOWER FOUNDATION DURING INSTALLATION.



1 S–3 BASE PLATE MODIFICATION PLAN

SCALE: 1"=1'–0"

0 0'–6" 1'–0" 2'–0" 3'–0"



2 S–3 BASE PLATE MODIFICATION SECTION

SCALE: 1"=1'–0"

0 0'–6" 1'–0" 2'–0" 3'–0"

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: AUGUST 26, 2015, (REV1) FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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

STATE OF CONNECTICUT
DEREK J. CREASEY
No. 28574
LICENSED PROFESSIONAL ENGINEER

AT&T

BASE PLATE MODIFICATION PLAN (MOD)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	S–3	1

Centek Engineering, Inc.
3-2 North Branford Road
Branford, Connecticut 06405
Phone: (203) 488-0580
Fax: (203) 488-8587

Steven L. Levine
Real Estate Consultant

September 16, 2015

Honorable Mark D. Boughton
Mayor, City of Danbury
City Hall 155 Deer Hill Avenue
Danbury, CT 06810

Re: Telecommunications Facility – 48 Newtown Road, Danbury

Dear Mayor Boughton:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The enclosed Notice fully sets forth the AT&T proposal. However, if you have any questions or require any further information on the plans for the site or the Siting Council's procedures, please contact the undersigned at 860-830-0380 or Ms. Melanie Bachman, Acting Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Steven L. Levine
Real Estate Consultant

Enclosure

Centek Engineering, Inc.
3-2 North Branford Road
Branford, Connecticut 06405
Phone: (203) 488-0580
Fax: (203) 488-8587

Steven L. Levine
Real Estate Consultant

September 16, 2015

48 Newtown Road Corporation
50 Newtown Road
Danbury, CT 06810

Re: Telecommunications Facility – 48 Newtown Road, Danbury

To Whom It May Concern:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") will be changing its equipment configuration at certain cell sites.

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Sincerely,

Steven L. Levine
Real Estate Consultant

Enclosure

(Revised)
STRUCTURAL ANALYSIS REPORT

For

CT6157
DANBURY

48 NEWTOWN ROAD
DANBURY, CT 06810

Antennas Mounted to the Monopole

Prepared for:

SAI

at&t

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

Dated: August 26, 2015 (Rev 1)
Dated: August 12, 2015

Prepared by:

Hudson Design Group LLC

1600 Osgood Street Bldg. 20N Suite 3090
North Andover, MA 01845
(P) 978.557.5553 (F) 978.336.5586
www.hudsondesigngroupllc.com

STATE OF CONNECTICUT
GI KAI WANG
No. 28220
LICENSED
PROFESSIONAL ENGINEER

Gi Kai Wang 8/26/2015

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the 110' monopole supporting the existing and proposed AT&T's antennas located at elevation 100' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of AT&T's existing and proposed antennas listed below.

Record drawings of the existing monopole were not available for our use. The previous structural analysis report prepared by Centek Engineering, dated December 18, 2014, was available and obtained for our use.

CONCLUSION SUMMARY:

HDG performed structural analysis of the existing monopole with the following proposed modifications:

1. **Add steel reinforcing plates to the existing monopole from El.21' to El.72'.**
2. **Add base plate and anchor bolts.**

Based on our evaluation, we have determined that the existing monopole with proposed modifications and foundation **are in conformance** with the ANSI/TIA-222-F Standard for the loading considered under the criteria listed in this report. The monopole structure is rated at **94.6%** - (Pole Section L4 from El.47' to El.72' Controlling).

APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
METRO PCS	(3) 800-10504 Antennas	108'	T-Frame
METRO PCS	(3) 742 351 Antennas	108'	T-Frame
AT&T	(3) Powerwave 7770 Antennas	100'	Low Profile Platform
AT&T	(3) AM-X-CD-14-65 Antennas	100'	Low Profile Platform
AT&T	(6) LGP21400 TMA	100'	Low Profile Platform
AT&T	(3) TT19-08BP111 TMA	100'	Low Profile Platform
AT&T	(12) LGP21900	100'	Low Profile Platform
AT&T	(6) RRUS-11	100'	Low Profile Platform
AT&T	(1) Surge Arrestor DC6-48-60-18-8F	100'	Low Profile Platform
AT&T	***(1) OPA-65R-LCUU-H6 Antennas***	100'	Low Profile Platform
AT&T	***(2) OPA-65R-LCUU-H4 Antennas***	100'	Low Profile Platform
AT&T	***(3) RRUS-32***	100'	Low Profile Platform
AT&T	***(1) Surge Arrestor DC6-48-60-18-8F***	100'	Low Profile Platform
VERIZON	(3) BXA-80080-6CF Antennas	90'	Low Profile Platform
VERIZON	(6) HBXX-6516DS-VTM Antennas	90'	Low Profile Platform
VERIZON	(3) X7C-FRO-660 Antennas	90'	Low Profile Platform
VERIZON	(3) RRH2X40-07-U	90'	Low Profile Platform
VERIZON	(3) RRH2X40 AWS	90'	Low Profile Platform
VERIZON	(3) RRH2X60 PCS	90'	Low Profile Platform
VERIZON	(2) DB-T1-6Z-8AB-0Z	90'	Low Profile Platform

Proposed AT&T Appurtenances shown in Bold.

AT&T EXISTING/PROPOSED COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
AT&T	(12) 1 5/8" Cables	100'	Outside Monopole
AT&T	(2) DC Power Cables	100'	Outside Monopole
AT&T	***(2) Fiber Cables***	100'	Outside Monopole
AT&T	***(2) DC Power Cables***	100'	Outside Monopole

Proposed AT&T Coax Cables shown in Bold.

ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Pole Section-L1	19.8 %	97.5 – 111	PASS	
Pole Section-L2	19.8 %	97 – 97.5	PASS	
Pole Section-L3	83.2 %	72 – 97	PASS	
Pole Section-L4	**94.6 %**	47 – 72	PASS	**Controlling**
Pole Section-L5	91.2 %	21 – 47	PASS	
Pole Section-L6	91.5 %	1 – 21	PASS	

DESIGN CRITERIA:

1. EIA/TIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

   City/Town: Danbury
   County: Fairfield
   Wind Load: 85 mph (fastest mile)
   105 mph (3 second gust)
   Nominal Ice Thickness: 1/2 inch

2. Approximate height above grade to proposed antennas: 100'

***Calculations and referenced documents are attached.**

ASSUMPTIONS:

1. The monopole dimensions, member sizes, material strength and foundation are as indicated in the previous structural analysis report prepared by Centek Engineering, dated December 18, 2014.

2. The appurtenances configuration is as stated in the previous structural analysis report prepared by Centek Engineering, dated December 18, 2014. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

3. The monopole and foundation are properly constructed and maintained. 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.

4. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

5. All prior structural modification, if any, are assumed to be as per the data supplied (if available), and installed properly.

SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed antennas and RRHs be mounted on the existing steel platform supported by the monopole; the proposed surge arrestor be mounted on the mount pipe.

Reference HDG's Latest Construction Drawings for all component and connection requirements (attached).

ONGOING AND PERIODIC INSPTECTION AND MAINTENANCE:

After the Contractor has successfully completed the installation and the work has been accepted, the Owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

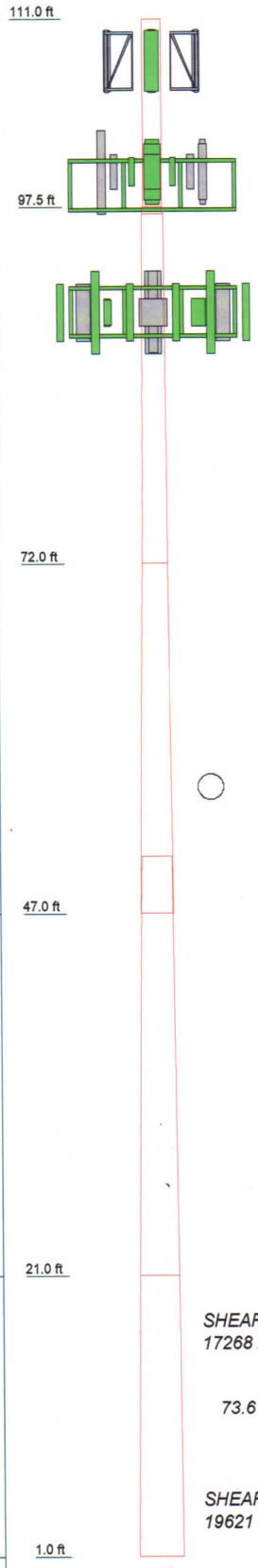
Photo 1: Photo illustrating the monopole with Appurtenances shown.

Hudson Design Group LLC

CALCULATIONS

Section	1	2	3	4	5	6
Length (ft)	13.50	0.50	25.00	25.00	30.00	20.00
Number of Sides	1	1	18	18	18	18
Thickness (in)	0.3750	0.3750	0.2500	0.3000	0.3650	0.3890
Socket Length (ft)				4.00		
Top Dia (in)	16.0000	16.0000	17.4900	22.7350	26.5408	33.3920
Bot Dia (in)	16.0000	17.4900	22.7350	27.9800	33.3920	37.0000
Grade	A36	A36	A36	A572-65	A572-65	A572-65
Weight (lb)	845.6	32.8	1340.8	2029.7	3500.8	2924.7

Total Weight (lb): 10674.5



DESIGNED APPURTENANCE LOADING

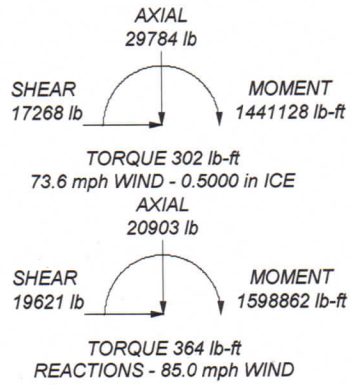
TYPE	ELEVATION	TYPE	ELEVATION
2' Standoff T-Arm (10' face width) (Metro)	108	OPA-65R-LCUU-H4 w/mount pipe	100
		OPA-65R-LCUU-H4 w/mount pipe	100
2' Standoff T-Arm (10' face width)	108	Ericsson RRUS-32	100
2' Standoff T-Arm (10' face width)	108	Ericsson RRUS-32	100
Kathrein 800 10504 w/mount pipe	108	Ericsson RRUS-32	100
Kathrein 800 10504 w/mount pipe	108	Surge Arrestor DC6-48-60-18-8F	100
Kathrein 800 10504 w/mount pipe	108	PiROD 13' Platform w/handrail (ATI - existing)	99
Kathrein 742 351 w/mount pipe	108		
Kathrein 742 351 w/mount pipe	108	PiROD 13' Platform w/handrail (Verizon)	90
Kathrein 742 351 w/mount pipe	108		
Powerwave 7770 w/mount pipe	100	BXA-80080-6CF-EDIN w/mount pipe	90
Powerwave 7770 w/mount pipe	100	BXA-80080-6CF-EDIN w/mount pipe	90
Powerwave 7770 w/mount pipe	100	BXA-80080-6CF-EDIN w/mount pipe	90
KMW AM-X-CD-14-65-00T-RET w/mount pipe	100	(2) HBXX-6516DS-VTM w/mount pipe	90
KMW AM-X-CD-14-65-00T-RET w/mount pipe	100	(2) HBXX-6516DS-VTM w/mount pipe	90
KMW AM-X-CD-14-65-00T-RET w/mount pipe	100	(2) HBXX-6516DS-VTM w/mount pipe	90
(2) Powerwave TMA LGP21401	100	CSS X7C FRO-660 w/mount pipe	90
(2) Powerwave TMA LGP21401	100	CSS X7C FRO-660 w/mount pipe	90
(2) Powerwave TMA LGP21401	100	CSS X7C FRO-660 w/mount pipe	90
Powerwave TT19-08BP111-001	100	RRH2X40-07-U	90
Powerwave TT19-08BP111-001	100	RRH2X40-07-U	90
Powerwave TT19-08BP111-001	100	RRH2X40-07-U	90
(4) Powerwave LGP21900	100	RRH2X40 AWS	90
(4) Powerwave LGP21900	100	RRH2X40 AWS	90
(4) Powerwave LGP21900	100	RRH2X40 AWS	90
(2) Ericsson RRUS-11	100	RRH2x60 PCS	90
(2) Ericsson RRUS-11	100	RRH2x60 PCS	90
(2) Ericsson RRUS-11	100	RRH2x60 PCS	90
Surge Arrestor DC6-48-60-18-8F	100	RFS DB-T1-6Z-8AB-0Z	90
OPA-65R-LCUU-H6 w/mount pipe (ATI - proposed)	100	RFS DB-T1-6Z-8AB-0Z	90

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for a 85.0 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 73.6 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50.0 mph wind.
5. TOWER RATING: 94.6%



Hudson Design Group LLC
1600 Osgood Street Bldg. 20N Suite 3090
North Andover, MA 01845
Phone: (978) 557-5553
FAX: (978) 336-5586

Job: CT6157 Modifications Danbury, CT		
Project: 110 ft Monopole		
Client: AT&T	Drawn by: kw	App'd:
Code: TIA/EIA-222-F	Date: 08/26/15	Scale: NTS
Path: C:\Users\kwang\Documents\HUDSON DESIGN GROUP\AAA\CT 6157 Mod - MP /AT&T SAI\CT 6157 Mod\CT 6157 Mod.eri		Dwg No. E-1

Hudson Design Group LLC
1600 Osgood Street Bldg. 20N Suite 3090
North Andover, MA 01845
Phone: (978) 557-5553
FAX: (978) 336-5586

Job	Page
CT6157 Modifications Danbury, CT	1 of 8
Project	**Date**
110 ft Monopole	10:02:17 08/26/15
Client	**Designed by**
AT&T	kw

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 85.0 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56.0 pcf.
A wind speed of 73.6 mph is used in combination with ice.
Temperature drop of 50.0 °F.
Deflections calculated using a wind speed of 50.0 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	*Elevation* *ft*	*Section Length* *ft*	*Splice Length* *ft*	*Number of Sides*	*Top Diameter* *in*	*Bottom Diameter* *in*	*Wall Thickness* *in*	*Bend Radius* *in*	*Pole Grade*
L1	111.00-97.50	13.50	0.00	Round	16.0000	16.0000	0.3750		A36 (36 ksi)
L2	97.50-97.00	0.50	0.00	Round	16.0000	17.4900	0.3750		A36 (36 ksi)
L3	97.00-72.00	25.00	0.00	18	17.4900	22.7350	0.2500	1.0000	A572-65 (65 ksi)
L4	72.00-47.00	25.00	4.00	18	22.7350	27.9800	0.3000	1.2000	A572-65 (65 ksi)
L5	47.00-21.00	30.00	0.00	18	26.5408	33.3920	0.3650	1.4600	A572-65 (65 ksi)
L6	21.00-1.00	20.00		18	33.3920	37.0000	0.3890	1.5560	A572-65 (65 ksi)

Feed Line/Linear Appurtenances - Entered As Area

Description	*Face or Leg*	*Allow Shield*	*Component Type*	*Placement* *ft*	*Total Number*		C_AA_A *ft²/ft*	*Weight* *plf*
1 5/8 (Metro)	C	No	CaAa (Out Of Face)	109.00 - 16.00	2	No Ice	0.20	1.04
						1/2" Ice	0.30	2.55
1 5/8 (Metro)	C	No	CaAa (Out Of Face)	109.00 - 16.00	10	No Ice	0.00	1.04
						1/2" Ice	0.00	2.55
**********								
1 5/8 (AT&T - existing)	B	No	CaAa (Out Of Face)	100.00 - 16.00	2	No Ice	0.20	1.04
						1/2" Ice	0.30	2.55
1 5/8 (AT&T - existing)	B	No	CaAa (Out Of Face)	100.00 - 16.00	10	No Ice	0.00	1.04
						1/2" Ice	0.00	2.55
WR-VG122ST-BRDA	B	No	CaAa (Out Of Face)	100.00 - 16.00	2	No Ice	0.00	0.25
						1/2" Ice	0.00	0.91
**********								

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
FB-L98B-002	B	No	CaAa (Out Of Face)	100.00 - 16.00	2	No Ice	0.00	0.25
(AT&T - proposed)						1/2" Ice	0.00	0.91
WR-VG122ST-BRDA	B	No	CaAa (Out Of Face)	100.00 - 16.00	2	No Ice	0.00	0.25
						1/2" Ice	0.00	0.91
**********								
1 5/8	C	No	Inside Pole	90.00 - 16.00	12	No Ice	0.00	1.04
(Verizon)						1/2" Ice	0.00	1.04
1 5/8 Fiber Cable	C	No	CaAa (Out Of Face)	90.00 - 16.00	2	No Ice	0.00	1.04
						1/2" Ice	0.00	2.55

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
2' Standoff T-Arm (10' face width)	A	From Face	2.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	5.50 6.90	5.50 6.90	129.00 170.00
(Metro)									
2' Standoff T-Arm (10' face width)	B	From Face	2.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	5.50 6.90	5.50 6.90	129.00 170.00
2' Standoff T-Arm (10' face width)	C	From Face	2.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	5.50 6.90	5.50 6.90	129.00 170.00
Kathrein 800 10504 w/mount pipe	A	From Face	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	3.71 4.18	3.29 4.11	41.90 75.82
Kathrein 800 10504 w/mount pipe	B	From Face	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	3.71 4.18	3.29 4.11	41.90 75.82
Kathrein 800 10504 w/mount pipe	C	From Face	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	3.71 4.18	3.29 4.11	41.90 75.82
Kathrein 742 351 w/mount pipe	A	From Face	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	6.18 6.68	3.04 3.75	49.88 91.76
Kathrein 742 351 w/mount pipe	B	From Face	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	6.18 6.68	3.04 3.75	49.88 91.76
Kathrein 742 351 w/mount pipe	C	From Face	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	6.18 6.68	3.04 3.75	49.88 91.76
**********									
PiROD 13' Platform w/handrail	A	None		0.0000	99.00	No Ice 1/2" Ice	31.30 40.20	31.30 40.20	1822.00 2452.00
(AT&T - existing)									
Powerwave 7770 w/mount pipe	A	From Face	3.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	6.02 6.47	4.10 4.75	57.25 103.17
Powerwave 7770 w/mount pipe	B	From Face	3.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	6.02 6.47	4.10 4.75	57.25 103.17
Powerwave 7770 w/mount	C	From Face	3.50	0.0000	100.00	No Ice	6.02	4.10	57.25

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
pipe			0.00 0.00			1/2" Ice	6.47	4.75	103.17
KMW AM-X-CD-14-65-00T-RET w/mount pipe	A	From Face	3.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	5.74 6.20	4.02 4.63	54.65 99.88
KMW AM-X-CD-14-65-00T-RET w/mount pipe	B	From Face	3.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	5.74 6.20	4.02 4.63	54.65 99.88
KMW AM-X-CD-14-65-00T-RET w/mount pipe	C	From Face	3.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	5.74 6.20	4.02 4.63	54.65 99.88
(2) Powerwave TMA LGP21401	A	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	14.10 21.29
(2) Powerwave TMA LGP21401	B	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	14.10 21.29
(2) Powerwave TMA LGP21401	C	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.41 0.52	14.10 21.29
Powerwave TT19-08BP111-001	A	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.52 0.62	16.00 21.80
Powerwave TT19-08BP111-001	B	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.52 0.62	16.00 21.80
Powerwave TT19-08BP111-001	C	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.52 0.62	16.00 21.80
(4) Powerwave LGP21900	A	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.12 0.17	5.50 7.70
(4) Powerwave LGP21900	B	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.12 0.17	5.50 7.70
(4) Powerwave LGP21900	C	From Face	2.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	0.12 0.17	5.50 7.70
(2) Ericsson RRUS-11	A	From Face	1.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	1.38 1.56	50.70 71.57
(2) Ericsson RRUS-11	B	From Face	1.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	1.38 1.56	50.70 71.57
(2) Ericsson RRUS-11	C	From Face	1.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	1.38 1.56	50.70 71.57
Surge Arrestor DC6-48-60-18-8F	B	From Leg	1.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	1.27 1.46	1.27 1.46	20.00 35.12
**********									
OPA-65R-LCUU-H6 w/mount pipe (AT&T - proposed)	A	From Face	3.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	10.65 11.30	7.53 8.56	112.53 192.76
OPA-65R-LCUU-H4 w/mount pipe	B	From Face	3.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	6.96 7.43	4.59 5.26	68.25 120.98

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
OPA-65R-LCUU-H4	C	From Face	3.50	0.0000	100.00	No Ice	6.96	4.59	68.25
w/mount pipe			0.00			1/2" Ice	7.43	5.26	120.98
			0.00						
Ericsson RRUS-32	A	From Face	2.50	0.0000	100.00	No Ice	3.87	2.76	77.00
			0.00			1/2" Ice	4.15	3.02	104.93
			0.00						
Ericsson RRUS-32	B	From Face	2.50	0.0000	100.00	No Ice	3.87	2.76	77.00
			0.00			1/2" Ice	4.15	3.02	104.93
			0.00						
Ericsson RRUS-32	C	From Face	2.50	0.0000	100.00	No Ice	3.87	2.76	77.00
			0.00			1/2" Ice	4.15	3.02	104.93
			0.00						
Surge Arrestor	C	From Leg	1.00	0.0000	100.00	No Ice	1.27	1.27	20.00
DC6-48-60-18-8F			0.00			1/2" Ice	1.46	1.46	35.12
			0.00						
**********									
PiROD 13' Platform	A	None		0.0000	90.00	No Ice	31.30	31.30	1822.00
w/handrail						1/2" Ice	40.20	40.20	2452.00
(Verizon)									
BXA-80080-6CF-EDIN	A	From Leg	4.00	0.0000	90.00	No Ice	6.26	6.46	47.20
w/mount pipe			0.00			1/2" Ice	6.93	7.73	104.60
			0.00						
BXA-80080-6CF-EDIN	B	From Leg	4.00	0.0000	90.00	No Ice	6.26	6.46	47.20
w/mount pipe			0.00			1/2" Ice	6.93	7.73	104.60
			0.00						
BXA-80080-6CF-EDIN	C	From Leg	4.00	0.0000	90.00	No Ice	6.26	6.46	47.20
w/mount pipe			0.00			1/2" Ice	6.93	7.73	104.60
			0.00						
(2) HBXX-6516DS-VTM	A	From Leg	4.00	0.0000	90.00	No Ice	6.12	4.47	48.85
w/mount pipe			0.00			1/2" Ice	6.58	5.11	97.46
			0.00						
(2) HBXX-6516DS-VTM	B	From Leg	4.00	0.0000	90.00	No Ice	6.12	4.47	48.85
w/mount pipe			0.00			1/2" Ice	6.58	5.11	97.46
			0.00						
(2) HBXX-6516DS-VTM	C	From Leg	4.00	0.0000	90.00	No Ice	6.12	4.47	48.85
w/mount pipe			0.00			1/2" Ice	6.58	5.11	97.46
			0.00						
CSS X7C FRO-660 w/mount	A	From Leg	4.00	0.0000	90.00	No Ice	10.46	7.53	60.55
pipe			0.00			1/2" Ice	11.13	8.72	138.66
			0.00						
CSS X7C FRO-660 w/mount	B	From Leg	4.00	0.0000	90.00	No Ice	10.46	7.53	60.55
pipe			0.00			1/2" Ice	11.13	8.72	138.66
			0.00						
CSS X7C FRO-660 w/mount	C	From Leg	4.00	0.0000	90.00	No Ice	10.46	7.53	60.55
pipe			0.00			1/2" Ice	11.13	8.72	138.66
			0.00						
RRH2X40-07-U	A	From Leg	3.00	0.0000	90.00	No Ice	0.00	1.21	50.00
			0.00			1/2" Ice	0.00	1.36	66.78
			0.00						
RRH2X40-07-U	B	From Leg	3.00	0.0000	90.00	No Ice	0.00	1.21	50.00
			0.00			1/2" Ice	0.00	1.36	66.78
			0.00						
RRH2X40-07-U	C	From Leg	3.00	0.0000	90.00	No Ice	0.00	1.21	50.00
			0.00			1/2" Ice	0.00	1.36	66.78
			0.00						
RRH2X40 AWS	A	From Leg	3.00	0.0000	90.00	No Ice	2.52	1.59	44.00
			0.00			1/2" Ice	2.75	1.80	61.40

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00						
RRH2X40 AWS	B	From Leg	3.00	0.0000	90.00	No Ice	2.52	1.59	44.00
			0.00			1/2" Ice	2.75	1.80	61.40
			0.00						
RRH2X40 AWS	C	From Leg	3.00	0.0000	90.00	No Ice	2.52	1.59	44.00
			0.00			1/2" Ice	2.75	1.80	61.40
			0.00						
RRH2x60 PCS	A	From Leg	3.00	0.0000	90.00	No Ice	2.51	1.55	55.00
			0.00			1/2" Ice	2.73	1.74	72.75
			0.00						
RRH2x60 PCS	B	From Leg	3.00	0.0000	90.00	No Ice	2.51	1.55	55.00
			0.00			1/2" Ice	2.73	1.74	72.75
			0.00						
RRH2x60 PCS	C	From Leg	3.00	0.0000	90.00	No Ice	2.51	1.55	55.00
			0.00			1/2" Ice	2.73	1.74	72.75
			0.00						
RFS DB-T1-6Z-8AB-0Z	A	From Leg	3.00	0.0000	90.00	No Ice	5.60	2.33	44.00
			0.00			1/2" Ice	5.92	2.56	80.13
			0.00						
RFS DB-T1-6Z-8AB-0Z	B	From Leg	3.00	0.0000	90.00	No Ice	5.60	2.33	44.00
			0.00			1/2" Ice	5.92	2.56	80.13
			0.00						

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp

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Comb. No.	*Description*
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Reactions

Location	*Condition*	*Gov. Load Comb.*	*Vertical lb*	*Horizontal, X lb*	*Horizontal, Z lb*
Pole	Max. Vert	15	29783.63	53.39	17232.83
	Max. H_x	11	20903.12	19518.60	72.92
	Max. H_z	2	20903.12	72.92	19570.41
	Max. M_x	2	1594081.04	72.92	19570.41
	Max. M_z	5	1589312.78	-19518.61	-72.92
	Max. Torsion	4	363.61	-16867.15	9722.05
	Min. Vert	1	20903.12	0.00	0.00
	Min. H_x	5	20903.12	-19518.61	-72.92
	Min. H_z	8	20903.12	-72.92	-19570.42
	Min. M_x	8	-1593773.42	-72.92	-19570.42
	Min. M_z	11	-1589351.37	19518.60	72.92
	Min. Torsion	10	-363.66	16867.15	-9722.05

Tower Mast Reaction Summary

Load Combination	*Vertical lb*	*Shear$_x$ lb*	*Shear$_z$ lb*	*Overturning Moment, M_x lb-ft*	*Overturning Moment, M_z lb-ft*	*Torque lb-ft*
Dead Only	20903.12	0.00	0.00	-142.30	15.37	0.00
Dead+Wind 0 deg - No Ice	20903.12	-72.92	-19570.41	-1594081.04	6902.67	-132.13
Dead+Wind 30 deg - No Ice	20903.12	9696.15	-16912.01	-1377114.34	-788693.77	-286.26
Dead+Wind 60 deg - No Ice	20903.12	16867.15	-9722.05	-791167.00	-1372962.46	-363.61
Dead+Wind 90 deg - No Ice	20903.12	19518.61	72.92	6739.04	-1589312.78	-343.52
Dead+Wind 120 deg - No Ice	20903.12	16940.07	9848.36	802774.49	-1379806.77	-231.45
Dead+Wind 150 deg - No Ice	20903.12	9822.45	16984.93	1383659.76	-800597.52	-57.50
Dead+Wind 180 deg - No Ice	20903.12	72.92	19570.42	1593773.42	-6872.47	131.88
Dead+Wind 210 deg - No Ice	20903.12	-9696.15	16912.01	1376814.65	788722.53	286.06
Dead+Wind 240 deg - No Ice	20903.12	-16867.15	9722.05	790869.81	1372992.70	363.66
Dead+Wind 270 deg - No Ice	20903.12	-19518.60	-72.92	-7036.24	1589351.37	343.76
Dead+Wind 300 deg - No Ice	20903.12	-16940.07	-9848.36	-803074.14	1379841.34	231.66
Dead+Wind 330 deg - No Ice	20903.12	-9822.45	-16984.93	-1383961.90	800630.60	57.45
Dead+Ice+Temp	29783.63	0.00	0.00	-242.86	-4.01	0.00
Dead+Wind 0 deg+Ice+Temp	29783.63	-53.39	-17232.83	-1437731.51	5117.32	-118.36
Dead+Wind 30 deg+Ice+Temp	29783.63	8548.56	-14897.33	-1242602.41	-712326.20	-242.47
Dead+Wind 60 deg+Ice+Temp	29783.63	14859.93	-8570.16	-714574.05	-1238908.03	-301.58
Dead+Wind 90 deg+Ice+Temp	29783.63	17189.64	53.39	4856.46	-1433509.53	-279.85

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Job	Page
CT6157 Modifications Danbury, CT	7 of 8
Project	**Date**
110 ft Monopole	10:02:17 08/26/15
Client	**Designed by**
AT&T	kw

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
Dead+Wind 120 deg+Ice+Temp	29783.63	14913.31	8662.62	722898.25	-1244003.30	-183.19
Dead+Wind 150 deg+Ice+Temp	29783.63	8641.03	14950.72	1247163.13	-721182.52	-37.56
Dead+Wind 180 deg+Ice+Temp	29783.63	53.39	17232.83	1437193.85	-5128.49	118.18
Dead+Wind 210 deg+Ice+Temp	29783.63	-8548.56	14897.33	1242067.61	712314.01	242.34
Dead+Wind 240 deg+Ice+Temp	29783.63	-14859.93	8570.16	714041.58	1238897.88	301.59
Dead+Wind 270 deg+Ice+Temp	29783.63	-17189.64	-53.39	-5389.45	1433502.42	280.03
Dead+Wind 300 deg+Ice+Temp	29783.63	-14913.31	-8662.62	-723434.10	1243997.21	183.36
Dead+Wind 330 deg+Ice+Temp	29783.63	-8641.03	-14950.72	-1247701.31	721174.40	37.52
Dead+Wind 0 deg - Service	20903.12	-25.23	-6771.77	-552634.31	2404.26	-46.42
Dead+Wind 30 deg - Service	20903.12	3355.07	-5851.91	-477425.34	-273358.84	-100.48
Dead+Wind 60 deg - Service	20903.12	5836.38	-3364.03	-274328.06	-475871.32	-127.60
Dead+Wind 90 deg - Service	20903.12	6753.85	25.23	2234.31	-550866.24	-120.53
Dead+Wind 120 deg - Service	20903.12	5861.61	3407.74	278155.84	-478256.79	-81.17
Dead+Wind 150 deg - Service	20903.12	3398.77	5877.14	479504.35	-277492.77	-20.08
Dead+Wind 180 deg - Service	20903.12	25.23	6771.77	552327.45	-2370.62	46.39
Dead+Wind 210 deg - Service	20903.12	-3355.07	5851.91	477118.78	273392.31	100.45
Dead+Wind 240 deg - Service	20903.12	-5836.38	3364.03	274021.80	475904.98	127.60
Dead+Wind 270 deg - Service	20903.12	-6753.85	-25.23	-2540.57	550900.25	120.56
Dead+Wind 300 deg - Service	20903.12	-5861.61	-3407.74	-278462.40	478290.96	81.21
Dead+Wind 330 deg - Service	20903.12	-3398.77	-5877.14	-479811.21	277526.77	20.08

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
1	0.00	-20903.12	0.00	0.00	20903.12	0.00	0.000%
2	-72.92	-20903.12	-19570.41	72.92	20903.12	19570.41	0.000%
3	9696.15	-20903.12	-16912.01	-9696.15	20903.12	16912.01	0.000%
4	16867.15	-20903.12	-9722.05	-16867.15	20903.12	9722.05	0.000%
5	19518.60	-20903.12	72.92	-19518.61	20903.12	-72.92	0.000%
6	16940.07	-20903.12	9848.36	-16940.07	20903.12	-9848.36	0.000%
7	9822.45	-20903.12	16984.93	-9822.45	20903.12	-16984.93	0.000%
8	72.92	-20903.12	19570.41	-72.92	20903.12	-19570.42	0.000%
9	-9696.15	-20903.12	16912.01	9696.15	20903.12	-16912.01	0.000%
10	-16867.15	-20903.12	9722.05	16867.15	20903.12	-9722.05	0.000%
11	-19518.60	-20903.12	-72.92	19518.60	20903.12	72.92	0.000%
12	-16940.07	-20903.12	-9848.36	16940.07	20903.12	9848.36	0.000%
13	-9822.45	-20903.12	-16984.93	9822.45	20903.12	16984.93	0.000%
14	0.00	-29783.63	0.00	0.00	29783.63	0.00	0.000%
15	-53.39	-29783.63	-17232.78	53.39	29783.63	17232.83	0.000%
16	8548.56	-29783.63	-14897.33	-8548.56	29783.63	14897.33	0.000%
17	14859.92	-29783.63	-8570.15	-14859.93	29783.63	8570.16	0.000%
18	17189.58	-29783.63	53.39	-17189.64	29783.63	-53.39	0.000%
19	14913.31	-29783.63	8662.62	-14913.31	29783.63	-8662.62	0.000%
20	8641.03	-29783.63	14950.72	-8641.03	29783.63	-14950.72	0.000%
21	53.39	-29783.63	17232.78	-53.39	29783.63	-17232.83	0.000%
22	-8548.56	-29783.63	14897.33	8548.56	29783.63	-14897.33	0.000%
23	-14859.92	-29783.63	8570.15	14859.93	29783.63	-8570.16	0.000%
24	-17189.58	-29783.63	-53.39	17189.64	29783.63	53.39	0.000%
25	-14913.31	-29783.63	-8662.62	14913.31	29783.63	8662.62	0.000%
26	-8641.03	-29783.63	-14950.72	8641.03	29783.63	14950.72	0.000%
27	-25.23	-20903.12	-6771.77	25.23	20903.12	6771.77	0.000%
28	3355.07	-20903.12	-5851.91	-3355.07	20903.12	5851.91	0.000%
29	5836.38	-20903.12	-3364.03	-5836.38	20903.12	3364.03	0.000%
30	6753.84	-20903.12	25.23	-6753.85	20903.12	-25.23	0.000%
31	5861.61	-20903.12	3407.74	-5861.61	20903.12	-3407.74	0.000%

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Phone: (978) 557-5553
FAX: (978) 336-5586

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
32	3398.77	-20903.12	5877.14	-3398.77	20903.12	-5877.14	0.000%
33	25.23	-20903.12	6771.77	-25.23	20903.12	-6771.77	0.000%
34	-3355.07	-20903.12	5851.91	3355.07	20903.12	-5851.91	0.000%
35	-5836.38	-20903.12	3364.03	5836.38	20903.12	-3364.03	0.000%
36	-6753.84	-20903.12	-25.23	6753.85	20903.12	25.23	0.000%
37	-5861.61	-20903.12	-3407.74	5861.61	20903.12	3407.74	0.000%
38	-3398.77	-20903.12	-5877.14	3398.77	20903.12	5877.14	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	111 - 97.5	28.9100	38	2.2281	0.0028
L2	97.5 - 97	22.6295	38	2.2036	0.0026
L3	97 - 72	22.3990	38	2.2011	0.0026
L4	72 - 47	11.9385	38	1.6936	0.0010
L5	51 - 21	5.7565	38	1.1062	0.0005
L6	21 - 1	0.8761	38	0.4210	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
108.00	2' Standoff T-Arm (10' face width)	38	27.5088	2.2269	0.0028	37711
100.00	Powerwave 7770 w/mount pipe	38	23.7854	2.2136	0.0027	14990
99.00	PiROD 13' Platform w/handrail	38	23.3225	2.2100	0.0027	12228
90.00	PiROD 13' Platform w/handrail	38	19.2293	2.1247	0.0021	3840

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$SF*P_{allow}$ lb	% Capacity	Pass Fail
L1	111 - 97.5	Pole	TP16x16x0.375	1	-4081.40	530011.44	19.8	Pass
L2	97.5 - 97	Pole	TP17.49x16x0.375	2	-4082.95	530011.44	19.8	Pass
L3	97 - 72	Pole	TP22.735x17.49x0.25	3	-8882.21	927544.02	83.2	Pass
L4	72 - 47	Pole	TP27.98x22.735x0.3	4	-11767.50	1328674.36	94.6	Pass
L5	47 - 21	Pole	TP33.392x26.5408x0.365	5	-17366.70	1989129.18	91.2	Pass
L6	21 - 1	Pole	TP37x33.392x0.389	6	-20892.90	2349972.26	91.5	Pass
							Summary	
						Pole (L4)	94.6	Pass
						RATING =	**94.6**	**Pass**

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data

BU#:	*CT6157 Modifications*
Site Name:	*0*
App #:	*0*
Pole Manufacturer:	*Other*

Reactions		
Moment:	900	ft-kips
Axial:	14	kips
Shear:	14	kips

Anchor Rod Data		
Qty:	8	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	45	in

Plate Data		
Diam:	51	in
Thick:	1.5	in
Grade:	60	ksi
Single-Rod B-eff:	14.68	in

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data		
Diam:	37	in
Thick:	0.389	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	

If No stiffeners, Criteria:	AISC ASD	<-Only Applcable to Unstiffened Cases

Anchor Rod Results

Maximum Rod Tension:	118.3	Kips	Non-Rigid
Allowable Tension:	195.0	Kips	Service, ASD
Anchor Rod Stress Ratio:	60.7%	**Pass**	Fty*ASIF

Base Plate Results Flexural Check

Base Plate Stress:	53.6	ksi	Non-Rigid
Allowable Plate Stress:	60.0	ksi	Service ASD
Base Plate Stress Ratio:	89.4%	**Pass**	0.75*Fy*ASIF
			Y.L. Length: 25.61

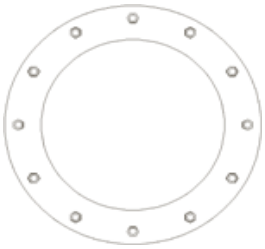
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check:	n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data

BU#:	*CT6157 Modifications*
Site Name:	*0*
App #:	*0*
Pole Manufacturer:	*Other*

Reactions		
Moment:	700	ft-kips
Axial:	7	kips
Shear:	6	kips

If No stiffeners, Criteria:	AISC ASD	<-Only Applcable to Unstiffened Cases

Anchor Rod Data		
Qty:	6	
Diam:	2.25	in
Rod Material:	Other	
Strength (Fu):	125	ksi
Yield (Fy):	105	ksi
Bolt Circle:	55	in

Anchor Rod Results

Maximum Rod Tension:	100.7 Kips	Non-Rigid
Allowable Tension:	218.6 Kips	Service, ASD
Anchor Rod Stress Ratio:	46.0% **Pass**	Fty*ASIF

Plate Data		
Diam:	61	in
Thick:	1.75	in
Grade:	60	ksi
Single-Rod B-eff:	19.57	in

Base Plate Results

	Flexural Check	Non-Rigid
Base Plate Stress:	45.7 ksi	Service ASD
Allowable Plate Stress:	60.0 ksi	0.75*Fy*ASIF
Base Plate Stress Ratio:	76.2% **Pass**	Y.L. Length: 40.69

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a

Stiffener Results

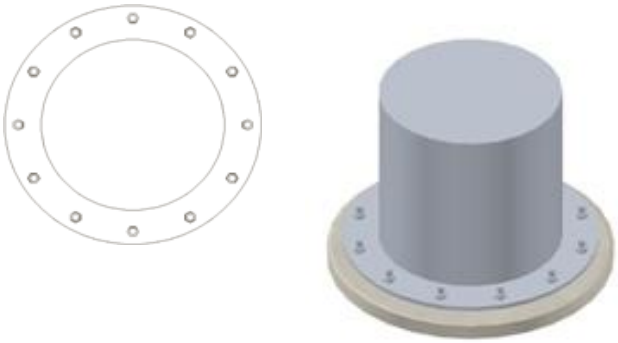
Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check:	n/a

Pole Data		
Diam:	37	in
Thick:	0.389	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

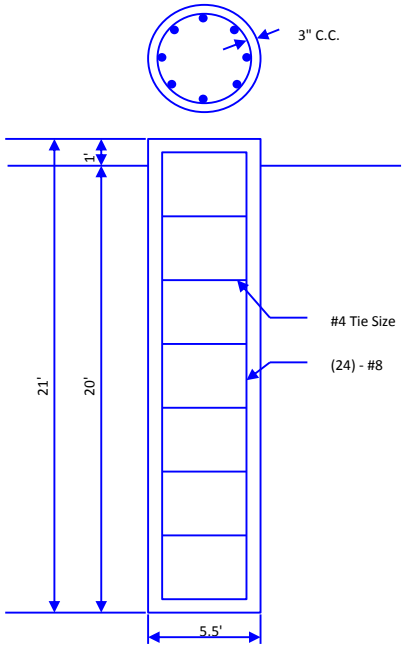
CCI Foundation Tool Suite - Monopole Pier

CCIFTS 1.1.103.14128 - Phase 1 Date: 8/24/2015

BU:	CT6157
Site Name:	
App Number:	N/A
Work Order:	

Monopole Drilled Pier

Input



Criteria		
TIA Revision:	F	
ACI 318 Revision:	2002	
Seismic Category:	B	
Forces		
Compression	21	kips
Shear	20	kips
Moment	1600	k-ft
Swelling Force	0	kips
Foundation Dimensions		
Pier Diameter:	5.5	ft
Ext. above grade:	1	ft
Depth below grade:	20	ft
Material Properties		
Number of Rebar:	24	
Rebar Size:	8	
Tie Size	4	
Rebar tensile strength:	60	ksi
Concrete Strength:	3000	psi
Ultimate Concrete Strain	0.003	in/in
Clear Cover to Ties:	3	in

Soil Profile: Profile 1

Layer	Thickness (ft)	From (ft)	To (ft)	Unit Weight (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Uplift Skin Friction (ksf)	Ultimate Comp. Skin Friction (ksf)	Ultimate Bearing Capacity (ksf)	SPT 'N' Counts
1	3	0	3	120	0	28				
2	10	3	13	78	0	38				
3	16	13	29	43	0	38				

Analysis Results

Soil Lateral Capacity

Depth to Zero Shear:	3.42	ft
Max Moment, Mu:	1669.18	k-ft
Soil Safety Factor:	2.65	
Safety Factor Req'd:	2	
RATING:	75.6%	

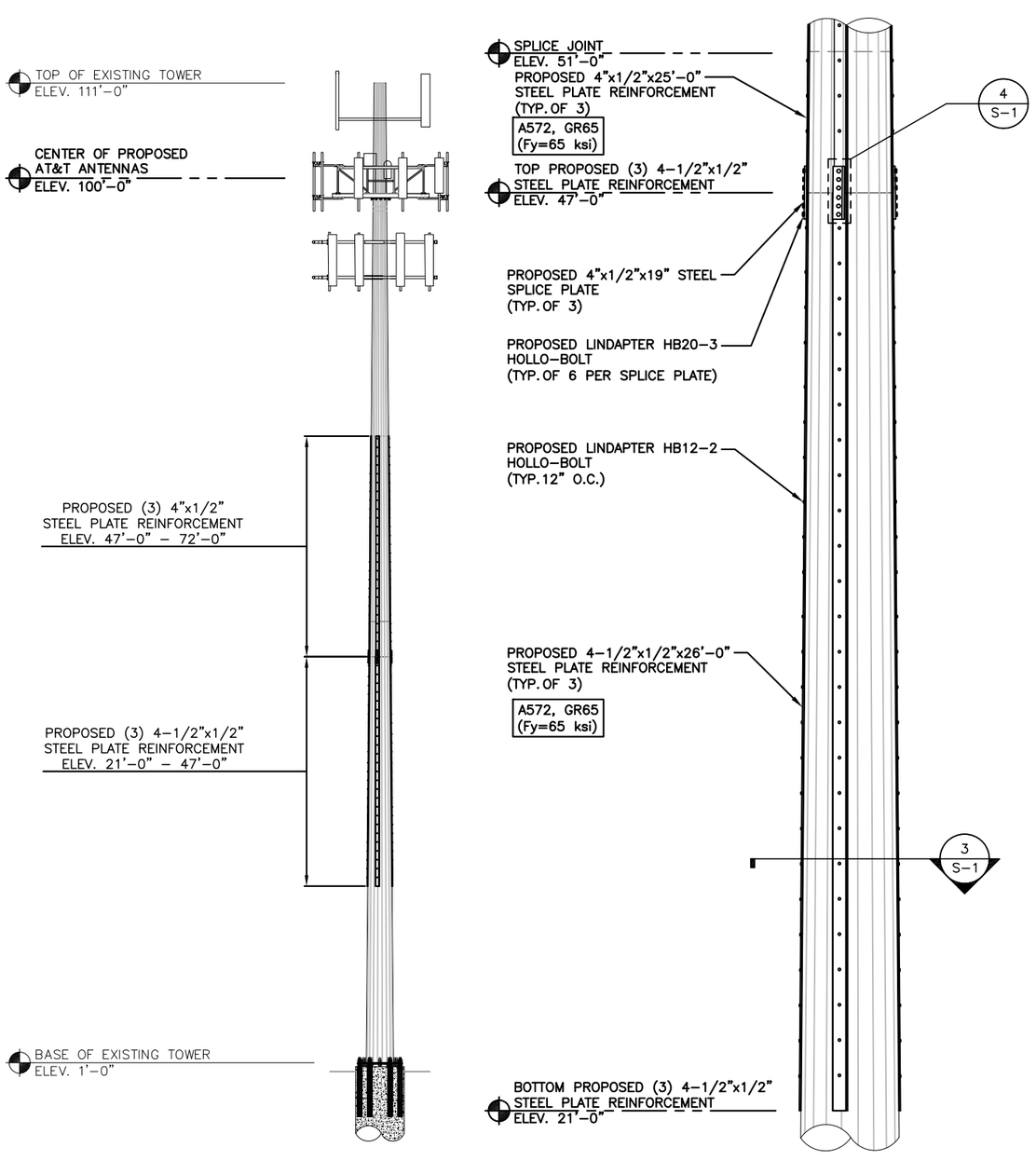
Soil Axial Capacity

Skin Friction (k):	79.86	kips
End Bearing (k):	0.00	kips
Comp. Capacity (k), ϕCn:	79.86	kips
Comp. (k), Cu:	27.30	kips
RATING:	34.2%	

Concrete/Steel Check

Mu (from soil analysis)	2169.94	k-ft
ϕMn	2367.71	k-ft
RATING:	91.6%	
rho provided	0.55	
rho required	0.33	OK
Rebar Spacing	6.59	
Spacing required	16.00	OK
Dev. Length required	16.33	
Dev. Length provided	43.82	OK

Overall Foundation Rating: 91.6%



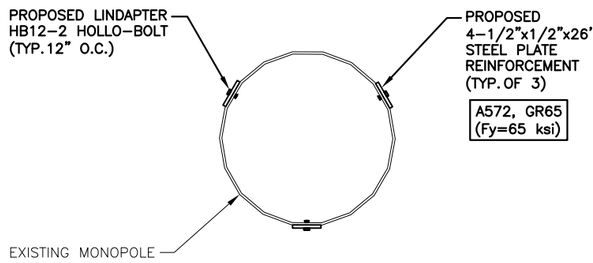
1 S-1 **TOWER ELEVATION**
SCALE: 1/8"=1'-0"
0 4'-0" 8'-0" 16'-0" 24'-0"

2 S-1 **REINFORCEMENT ELEVATION ELEV. 21'-0" - 47'-0"**
SCALE: 1/2"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

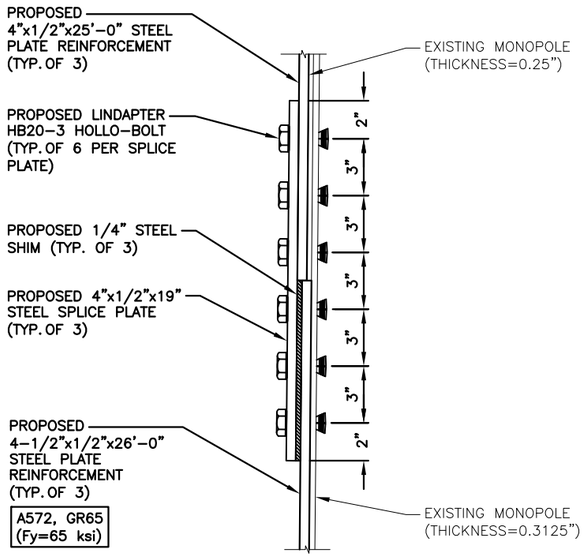
NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: AUGUST 26, 2015, (REV1) FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

ALL DIMENSIONS, MEASUREMENTS, QUANTITIES, PART NUMBERS, AND COAX/ANTENNA/STEP BOLT PLACEMENTS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO MATERIAL ORDERS AND CONSTRUCTION.



3 S-1 **REINFORCEMENT PLAN ELEV. 21'-0" - 47'-0"**
SCALE: 1"=1'-0"
0 0'-6" 1'-0" 2'-0" 3'-0"



4 S-1 **SPLICE DETAIL ELEV. 47'-0"**
SCALE: 3"=1'-0"
0 0'-2" 0'-4" 0'-8" 1'-0"

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES. IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL PERMITS NECESSARY TO COMPLETE THE PROJECT AND ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO HUDSON DESIGN GROUP FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREA.
3. INCORRECTLY FABRICATED, DAMAGED, OTHERWISE MISFITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO HUDSON DESIGN GROUP PRIOR TO ANY REMEDIAL OR CORRECTIVE ACTION. ALL ACTIONS SHALL REQUIRE HUDSON DESIGN GROUP, LLC APPROVAL.
4. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AFTER COMPLETION OF THE PROJECT.
5. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL DEBRIS FROM SITE AND RESTORE AS BEST AS POSSIBLE TO PRE-CONSTRUCTION CONDITION.

STEEL:

1. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE AND ASTM SPECIFICATIONS.
2. ALL CONNECTIONS Of STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES E-70XX OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325N, THREAD INCLUDED WITH SHEAR PLANE UNLESS OTHERWISE NOTED.
3. ALL BOLTED CONNECTIONS TO BE INSTALLED TO A SNUG-TIGHTENED CONDITION IN ACCORDANCE WITH AISC 13 PART 16.2, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 8.1, UNLESS OTHERWISE NOTED.
4. ALL STEEL (EXCEPT A490 BOLTS), AFTER FABRICATION, SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH 2 COATS OF ZRC COLD GALVANIZING COMPOUND.
5. ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED.
6. STRUCTURAL STEEL MAY NOT BE TORCH CUT FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC STANDARDS.
7. NEW STEEL MEMBERS AND CONNECTIONS SHALL BE PAINTED TO MATCH EXISTING TOWER.

MISC. NOTES:

1. ALL MODIFICATIONS ARE ASSUMED TO BE MADE ON AN EMPTY TOWER. CONTRACTOR IS RESPONSIBLE TO MAKE PROVISIONS TO SUPPORT OR WORK AROUND EXISTING ANTENNAS AND TRANSMISSION LINES. MODIFICATIONS MUST BE CONTINUOUS THROUGH ALL AREAS SHOWN.
2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

FABRICATION NOTES:

1. ALL DIMENSIONS ARE PRELIMINARY UNTIL FIELD VERIFIED BY CONTRACTOR. ANY CHANGES MUST BE APPROVED BY ENGINEER OF RECORD IN WRITING PRIOR TO FABRICATION AND INSTALLATION.
2. NEW STEEL MEMBERS MUST HAVE SINGLE DRILLED HOLES. SLOTTED AND DOUBLE DRILLED HOLES ARE NOT ACCEPTABLE MEANS OF FABRICATION.

CONTRACTOR QUALIFICATION NOTES:

1. ALL REPAIRS SHALL BE PERFORMED BY A TOWER CONTRACTOR WITH A MINIMUM OF 5 YEARS EXPERIENCE IN TOWER ERECTION AND RETROFIT AND WITH WORKING KNOWLEDGE OF THE ANSI/TIA-222-G "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS".
2. CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. SHOULD THE CONTRACTOR REQUIRE DIRECT CONSULTATION, HUDSON DESIGN GROUP, LLC IS WILLING TO OFFER SERVICES BASED UPON AN AGREED FEE FOR THE WORK REQUIRED.
3. ALL SUBMITTAL INFORMATION MUST BE SENT TO HUDSON DESIGN GROUP, LLC 1600 OSGOOD ST. BUILDING 20N, SUITE 3090, NORTH ANDOVER, MA 01845 TEL: (978)557-5553, FAX: (978)336-5586. ANY VARIATION OF THESE SPECIFICATIONS OR DRAWINGS WITHOUT CONSENT FROM HUDSON DESIGN GROUP WILL VOID ANY RESPONSIBILITY OR LIABILITY FOR DAMAGE (MATERIAL OR PHYSICAL) TOWARDS HUDSON DESIGN GROUP, LLC.

JOB SITE SAFETY AND NOTES:

NEITHER THE PROFESSIONAL ACTIVITIES OF HUDSON DESIGN GROUP, LLC NOR THE PRESENCE OF HUDSON DESIGN GROUP, LLC OR EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND/OR SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES, OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE GENERAL CONTRACTOR AND/OR SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY, AND WARRANTS THAT THIS INTENT IS EVIDENT BY ACCEPTING THIS WORK.

SUBSTITUTES AND/OR EQUALS:

IF CONTRACTOR WISHES TO FURNISH OR USE A SUBSTITUTE ITEM OF MATERIAL OR EQUIPMENT, CONTRACTOR SHALL MAKE WRITTEN APPLICATION TO ENGINEER FOR ACCEPTANCE THEREOF, CERTIFYING THAT THE PROPOSED SUBSTITUTE WILL ADEQUATELY PERFORM THE FUNCTIONS AND ACHIEVE THE RESULTS CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR IN SUBSTANCE TO THAT SPECIFIED, AND SUITED TO THE SAME USE AS THAT SPECIFIED. ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED WILL BE IDENTIFIED IN THE APPLICATION AND AVAILABLE MAINTENANCE, REPAIR, AND REPLACEMENT SERVICE WILL BE INDICATED. THE APPLICATION WILL ALSO CONTAIN AN ITEMIZED ESTIMATE OF ALL COSTS OR CREDITS THAT WILL RESULT DIRECTLY OR INDIRECTLY FROM ACCEPTANCE OF SUCH SUBSTITUTE INCLUDING COSTS OF REDESIGN AND CLAIMS OF OTHER CONTRACTORS AFFECTED BY THE RESULTING CHANGE, ALL OF WHICH WILL BE CONSIDERED BY ENGINEER IN EVALUATION OF THE PROPOSED SUBSTITUTE. ENGINEER MAY REQUIRE CONTRACTOR TO FURNISH ADDITIONAL DATA ABOUT THE PROPOSED SUBSTITUTE.

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FAX: (978) 336-5586

SAI
27 NORTHWESTERN DR.
SALEM, NH 03079

SITE NUMBER: CT6157
SITE NAME: DANBURY
CCI SITE #:852850
WCP #:69910
48 NEWTOWN RD.
DANBURY, CT 06810
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/03/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH
A	08/31/15	ISSUED FOR REVIEW	SG	AT	DPH

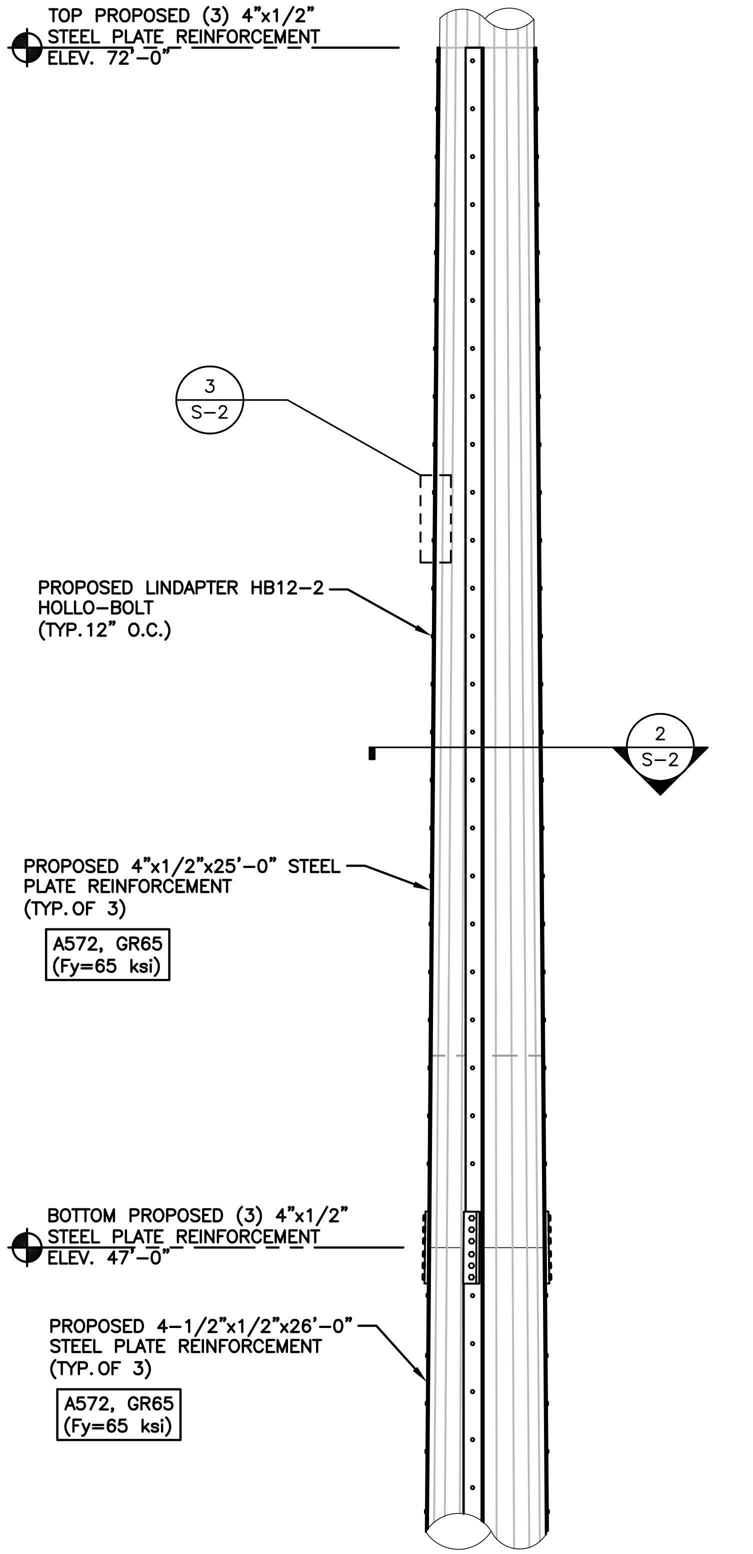
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SG

LICENSED PROFESSIONAL ENGINEER

AT&T

TOWER MODIFICATION DETAILS (MOD)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	S-1	1



REINFORCEMENT ELEVATION
1 S-2 **ELEV. 47'-0" - 72'-0"**
SCALE: 1/2"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: AUGUST 26, 2015, (REV1) FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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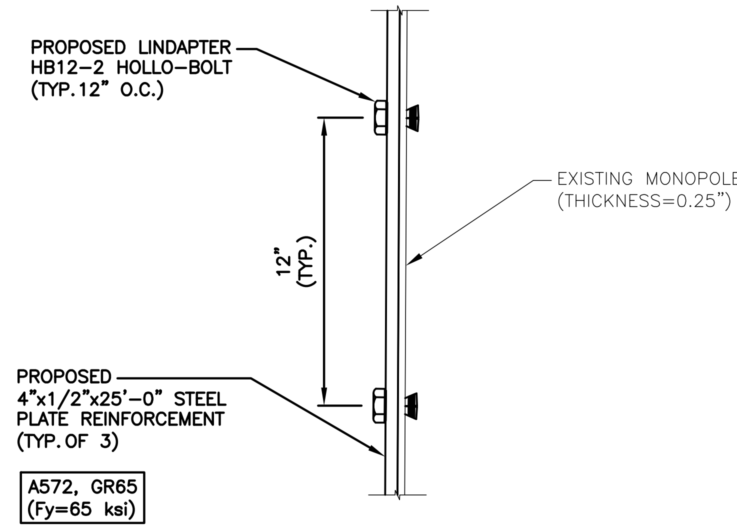
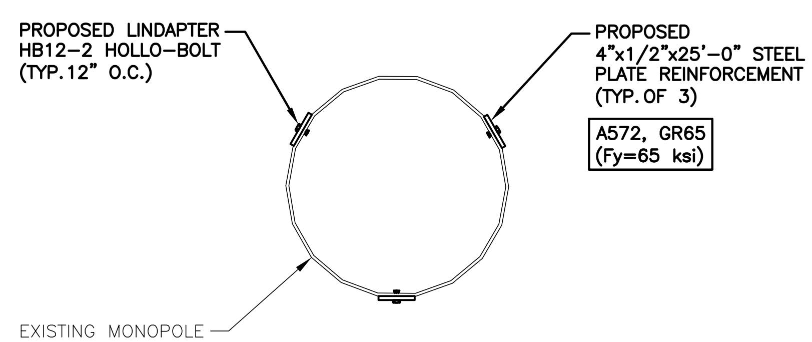


CONNECTION DETAIL
4 S-1 **ELEV. 47'-0" - 72'-0"**
SCALE: 3"=1'-0"
0 0'-2" 0'-4" 0'-8" 1'-0"



REINFORCEMENT PLAN
2 S-2 **ELEV. 47'-0" - 72'-0"**
SCALE: 1"=1'-0"
0 0'-6" 1'-0" 2'-0" 3'-0"

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.

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. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

SPECIAL INSPECTION CHECKLIST

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	ENGINEER OF RECORD APPROVED SHOP DRAWINGS[1]
REQUIRED	MATERIAL SPECIFICATIONS REPORT[2]
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF MONOPOLE BASE PLATE (AS REQUIRED)
REQUIRED	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
REQUIRED	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS
REQUIRED	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
REQUIRED	POST INSTALLED ANCHOR ROD VERIFICATION
REQUIRED	BASE PLATE GROUT VERIFICATION
REQUIRED	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
N/A	STEEL & FRP INSPECTION
REQUIRED	FINAL INSPECTION
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[5]
REQUIRED	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

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1600 OSGOOD STREET
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N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
27 NORTHWESTERN DR.
SALEM, NH 03079

SITE NUMBER: CT6157
SITE NAME: DANBURY
CCI SITE #:852850
WCP #:69910
48 NEWTOWN RD.
DANBURY, CT 06810
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/03/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH
A	08/31/15	ISSUED FOR REVIEW	SG	AT	DPH

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

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

AT&T
TOWER MODIFICATION DETAILS (MOD)

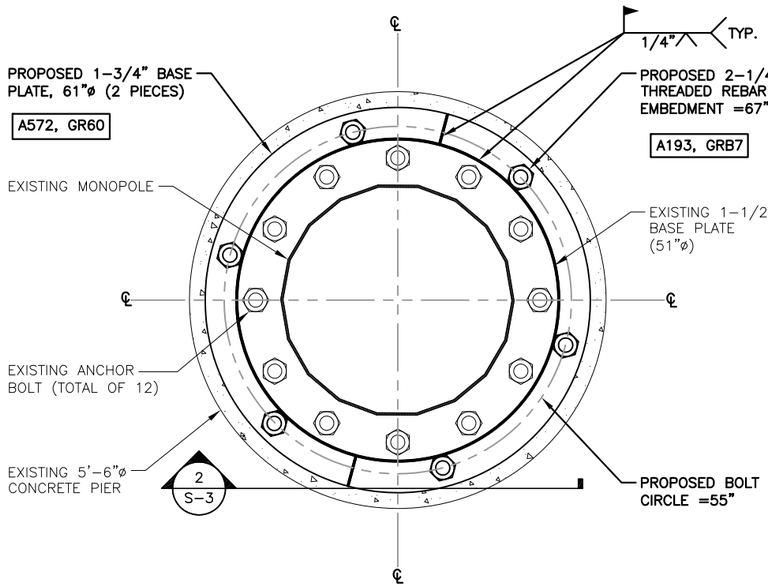
JOB NUMBER	DRAWING NUMBER	REV
6157.00	S-2	1

NOTES:

1. CONTRACTOR TO TEMPORARILY RELOCATE ANY EXISTING EQUIPMENT AS NECESSARY TO ACCOMMODATE THE PROPOSED FOUNDATION MODIFICATION. REPLACE RELOCATED EQUIPMENT AFTER COMPLETION OF PROPOSED FOUNDATION MODIFICATION.

2. CONTRACTOR TO REPLACE ANY GROUNDING MATERIAL THAT IS DAMAGED OR REMOVED DURING INSTALLATION.

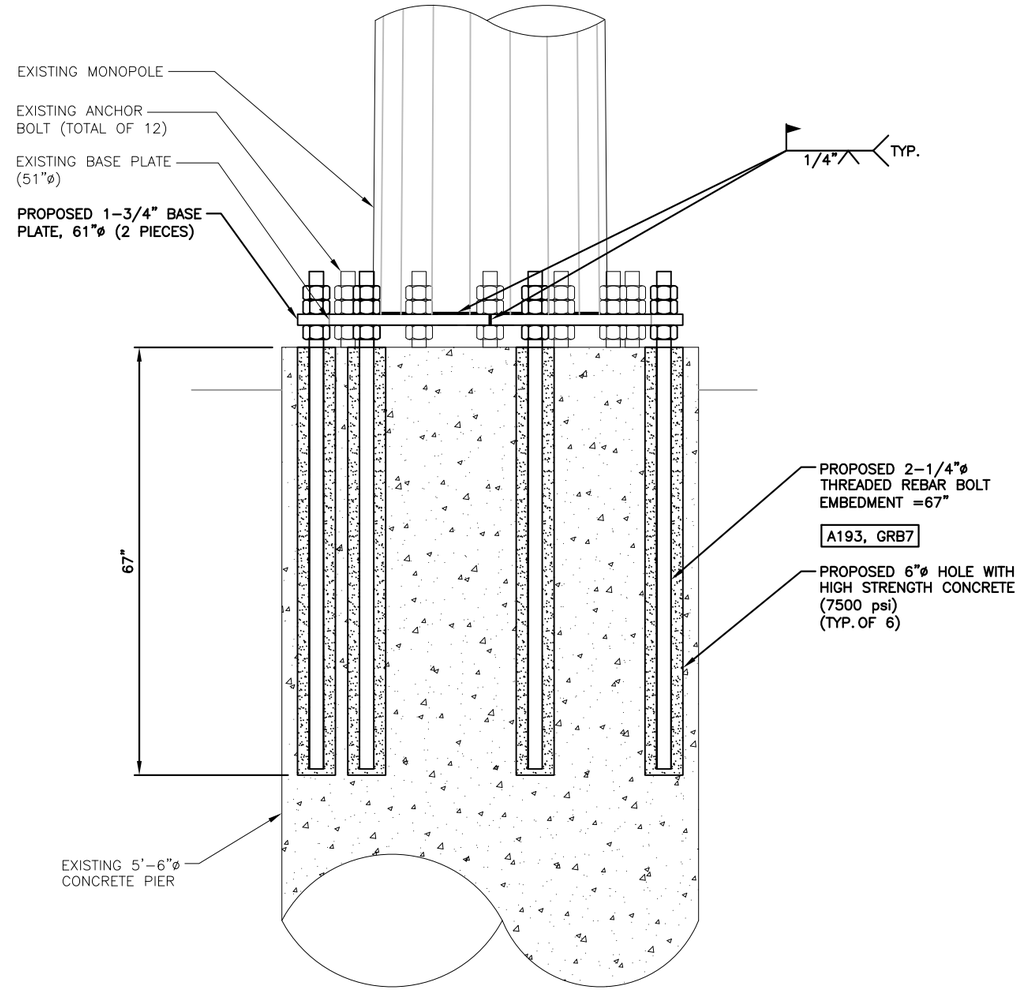
3. CONTRACTOR TO INSTALL TEMPORARY SUPPORT FOR THE EXISTING TOWER FOUNDATION DURING INSTALLATION.



1 S–3 BASE PLATE MODIFICATION PLAN

SCALE: 1"=1'–0"

0 0'–6" 1'–0" 2'–0" 3'–0"



2 S–3 BASE PLATE MODIFICATION SECTION

SCALE: 1"=1'–0"

0 0'–6" 1'–0" 2'–0" 3'–0"

NOTE:

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

STATE OF CONNECTICUT
DEREK J. CREASEY
No. 28574
LICENSED PROFESSIONAL ENGINEER

AT&T

BASE PLATE MODIFICATION PLAN (MOD)

JOB NUMBER	DRAWING NUMBER	REV
6157.00	S–3	1