



QC Development

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Storrs, CT 06268

860-670-9068

Mark.Roberts@QCDevelopment.net

May 1, 2020

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT2195
160 Witch Meadow Road, Salem, CT 06420
N 41.50282500
W -72.29704722

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 185-foot level of the existing 195-foot monopole at 160 Witch Meadow Road, Salem, CT. The tower is owned by SBA Communications Corporation and the property is owned by Ronald R Renz. This filing replaces EM-CING-121-191021 due to changes to the Tower Structural Analysis which now requires Tower Modifications in order to accommodate AT&T's proposed changes.

AT&T intends to remove (6) antennas and replace them with six (6) DMP65R-BU8DA CCI antennas. AT&T also intends to remove (3) Ericsson RRUS-11 Remote Radio Units (RRU) and install (3) Ericsson 4449 B5/B12, (3) B14 4478 and (3) 8843 B2/B66A RRUs. The new antennas and RRUs would also be installed at the 185-foot level of the tower.

This facility was approved by the Salem Planning and Zoning Commission by unanimous vote on February 3, 2000. This approval included no conditions which could feasibly be violated by this modification, including total facility height or mounting restrictions. This modification complies with all conditions of approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-

72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Kevin T. Lyden, First Selectman for the Town of Salem, the Salem Planning Zoning and Wetlands Department, as well as the property owner and tower owner.

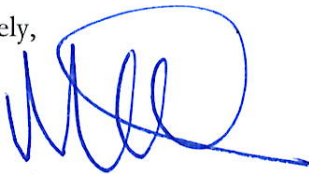
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

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

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

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,



Mark Roberts
QC Development
Consultant for AT&T

Attachments

Cc: Kevin T. Lyden – Elected Official
Justin LaFountain – Town Planner
Ronald R Renz- Property Owner
SBA - Tower Owner (via e-mail)

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							1.32%
AT&T GSM	1	283	187	0.0032	880	0.5867	0.05%
AT&T UMTS	2	565	187	0.0127	880	0.5867	0.22%
AT&T UMTS	4	575	187	0.0236	1900	1.0000	0.24%
AT&T LTE	1	1615	187	0.0181	734	0.4893	0.37%
AT&T LTE	2	875	187	0.0196	1900	1.0000	0.20%
Site Total							2.40%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							1.32%
AT&T LTE	1	2951	187	0.0331	700	0.4667	0.71%
AT&T LTE	1	1476	187	0.0166	700	0.4667	0.35%
AT&T LTE	1	1000	187	0.0112	850	0.5667	0.20%
AT&T 5G	1	1000	187	0.0112	850	0.5667	0.20%
AT&T LTE	2	3664	187	0.0822	1900	1.0000	0.82%
AT&T LTE	2	3837	187	0.0861	2100	1.0000	0.86%
Site Total							4.47%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:

- INSTALL NEW SECTOR FRAME STABILIZER, SITEPRO1 P/N PRK-SFS-L, (OR APPROVED EQUAL) SECURED TO THE PROPOSED HANDRAIL KIT AND TOWER LEG (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- PROPOSED NEW HANDRAIL KIT SITEPRO 1 PART # HRK14-3HD (OR APPROVED EQUAL) (TOTAL OF 1).
- REMOVE EXISTING PIPE MAST AND REPLACE WITH NEW 2-1/2" STD. (2.88" O.D.) 10' LONG PIPE MAST SECURED TO THE EXISTING MOUNT FACE (TYP. OF 2 PER SECTOR, TOTAL OF 6)
- INSTALL NEW 3" STD. (3.5" O.D.) X 13'-0" HORIZONTAL PIPE SECURED TO THE EXISTING ANTENNA PIPE MASTS (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: (DMP65R-BU8DA) (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- NEW AT&T RRUS: 4449 B5/B12 (700/850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 8843 B2/B66A (1900/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T SURGE ARRESTOR (DC6-48-60-0-8C-EV) DC ONLY SQUID WITH (1) 2" CONDUIT FOR 2 DC LINES.
- NEW AT&T SURGE ARRESTOR (DC6-48-60-18-8C) DC/FIBER SQUID WITH (1) 2" CONDUIT FOR 1 FIBER & (1) 2" CONDUIT FOR 2 DC LINES.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:

- SWAP BASEBAND FOR RBS 6630.
- ADD XMU.
- ADD RBS 6630 FOR 5G WITH IDLe.
- PROPOSED NETSURE 7100 POWER PLANT WITH BATTERY TO REPLACE EXISTING POWER PLANT.
- PROPOSED AT&T COAX PORT FOR NEW POWER AND FIBER TRUNKS.
- PROPOSED AT&T FIBER MANAGEMENT BOX (TOTAL OF 1).

ITEMS TO BE REMOVED:

- AT&T ANTENNAS (P65-17-XLH-RR) (TYP. OF 1 PER ALPHA & GAMMA SECTORS, TOTAL OF 2).
- AT&T ANTENNA (SBNH-1D6565C) (TOTAL OF 1 PER BETA SECTOR).
- AT&T ANTENNAS (7770) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- AT&T RRUS-11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- AT&T TMA'S (TYP. OF 2 PER SECTOR, TOTAL OF 6).

SITE ADDRESS: 160 WITCH MEADOW ROAD
SALEM, CT 06420

LATITUDE: 41.502800° N, 41° 30' 10.08" N
LONGITUDE: 72.297100° W, 72° 17' 49.56" W

TYPE OF SITE: MONOPOLE/INDOOR EQUIPMENT

MONOPOLE HEIGHT: 195'-0"±
RAD CENTER: 185'-0"±

CURRENT USE: TELECOMMUNICATIONS FACILITY
PROPOSED USE: TELECOMMUNICATIONS FACILITY

DRAWING INDEX

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

SBA SITE #: CT01916



SITE NUMBER: CT2195

SITE NAME: SALEM NORTH

FA CODE: 10035287

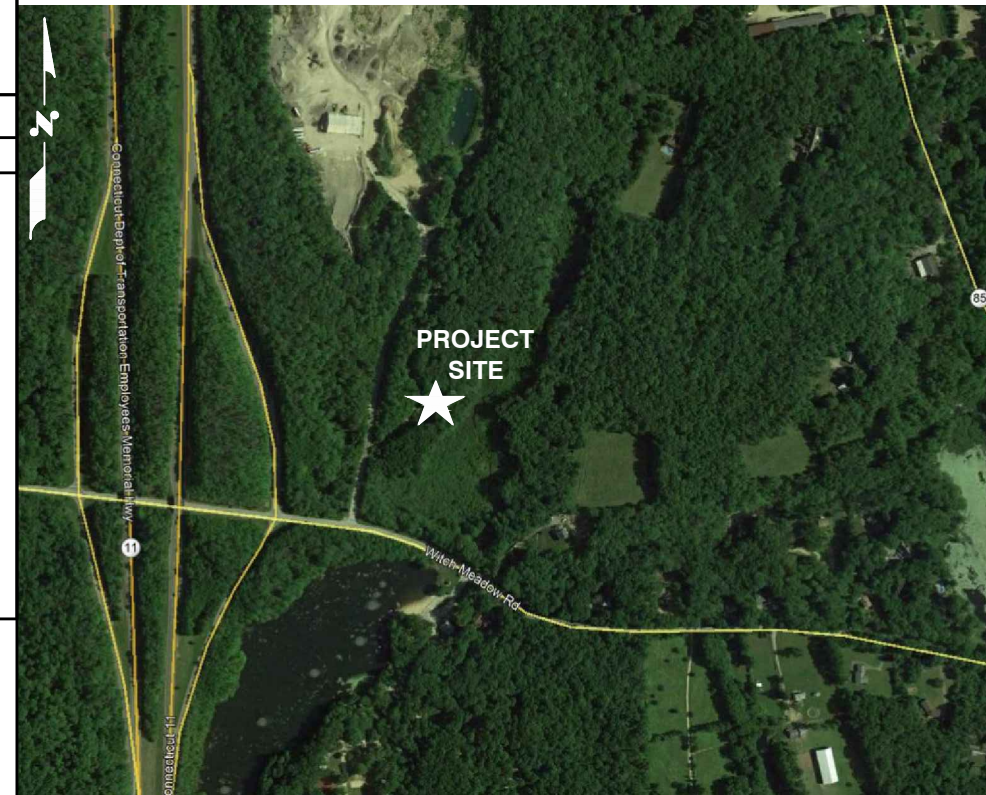
**PACE ID: MRCTB040816, MRCTB040431, MRCTB040547,
MRCTB040704, MRCTB040679**

PROJECT: LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

TURN LEFT ONTO ENTERPRISE DR. TURN LEFT ONTO CAPITAL BLVD. USE THE LEFT LANE TO TURN LEFT ONTO STATE HWY 411. TURN LEFT TO MERGE ONTO I-91 N. TAKE EXIT 25-26 TO MERGE ONTO CT-3 N TOWARD GLASTONBURY. TAKE THE EXIT ONTO CT-2 E TOWARD NORWICH. KEEP RIGHT AT THE FORK TO CONTINUE ON CT-11 S, FOLLOW SIGNS FOR NEW LONDON. TAKE EXIT 5 FOR WITCH MEADOW RD. TURN LEFT ONTO WITCH MEADOW RD. 160 WITCH MEADOW ROAD WILL BE ON THE LEFT IN .3 MILES.



GENERAL NOTES

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

72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT



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



12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2195
SITE NAME: SALEM NORTH
SBA SITE #: CT01916

160 WITCH MEADOW ROAD
SALEM, CT 06420
NEW LONDON COUNTY



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

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	04/29/20	ISSUED FOR CONSTRUCTION	AM	HC	DPH
1	10/10/19	ISSUED FOR CONSTRUCTION	AM	HC	DPH
0	09/25/19	ISSUED FOR REVIEW	AM	HC	DPH
A	08/22/19	ISSUED FOR REVIEW	JRC	HC	DPH

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: JRC

AT&T	
TITLE SHEET	
LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE	
SITE NUMBER	DRAWING NUMBER
CT2195	T-1
REV	2

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – SAI
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. **APPLICABLE BUILDING CODES:**
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

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

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

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

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

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

ABBREVIATIONS

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2195
SITE NAME: SALEM NORTH
SBA SITE #: CT01916
 160 WITCH MEADOW ROAD
 SALEM, CT 06420
 NEW LONDON COUNTY

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

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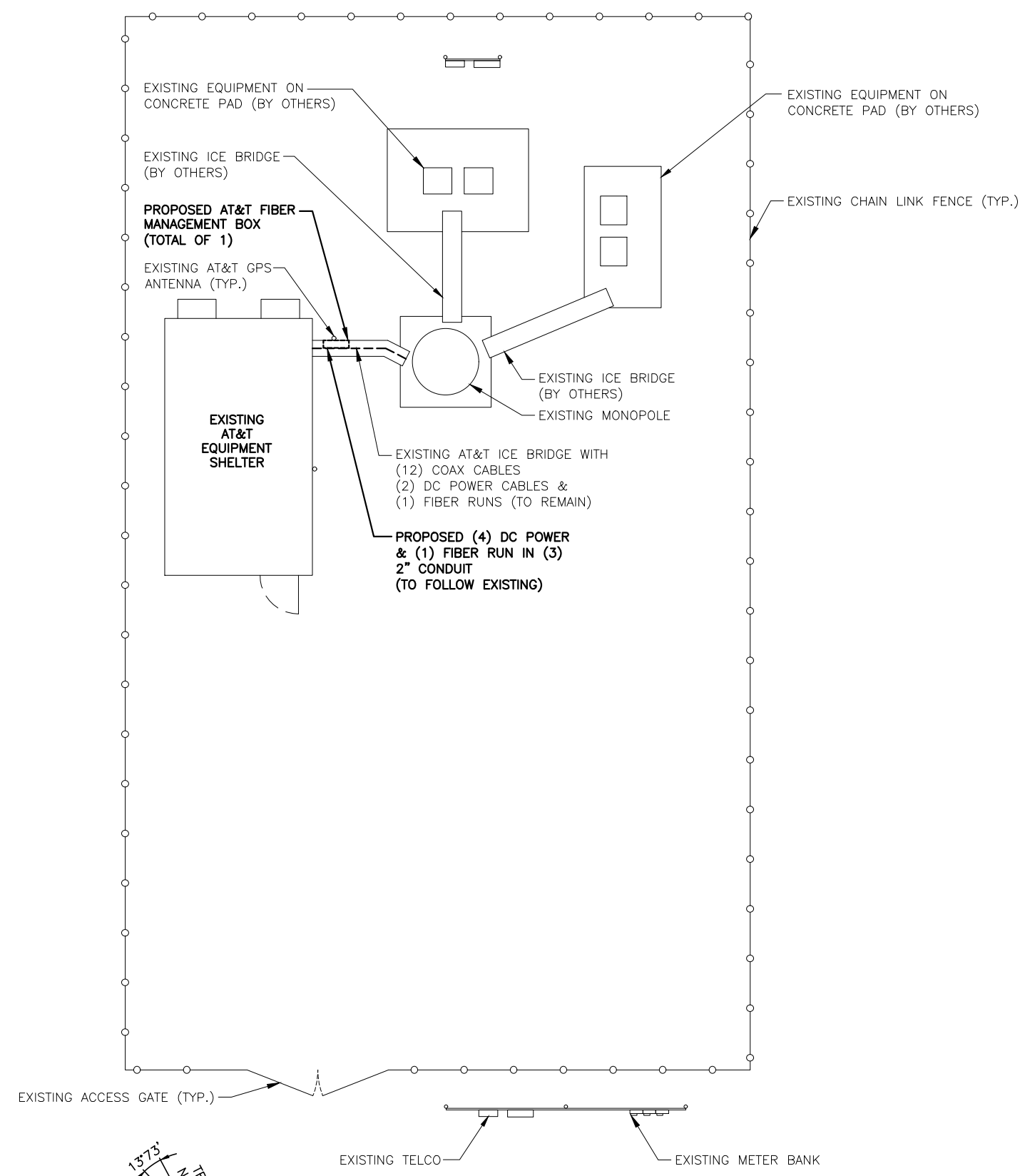
SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: JRC

AT&T
 GENERAL NOTES
 LITE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE
 SITE NUMBER: CT2195 DRAWING NUMBER: GN-1 REV: 2

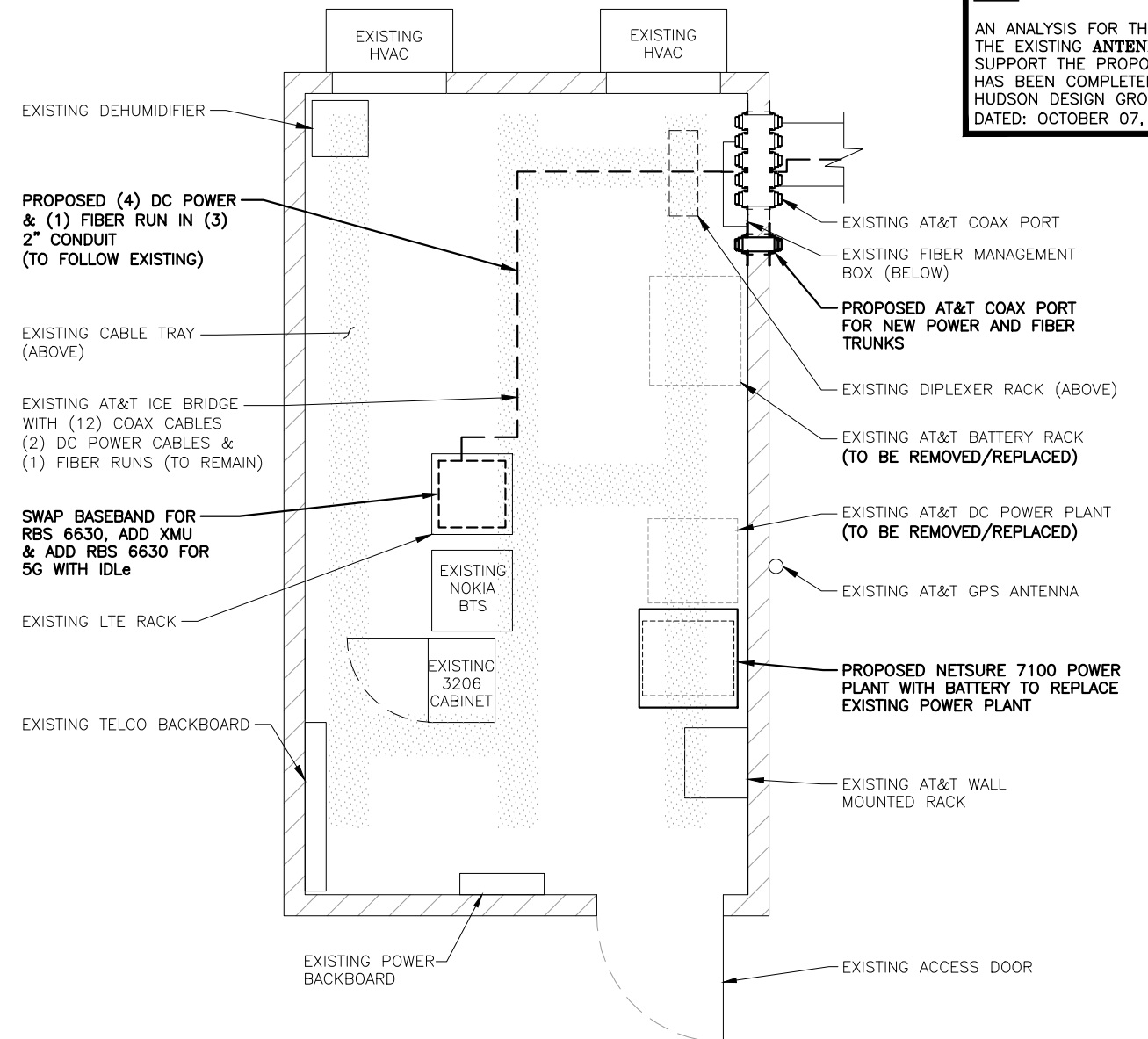
NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS DATED: MARCH 30, 2020, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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: OCTOBER 07, 2019 (REV. 1)



COMPOUND PLAN
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"



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

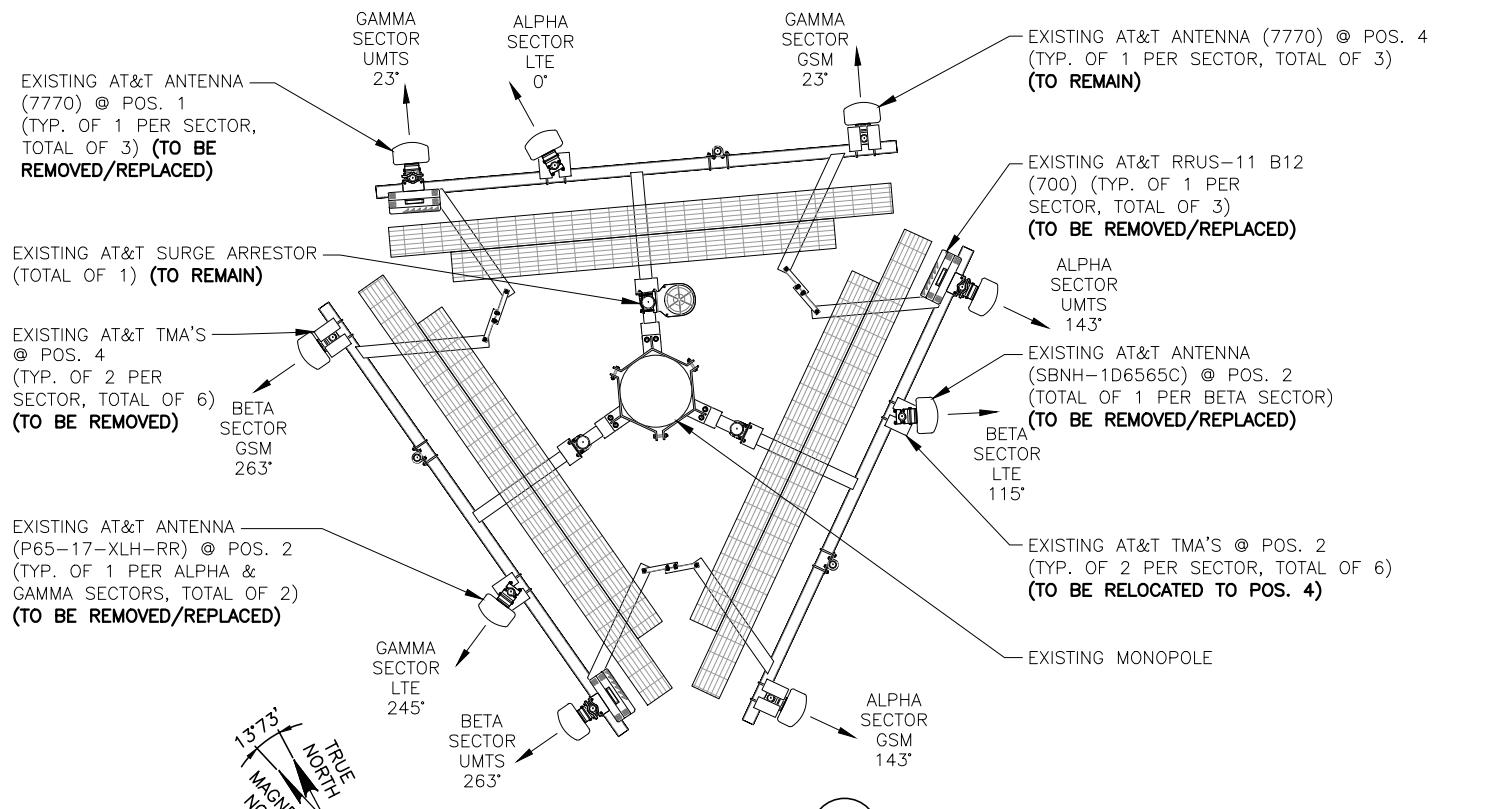
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SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: JRC

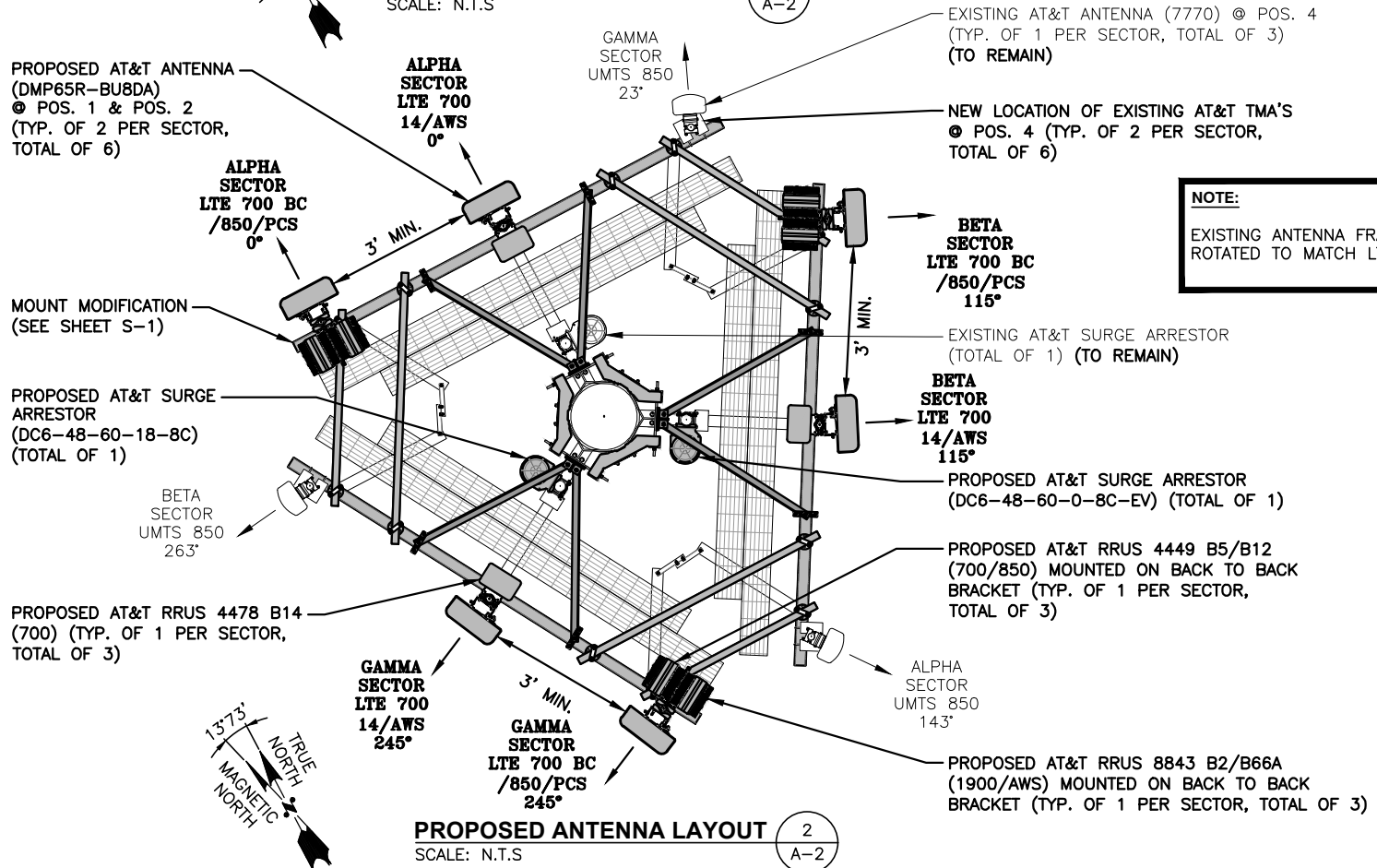


SITE NUMBER	DRAWING NUMBER	REV
CT2195	A-1	2

AT&T
COMPOUND & EQUIPMENT PLANS
LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE

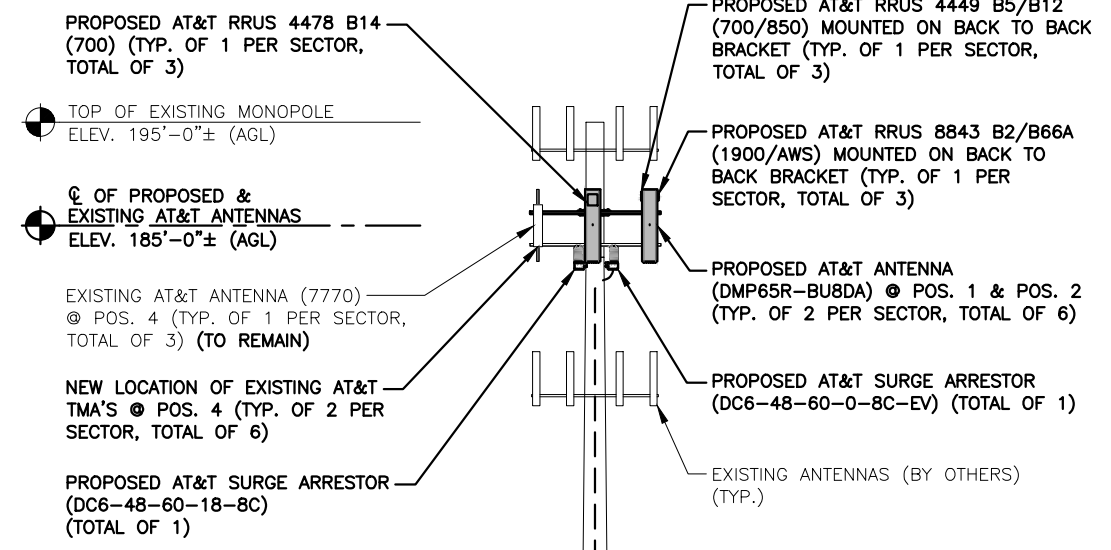


EXISTING ANTENNA LAYOUT (1)
SCALE: N.T.S.



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

NOTE:
EXISTING ANTENNA FRAME TO BE ROTATED TO MATCH LTE AZIMUTHS



NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION (3)
22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"

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

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS DATED: MARCH 30, 2020, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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: OCTOBER 07, 2019 (REV. 1)

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

SAI
12 INDUSTRIAL WAY SALEM, NH 03079

SITE NUMBER: CT2195
SITE NAME: SALEM NORTH
SBA SITE #: CT01916
160 WITCH MEADOW ROAD SALEM, CT 06420
NEW LONDON COUNTY

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

2	04/29/20	ISSUED FOR CONSTRUCTION	AM	HC	DPH
1	10/10/19	ISSUED FOR CONSTRUCTION	AM	HC	DPH
0	09/25/19	ISSUED FOR REVIEW	JRC	HC	DPH
A	08/22/19	ISSUED FOR REVIEW	JRC	HC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: JRC		

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

AT&T

ANTENNA LAYOUTS & ELEVATION
LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2195	A-2	2

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA CL HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU8DA	96x20.7x7.7	185'-0"±	0°	-	(P)(1) 4449 B5/B12 (700/850) (P)(1) 8843 B2/B66A (1900/AWS)	14.9X13.2X10.4 14.9X13.2X10.9	-	(E) (1) RAYCAP DC6-48-60-18-8F
A2	PROPOSED	LTE 700 B14/AWS	DMP65R-BU8DA	96x20.7x7.7	185'-0"±	0°	-	(P)(1) 4478 B14 (700)	18.1X13.4X8.3	-	
A3	-	-	-	-	-	-	-	-	-	(2) COAX (LENGTH 220'±)	
A4	EXISTING	UMTS 850	7770	55x11x5	185'-0"±	143°	(2)(E) LGP 21401 (2)(E)(G) LGP 21901	-	-	(2) COAX (LENGTH 220'±)	
B1	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU8DA	96x20.7x7.7	185'-0"±	115°	-	(P)(1) 4449 B5/B12 (700/850) (P)(1) 8843 B2/B66A (1900/AWS)	14.9X13.2X10.4 14.9X13.2X10.9	-	(P) (1) RAYCAP DC6-48-60-0-8C-EV DC ONLY
B2	PROPOSED	LTE 700 B14/AWS	DMP65R-BU8DA	96x20.7x7.7	185'-0"±	115°	-	(P)(1) 4478 B14 (700)	18.1X13.4X8.3	-	
B3	-	-	-	-	-	-	-	-	-	(2) COAX (LENGTH 220'±)	
B4	EXISTING	UMTS 850	7770	55x11x5	185'-0"±	263°	(2)(E) LGP 21401 (2)(E)(G) LGP 21901	-	-	(2) COAX (LENGTH 220'±)	
C1	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU8DA	96x20.7x7.7	185'-0"±	245°	-	(P)(1) 4449 B5/B12 (700/850) (P)(1) 8843 B2/B66A (1900/AWS)	14.9X13.2X10.4 14.9X13.2X10.9	-	(P) (1) RAYCAP DC6-48-60-18-8C
C2	PROPOSED	LTE 700 B14/AWS	DMP65R-BU8DA	96x20.7x7.7	185'-0"±	245°	-	(P)(1) 4478 B14 (700)	18.1X13.4X8.3	-	
C3	-	-	-	-	-	-	-	-	-	(2) COAX (LENGTH 220'±)	
C4	EXISTING	UMTS 850	7770	55x11x5	185'-0"±	23°	(2)(E) LGP 21401 (2)(E)(G) LGP 21901	-	-	(2) COAX (LENGTH 220'±)	

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

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS DATED: MARCH 30, 2020, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

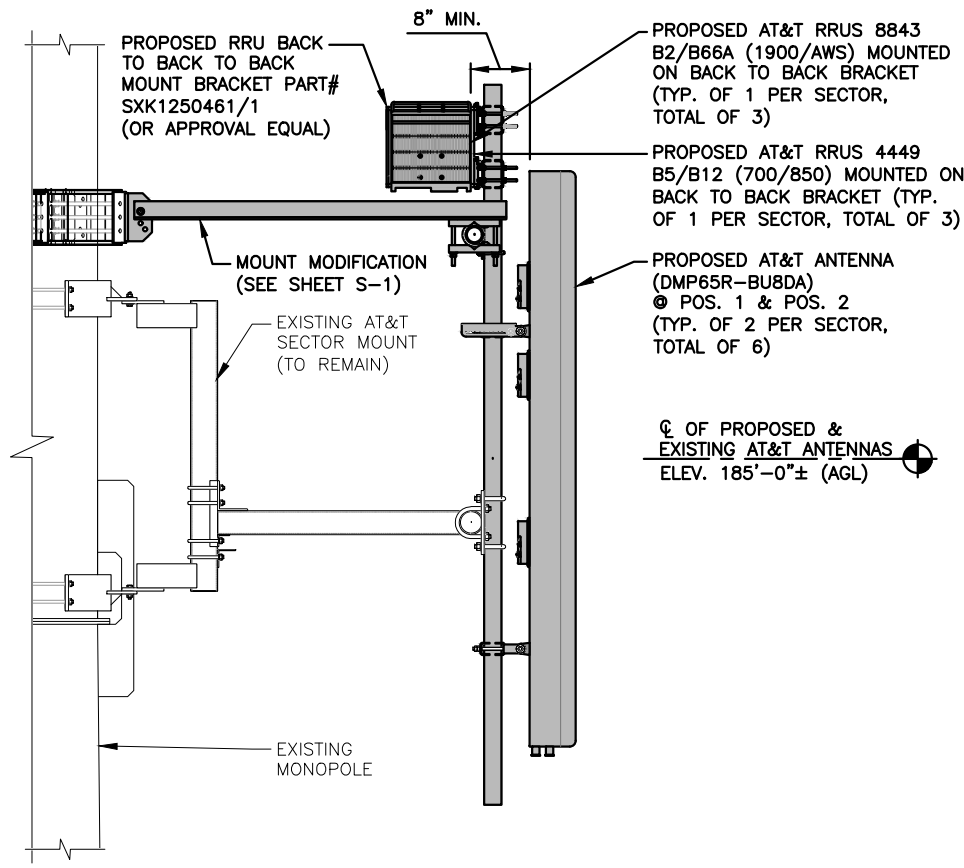
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: OCTOBER 07, 2019 (REV. 1)

FINAL ANTENNA SCHEDULE 1
SCALE: N.T.S. A-3

RRU CHART

QUANTITY	MODEL	L	W	D
3(P)	4478 B14 (700)	18.1"	13.4"	8.3"
3(P)	4449 B5/B12 (700/850)	14.9"	13.2"	10.4"
3(P)	8843 B2/B66A (1900/AWS)	14.9"	13.2"	10.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS



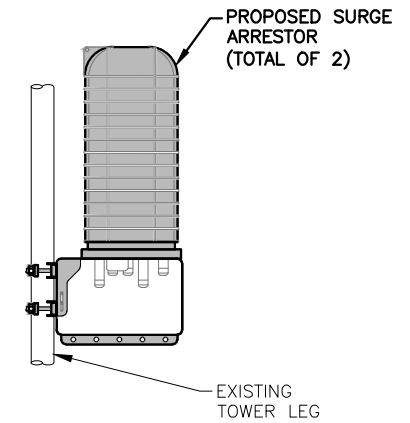
PROPOSED LTE ANTENNA & RRU MOUNTING DETAIL 2
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0" A-3

NOTE:
SEE RFDS FOR RRU FREQUENCY AND MODEL NUMBER

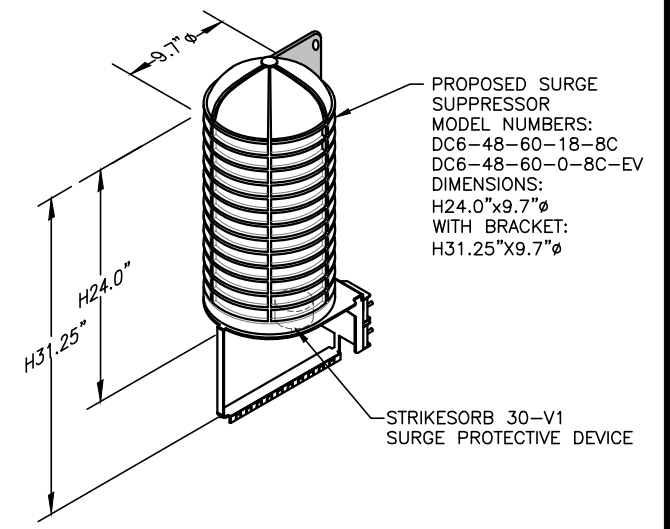
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL 3
SCALE: N.T.S. A-3



SURGE SUPPRESSOR MOUNTING DETAIL 4
SCALE: N.T.S. A-3



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

STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS, AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
N/A	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS ³

ADDITIONAL TESTING AND INSPECTIONS:

DURING CONSTRUCTION

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS ⁴
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION ⁵
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT

ADDITIONAL TESTING AND INSPECTIONS:

AFTER CONSTRUCTION

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS

ADDITIONAL TESTING AND INSPECTIONS:

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2195
SITE NAME: SALEM NORTH
SBA SITE #: CT01916

160 WITCH MEADOW ROAD
SALEM, CT 06420
NEW LONDON COUNTY

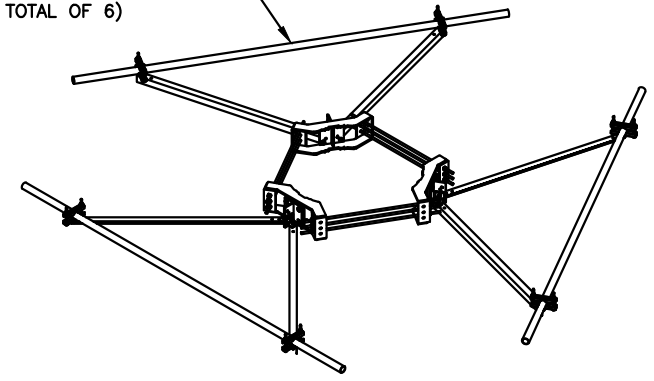
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

2	04/29/20	ISSUED FOR CONSTRUCTION	AM	HC	DPH
1	10/10/19	ISSUED FOR CONSTRUCTION	AM	HC	DPH
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A	08/22/19	ISSUED FOR REVIEW	JRC	HC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: JRC		

AT&T

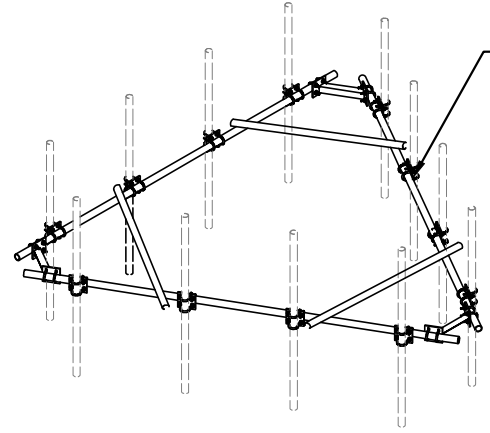
STRUCTURAL NOTES
LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE
SITE NUMBER: CT2195
DRAWING NUMBER: SN-1
REV: 2

INSTALL NEW SECTOR FRAME STABILIZER, SITEPRO1 P/N PRK-SFS-L (OR APPROVED EQUAL) (TYP. OF 2 PER SECTOR, TOTAL OF 6)



PROPOSED SECTOR FRAME STABILIZER 1
SCALE: N.T.S. S-1

PROPOSED NEW HANDRAIL KIT SITEPRO 1 PART # HRK14-3HD (OR APPROVED EQUAL)

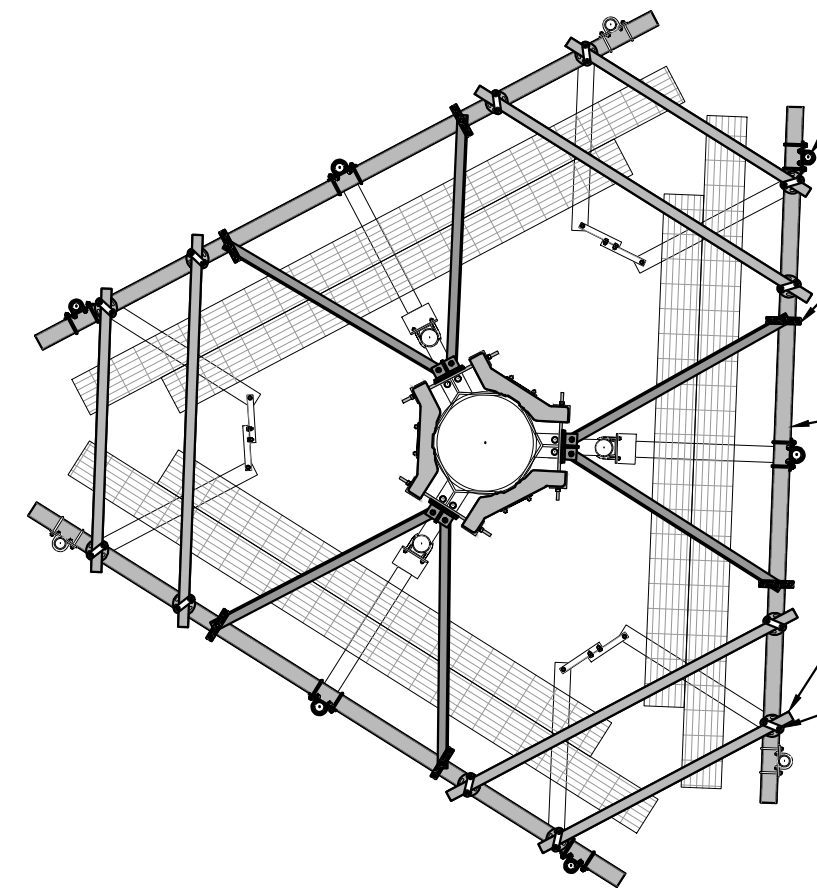


PROPOSED REINFORCEMENT HANDRAIL KIT 2
SCALE: N.T.S. S-1

NOTE:
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NOTE:
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REMOVE EXISTING PIPE MAST AND REPLACE WITH NEW 2-1/2" STD. (2.88" O.D.) 10' LONG PIPE MAST SECURED TO THE EXISTING MOUNT FACE (TYP. OF 2 PER SECTOR, TOTAL OF 6)

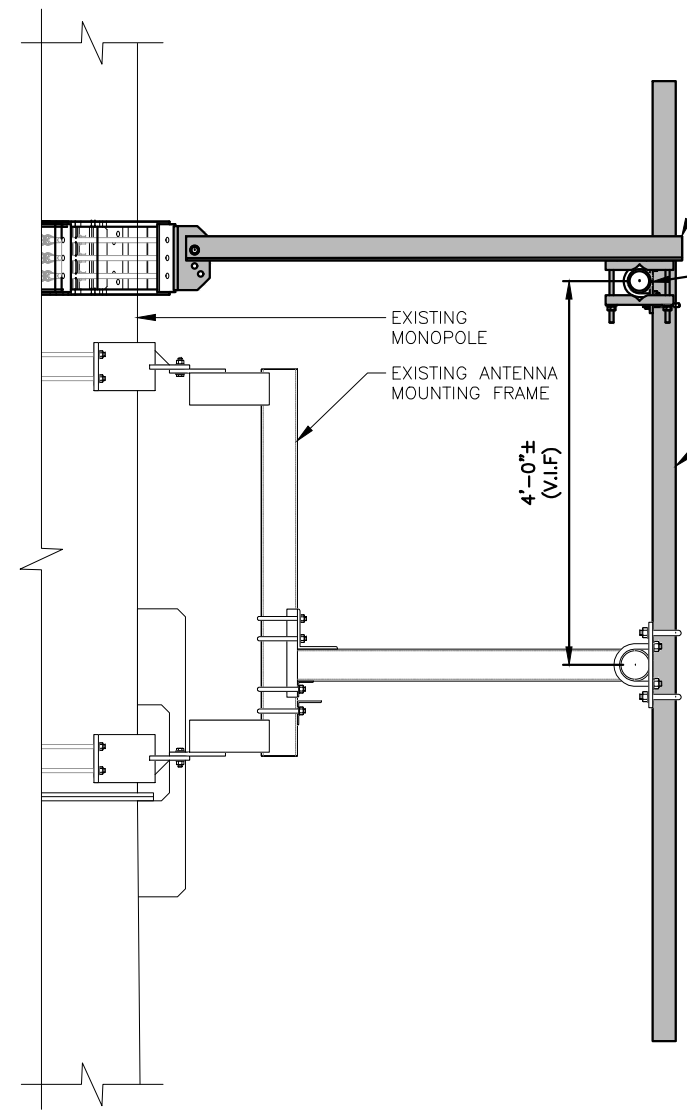
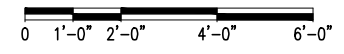
INSTALL NEW SECTOR FRAME STABILIZER, SITEPRO1 P/N PRK-SFS-L, (OR APPROVED EQUAL) SECURED TO THE PROPOSED HANDRAIL KIT AND TOWER (TYP. OF 1 PER SECTOR, TOTAL OF 3)

PROPOSED NEW HANDRAIL KIT SITEPRO 1 PART # HRK14-3HD (OR APPROVED EQUAL) (TOTAL OF 1)

PROPOSE NEW 2" STD. (2.38" O.D.) (LENGTH V.I.F) PIPE MAST SECURED TO THE PROPOSED HANDRAIL TO REPLACE ANGLE HANDRAIL CORNER PLATE PART # X-AHCP (TYP. OF 1 PER SECTOR, TOTAL OF 3)

PROPOSED PIPE TO PIPE CLAMP SITEPRO 1 PART # PUCK (OR APPROVED EQUAL) (TYP. OF 2 PER SECTOR, TOTAL OF 6)

MOUNT REINFORCEMENT PLAN 3
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0" S-1

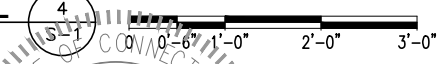


INSTALL NEW SECTOR FRAME STABILIZER, SITEPRO1 P/N PRK-SFS-L, (OR APPROVED EQUAL) SECURED TO THE PROPOSED HANDRAIL KIT AND TOWER (TYP. OF 1 PER SECTOR, TOTAL OF 3)

PROPOSED NEW HANDRAIL KIT SITEPRO 1 PART # HRK14-3HD (OR APPROVED EQUAL) (TOTAL OF 1)

REMOVE EXISTING PIPE MAST AND REPLACE WITH NEW 2-1/2" STD. (2.88" O.D.) 10' LONG PIPE MAST SECURED TO THE EXISTING MOUNT FACE (TYP. OF 2 PER SECTOR, TOTAL OF 6)

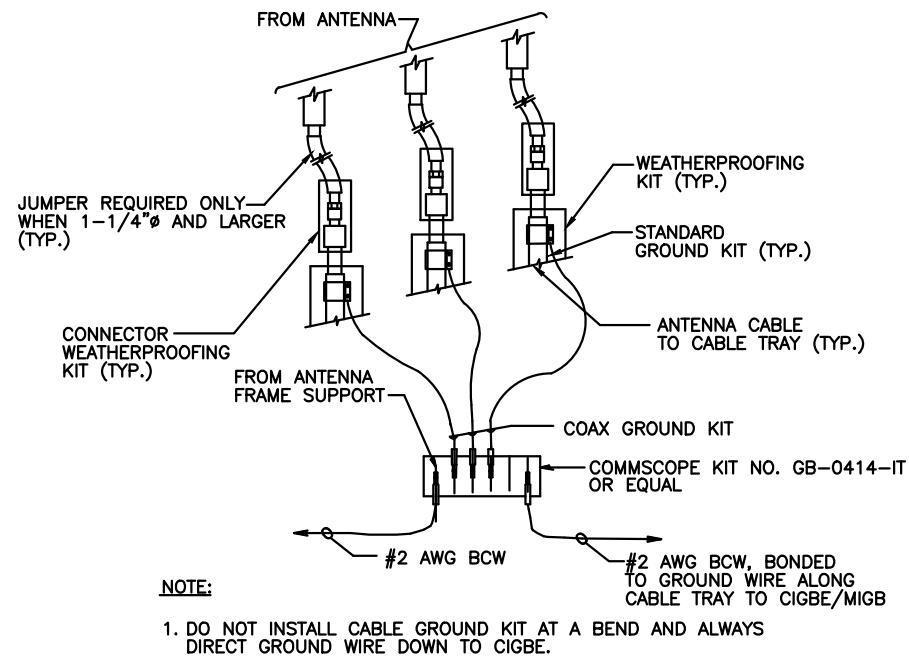
PROPOSED MOUNT MODIFICATION DETAIL 4
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0" S-1



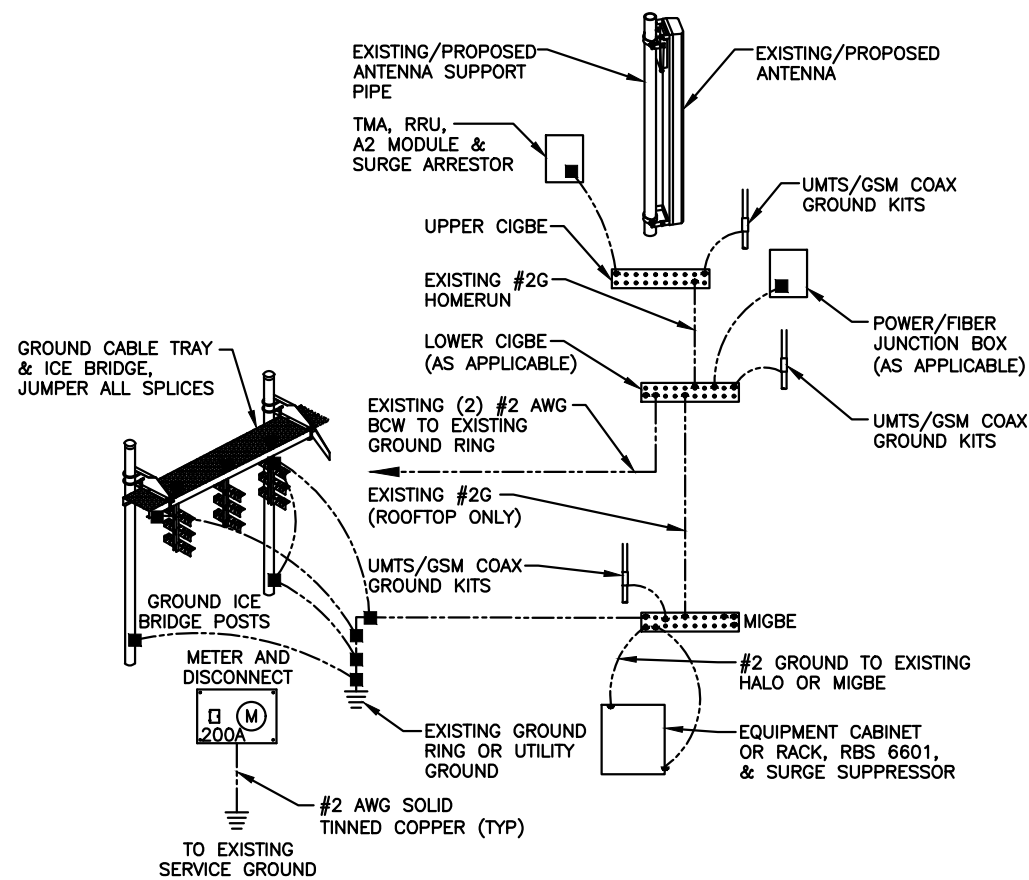
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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: JRC		



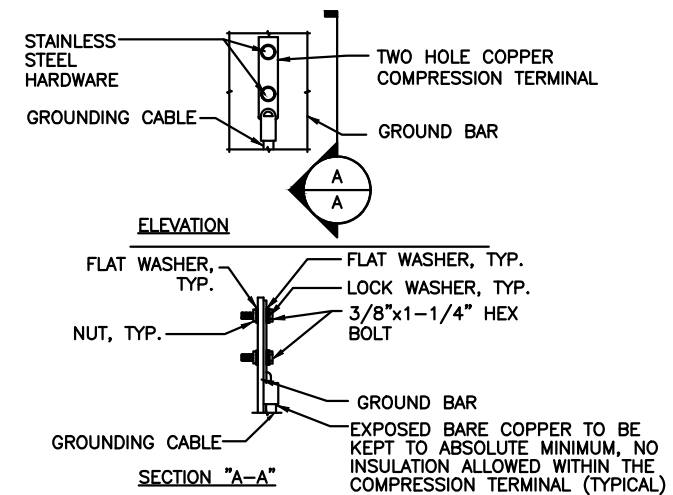
AT&T	
MOUNT MODIFICATIONS DESIGN	
LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE	
SITE NUMBER	DRAWING NUMBER
CT2195	S-1
	2



GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1)
SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM (2)
SCALE: N.T.S. G-1



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

TYPICAL GROUND BAR CONNECTION DETAIL (3)
SCALE: N.T.S. G-1

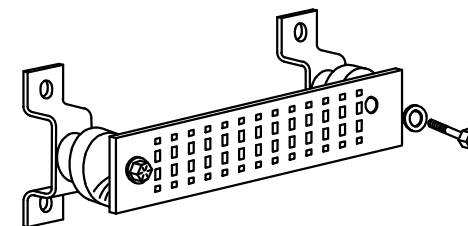
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

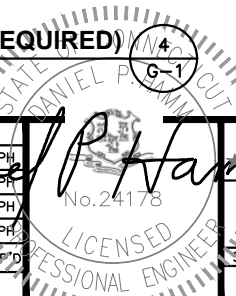
- INTERIOR GROUND RING (#2 AWG)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
- BUILDING STEEL (IF AVAILABLE) (#2 AWG)



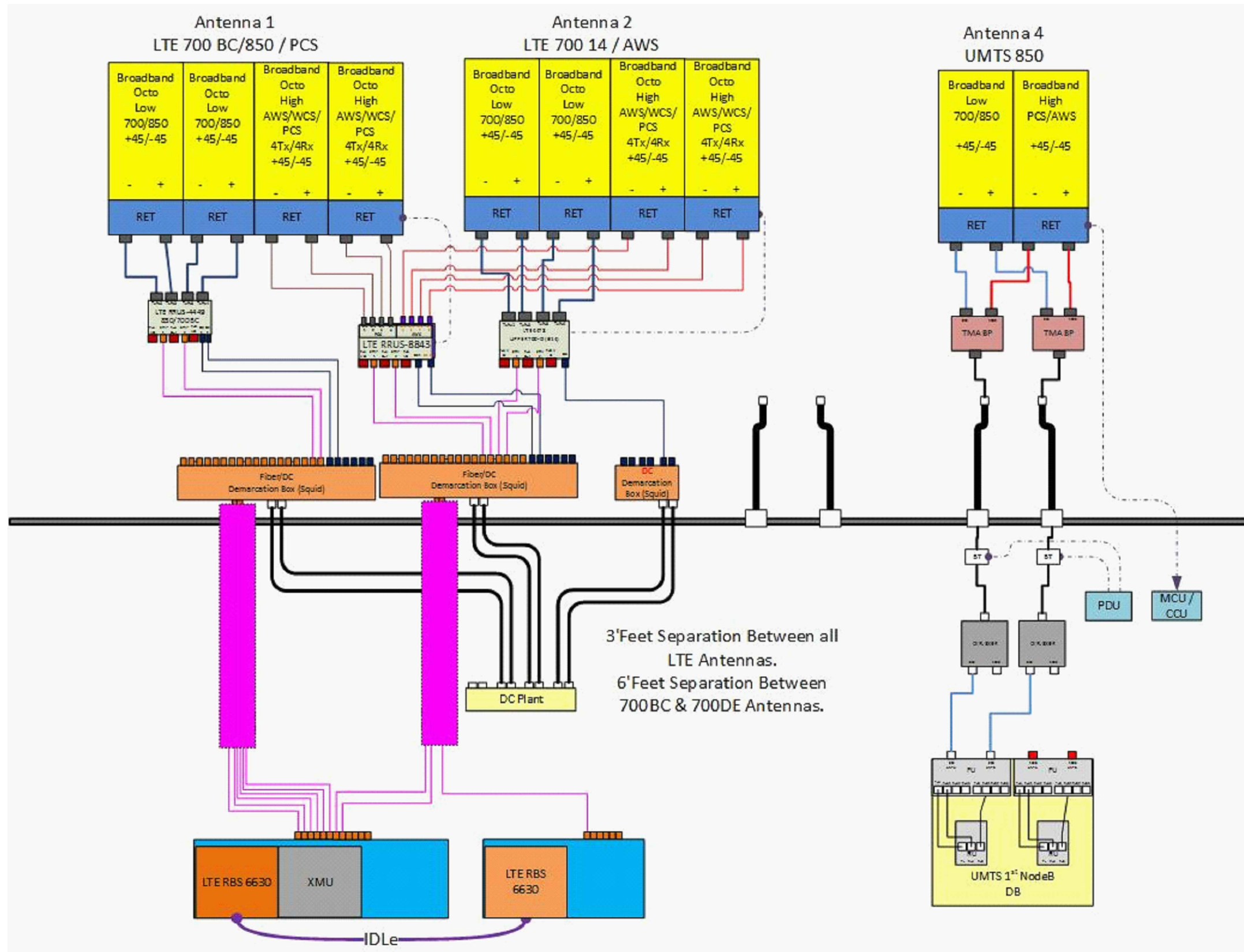
GROUND BAR - DETAIL (AS REQUIRED) (4)
SCALE: N.T.S. G-1

NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: JRC



AT&T		
GROUNDING DETAILS		
LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE		
SITE NUMBER	DRAWING NUMBER	REV
CT2195	G-1	2



RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

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

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

2	04/29/20	ISSUED FOR CONSTRUCTION	AM	HC	DPH
1	10/10/19	ISSUED FOR CONSTRUCTION	ET	HC	DPH
0	09/25/19	ISSUED FOR REVIEW	AM	HC	DPH
A	08/22/19	ISSUED FOR REVIEW	JRC	HC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: JRC		

AT&T		
RF PLUMBING DIAGRAM		
LTE 2C_3C_4C_5C_4TX4RX 2020 UPGRADE		
SITE NUMBER	DRAWING NUMBER	REV
CT2195	RF-1	2



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Post-Mod Structural Analysis Report

Existing 195 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01916-S

Customer Site Name: North Salem

Carrier Name: AT&T (App#: 122479, V1)

Carrier Site ID / Name: CT2195 / Salem North

Site Location: 160 Witch Meadow Road

Salem, Connecticut

New London County

Latitude: 41.502828

Longitude: -72.297052



Analysis Result:

Max Structural Usage: 99.5% [Pass]

Max Foundation Usage: 41.0% [Pass]

Report Prepared By : Linfeng Chen



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Site Location: 160 Witch Meadow Road

Salem, Connecticut

New London County

Latitude: 41.502828

Longitude: -72.297052

Analysis Result:

Max Structural Usage: 99.5% [Pass]

Max Foundation Usage: 41.0% [Pass]

Report Prepared By : Linfeng Chen

Introduction

The purpose of this report is to summarize the analysis results on the 195 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Nudd Corporation, Project #7014 dated February 2, 2000
Foundation Drawing	Nudd Corporation, Project #7014 dated February 2, 2000
Geotechnical Report	FDH Engineering, Project #1207124EG1 dated August 10, 2012
Existing Modification	Semaan Engineering, Project #CT-01916 dated May 6, 2002 FDH Engineering, Inc., Project #13SBAH1400 dated September 25, 2013
Proposed Modification	TES Job # 90288

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	135.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-H / 2018 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_s = 0.206$, $S_1 = 0.055$

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	195.0	3	RFS APX/TM14-C-I20 - Panel	Platform w/ Hand Rail Site Pro Modification Kits: (1) HRK-14 (1) PRK-SFS-H-L (1) PRK-1245L	(4) 1-1/4" Fiber	Sprint Nextel
2		3	Commscope NNVV-65B-R4 - Panel			
3		3	ALU 1900 Mhz - RRU			
4		6	ALU 800 Mhz - RRU			
5		3	ALU TD-RRH8x20-25 - RRU			
-	185.0	6	Powerwave 7770.00 - Panel	Low Profile Platform	(12) 1 1/4" (1) 1/2" Fiber (2) 3/4" DC inside (1) 3" Innerduct	AT&T
-		1	Raycap DC6-48-60-18-8F – Surge Arrestor			
-		6	Powerwave LGP21401 – TMA			
-		6	Powerwave LGP21903 - Diplexers			
-		2	Powerwave P65-17-XLH-RR - Panel			
-		6	Ericsson RRUS-11 - RRU			
-		1	Andrew SBNH-1D6565C - Panel			
16	175.0	3	RFS APX16DWV-16DWVS-E-A20 - Panel	Low Profile Platform	(2) 1 5/8" Hybrid (1) 1-1/4" Hybrid	T-Mobile
17		3	Commscope LNX-6515DS-A1M - Panel			
18		9	RRUS11			
19		3	96"x15.6"x9" Panel			
20		3	15" x 14" x 7.5" RRU			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
6	185.0	3	Powerwave 7770 - Panel	Modified (3) Sector Frame (3) SitePro 1 SFS-L with handrail kit (3) SitePro 1 HRK14-3HD (3) SitePro 1 PRK-SFS-L (3) Horizontal Pipe (6) Pipe Mast	{(2) 3/4" DC Power & (1) 1/2" Fiber inside (1) 2" Conduit} (12) 1 1/4" Coax {(4) 3/4" Fiber inside (2) 2" Conduit} (1) 1/2" Coax {(1) 1/2" Fiber inside (1) 2" Conduit}	AT&T
7		3	Ericsson 4449 B5/B12 RRU			
8		6	Powerwave LGP21401 TMA			
9		6	Powerwave LGP21903 Diplexer			
10		6	Cci DMP65R-BU8DA - Panel			
11		3	Ericsson RRUS 4478 B14 RRU			
12		3	Ericsson RRUS 8843 B2 B66A RRU			
13		1	Raycap DC6-48-60-18-8F SP			
14		1	Raycap DC6-48-60-18-8C SP			
15		1	Raycap DC6-48-60-0-8C-EV SP			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate	Flange
Max. Usage:	95.7%	64.3%	99.5%	62.0%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Analysis Reactions	6190.8	43.6

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-H for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.9089 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the design ANSI/TIA/EIA 222-H standards under a basic wind speed of 135 mph no ice and 50 mph with 1" radial ice after the following proposed modification is successfully completed.

- Proposed modification design drawing by **TES** Job # 90288

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed AT&T equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-322 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-322. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-322 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 95.69% at 140.0ft

Structure: CT01916-S-SBA
Site Name: North Salem
Height: 195.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-H
Exposure: B
Gh: 1.1

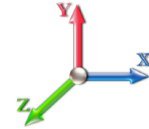
3/24/2020



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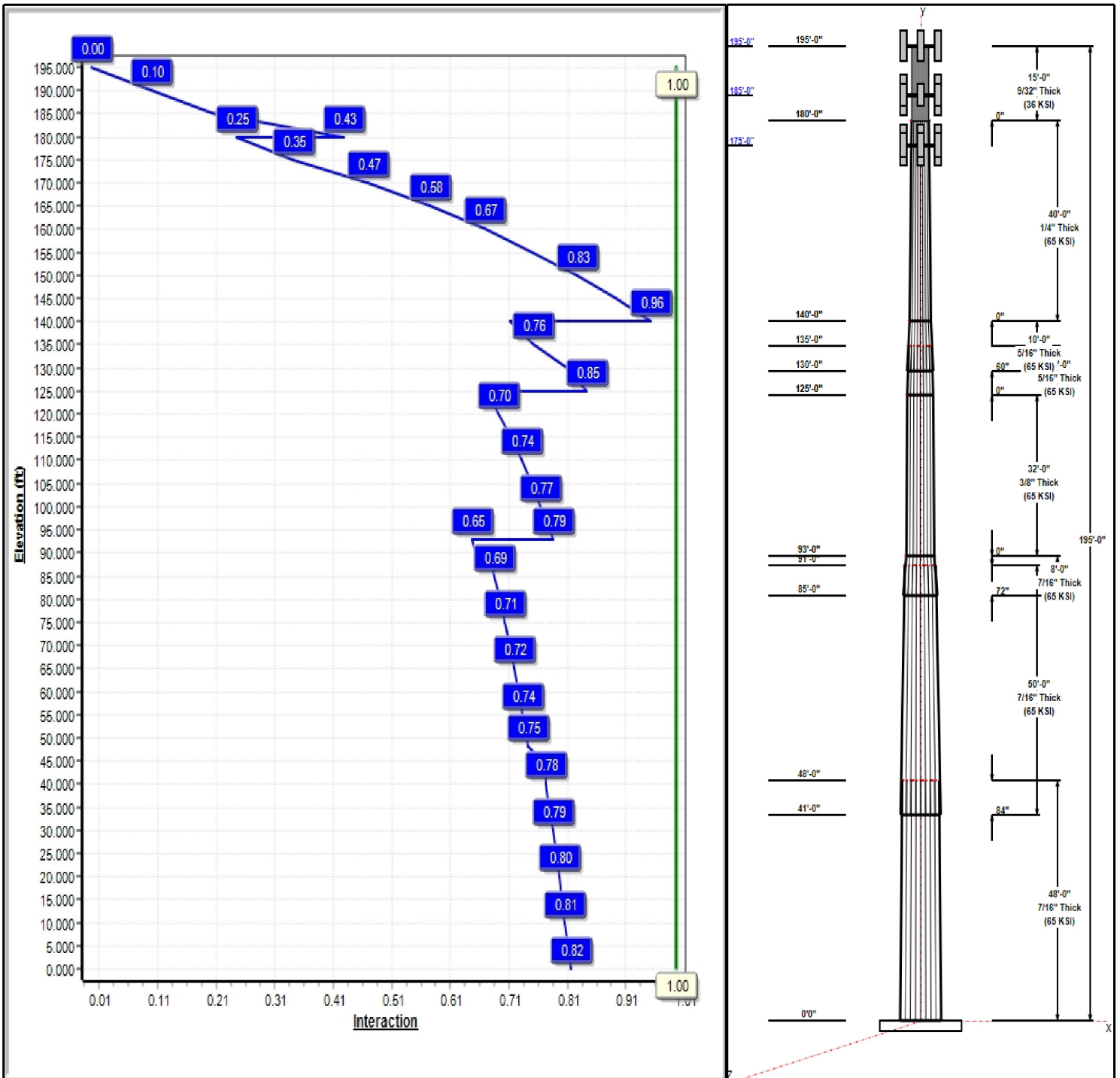
Dead Load Factor: 1.20
 Wind Load Factor: 1.00

Load Case : 1.2D + 1.0W 135 mph Wind



Iterations: 25

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Structure: CT01916-S-SBA

Type: Custom
Site Name: North Salem
Height: 195.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23819

3/24/2020

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Shaft Properties

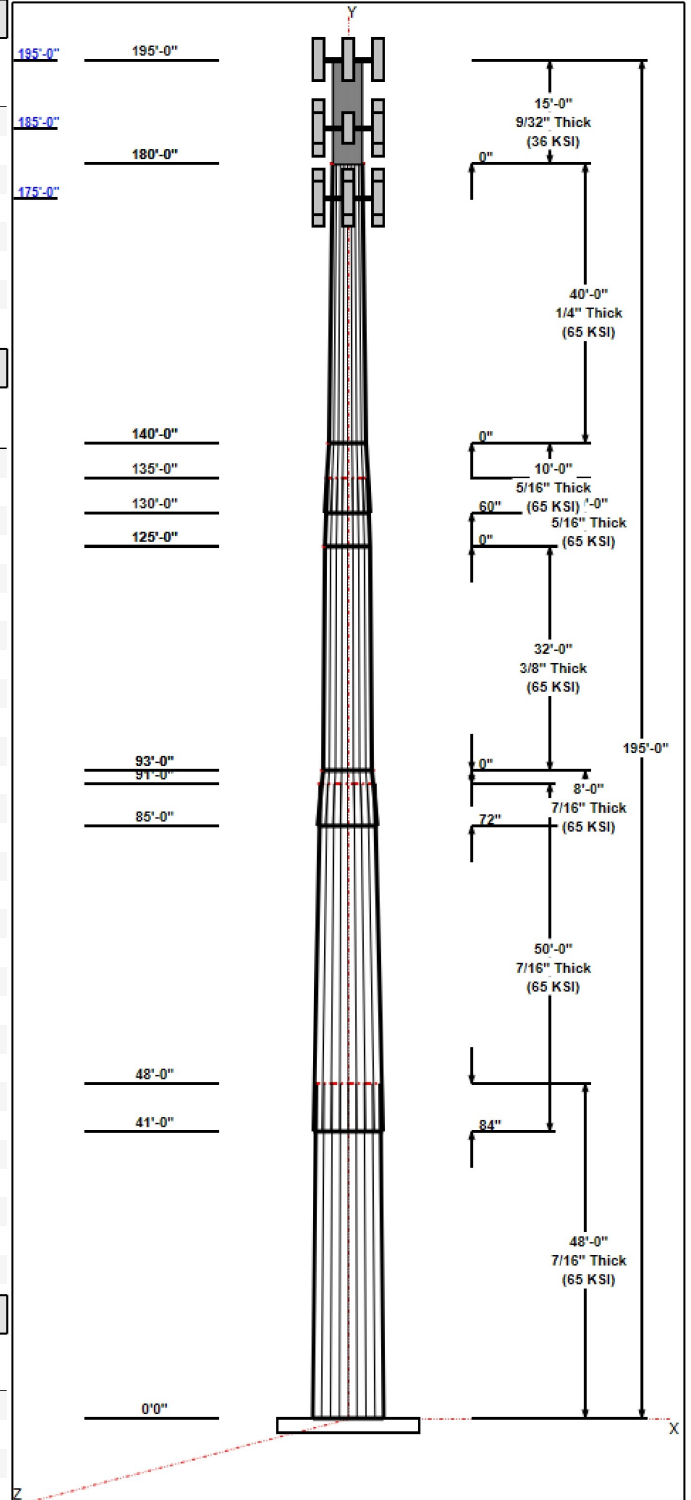
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	53.07	64.50	0.438		0.23819	65
2	50.00	43.70	55.61	0.438	Slip	0.23819	65
3	8.00	44.10	46.00	0.438	Slip	0.23819	65
4	32.00	36.48	44.10	0.375	Butt	0.23819	65
5	10.00	34.09	36.48	0.313	Butt	0.23819	65
6	10.00	33.53	35.91	0.313	Slip	0.23819	65
7	40.00	24.00	33.53	0.250	Butt	0.23819	65
8	15.00	24.00	24.00	0.281	Butt	0.00000	36

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
195.00	195.00	1	Low Profile	Sprint Nextel
195.00	195.00	1	PRK-1245 (kicker kit)	Sprint Nextel
195.00	195.00	1	(3) SFS-H-L (V-Braces)	Sprint Nextel
195.00	195.00	1	HRK12 (Handrail Kit)	Sprint Nextel
195.00	195.00	3	APXVTM14-C-I20	Sprint Nextel
195.00	195.00	3	NNVV-65B-R4	Sprint Nextel
195.00	195.00	3	1900MHz RRH (65MHz)	Sprint Nextel
195.00	195.00	6	800 MHz RRH	Sprint Nextel
195.00	195.00	3	TD-RRH8x20-25	Sprint Nextel
185.00	185.00	1	Sector Frames	AT&T
185.00	185.00	3	Powerwave 7770	AT&T
185.00	185.00	3	Ericsson 4449 B5/B12	AT&T
185.00	185.00	6	Powerwave LGP21401	AT&T
185.00	185.00	6	Powerwave LGP21903	AT&T
185.00	185.00	6	Cci DMP65R-BU8DA	AT&T
185.00	185.00	1	(3) SitePro 1 PRK-SFS-L &	AT&T
185.00	185.00	1	(3) SitePro 1 SFS-L with	AT&T
185.00	185.00	1	(3) SitePro 1 HRK14-3HD	AT&T
185.00	185.00	3	Ericsson RRUS 4478 B14	AT&T
185.00	185.00	3	Ericsson RRUS 8843 B2	AT&T
185.00	185.00	1	Raycap DC6-48-60-18-8F	AT&T
185.00	185.00	1	Raycap DC6-48-60-18-8C	AT&T
185.00	185.00	1	Raycap	AT&T
175.00	175.00	3	RFS	T-Mobile
175.00	175.00	3	Commscope	T-Mobile
175.00	175.00	3	15" x 14" x 7.5" RRU	T-Mobile
175.00	175.00	9	RRUS11	T-Mobile
175.00	175.00	3	96" x 15.6" x 9" Panel	T-Mobile
175.00	175.00	1	Low Profile Platform	T-Mobile

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	195.00	Inside	1-1/4" Fiber	Sprint
0.00	185.00	Inside	1 1/4" Coax	AT&T
0.00	185.00	Inside	1/2" Coax	AT&T
0.00	185.00	Inside	2" Conduit	AT&T
177.75	182.25	Outside	(3) Bypass Stiffeners	
0.00	175.00	Inside	1 5/8" Hybrid	T-Mobile
0.00	175.00	Inside	1-1/4" Hybrid	T-Mobile
0.00	143.00	Outside	(4) C6x10.5	
0.00	55.00	Outside	(4) C5x9	



Structure: CT01916-S-SBA

Type: Custom
Site Name: North Salem
Height: 195.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.00000

3/24/2020

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Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
29	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	64.5	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 135 mph Wind	6190.8	43.6	63.4
0.9D + 1.0W 135 mph Wind	6098.7	43.5	47.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1284.7	9.1	84.6
1.2D + 1.0Ev + 1.0Eh	152.8	0.8	65.8
0.9D + 1.0Ev + 1.0Eh	150.6	0.8	49.9
1.0D + 1.0W 60 mph Wind	1214.8	8.6	52.9

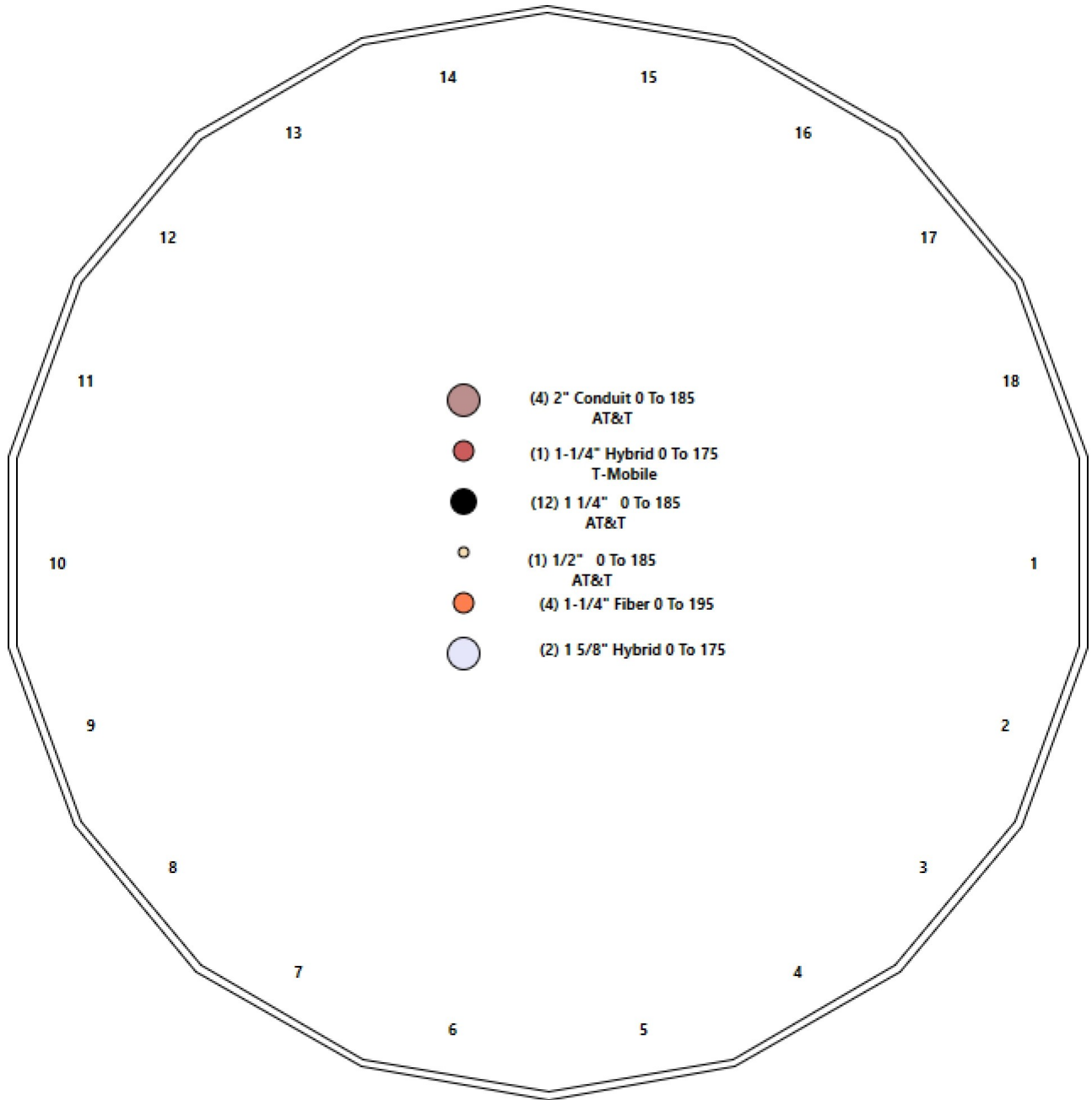
Structure: CT01916-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Salem
Height: 195.00 (ft)

3/24/2020



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Shaft Properties

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.4375	65		0.00	13,233
2	18	50.000	0.4375	65	Slip	84.00	11,627
3	18	8.000	0.4375	65	Slip	72.00	1,686
4	18	32.000	0.3750	65	Flange	0.00	5,173
5	18	10.000	0.3125	65	Flange	0.00	1,180
6	18	10.000	0.3125	65	Slip	60.00	1,161
7	18	40.000	0.2500	65	Flange	0.00	3,080
8	R	15.000	0.2810	36	Flange	0.00	1,069
Total Shaft Weight:							38,209

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	64.50	0.00	88.96	46124.76	24.59	147.43	53.07	48.00	73.08	25574.1	19.98	121.3	0.238194
2	55.61	41.00	76.61	29462.36	21.00	127.11	43.70	91.00	60.07	14204.8	16.20	99.88	0.238194
3	46.00	85.00	63.27	16597.56	17.13	105.15	44.10	93.00	60.63	14601.1	16.36	100.8	0.238194
4	44.10	93.00	52.04	12569.07	19.32	117.59	36.48	125.00	42.97	7074.93	15.74	97.27	0.238194
5	36.48	125.0	35.87	5926.45	19.17	116.72	34.09	135.00	33.51	4830.83	17.83	109.1	0.238194
6	35.91	130.0	35.31	5652.53	18.85	114.91	33.53	140.00	32.94	4592.07	17.51	107.2	0.238194
7	33.53	140.0	26.40	3694.43	22.24	134.11	24.00	180.00	18.84	1343.00	15.52	96.00	0.238194
8	24.00	180.0	20.94	1473.63	0.00	85.41	24.00	195.00	20.94	1473.63	0.00	85.41	0.000000

Load Summary

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	195.00	Low Profile Platform-Round	1	1800.00	26.00	1.00	2874.97	40.285	1.00	0.00	0.00
2	195.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	687.03	16.308	1.00	0.00	0.00
3	195.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	449.77	11.502	1.00	0.00	0.00
4	195.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	474.29	11.265	1.00	0.00	0.00
5	195.00	APXVTM14-C-I20	3	56.20	6.34	0.78	159.07	7.086	0.81	0.00	0.00
6	195.00	NNVV-65B-R4	3	77.40	12.27	0.73	272.83	13.267	0.76	0.00	0.00
7	195.00	1900MHz RRH (65MHz)	3	60.00	2.77	0.67	117.10	3.638	0.67	0.00	0.00
8	195.00	800 MHz RRH	6	53.00	2.49	0.67	103.62	3.273	0.67	0.00	0.00
9	195.00	TD-RRH8x20-25	3	70.00	4.05	0.67	140.71	4.592	0.67	0.00	0.00
10	185.00	Sector Frames	1	1500.00	22.00	1.00	2391.10	34.024	1.00	0.00	0.00
11	185.00	Powerwave 7770	3	35.00	5.50	0.73	120.43	6.210	0.73	0.00	0.00
12	185.00	Ericsson 4449 B5/B12 RRU	3	71.00	1.97	0.67	107.34	2.343	0.67	0.00	0.00
13	185.00	Powerwave LGP21401 TMA	6	14.10	1.29	0.67	31.12	1.859	0.67	0.00	0.00
14	185.00	Powerwave LGP21903 Diplexer	6	5.50	0.27	0.67	11.24	0.541	0.67	0.00	0.00
15	185.00	Cci DMP65R-BU8DA	6	96.00	17.87	0.73	341.43	19.094	0.73	0.00	0.00
16	185.00	(3) SitePro 1 PRK-SFS-L & (6) Pipe	1	230.00	6.70	1.00	448.62	11.476	1.00	0.00	0.00
17	185.00	(3) SitePro 1 SFS-L with handrail kit	1	514.00	10.00	1.00	929.28	16.654	1.00	0.00	0.00
18	185.00	(3) SitePro 1 HRK14-3HD & (3)	1	406.61	9.75	1.00	735.12	16.237	1.00	0.00	0.00
19	185.00	Ericsson RRUS 4478 B14 RRU	3	59.90	1.84	0.67	91.90	2.199	0.67	0.00	0.00
20	185.00	Ericsson RRUS 8843 B2 B66A	3	72.00	1.64	0.67	103.89	1.978	0.67	0.00	0.00
21	185.00	Raycap DC6-48-60-18-8F	1	31.80	0.92	1.00	73.89	1.218	1.00	0.00	0.00
22	185.00	Raycap DC6-48-60-18-8C	1	20.00	1.26	1.00	55.92	1.709	1.00	0.00	0.00
23	185.00	Raycap DC6-48-60-0-8C-EV	1	16.00	4.78	1.00	100.24	5.382	1.00	0.00	0.00
24	175.00	RFS APX16DWV-16DWVS-E-A20	3	40.70	6.61	0.62	119.95	8.085	0.62	0.00	0.00
25	175.00	Commscope LNX-6515DS-A1M	3	49.80	11.47	0.80	205.21	13.682	0.80	0.00	0.00
26	175.00	15" x 14" x 7.5" RRU	3	70.00	1.75	0.67	109.77	2.110	0.67	0.00	0.00
27	175.00	RRUS11	9	50.60	2.52	0.71	104.61	3.229	0.72	0.00	0.00
28	175.00	96" x 15.6" x 9" Panel	3	180.00	14.17	0.82	393.86	15.288	0.82	0.00	0.00
29	175.00	Low Profile Platform	1	1200.00	25.00	1.00	1908.93	39.179	1.00	0.00	0.00
Totals:			81	10,668.04			20,821.26				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	195.00	(4) 1-1/4" Fiber	0.00	Inside
0.00	185.00	(12) 1 1/4" Coax	0.00	Inside
0.00	185.00	(1) 1/2" Coax	0.00	Inside
0.00	185.00	(4) 2" Conduit	0.00	Inside
177.7	182.25	(3) (3) Bypass Stiffeners	12.60	Outside
0.00	175.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	175.00	(1) 1-1/4" Hybrid	0.00	Inside
0.00	143.00	(4) (4) C6x10.5	4.00	Outside
0.00	55.00	(4) (4) C5x9	3.78	Outside

Shaft Section Properties

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.4375	64.500	88.956	46124.8	24.59	147.43	72.5	1408.	0.0
5.00		0.4375	63.309	87.302	43599.8	24.11	144.71	73.0	1356.	1499.4
10.00		0.4375	62.118	85.648	41168.7	23.63	141.98	73.6	1305.	1471.3
15.00		0.4375	60.927	83.994	38829.7	23.15	139.26	74.2	1255.	1443.1
20.00		0.4375	59.736	82.341	36581.0	22.67	136.54	74.7	1206.	1415.0
25.00		0.4375	58.545	80.687	34420.9	22.19	133.82	75.3	1158.	1386.9
30.00		0.4375	57.354	79.033	32347.5	21.71	131.10	75.9	1110.	1358.7
35.00		0.4375	56.163	77.379	30359.1	21.23	128.37	76.4	1064.	1330.6
40.00		0.4375	54.972	75.726	28453.9	20.75	125.65	77.0	1019.	1302.5
41.00	Bot - Section 2	0.4375	54.734	75.395	28082.7	20.65	125.11	77.1	1010.	257.1
45.00		0.4375	53.781	74.072	26630.1	20.27	122.93	77.6	975.3	2050.9
48.00	Top - Section 1	0.4375	53.942	74.295	26871.1	20.33	123.30	0.0	0.0	1514.6
50.00		0.4375	53.465	73.633	26159.7	20.14	122.21	77.7	963.7	503.4
55.00		0.4375	52.274	71.979	24436.4	19.66	119.48	78.3	920.7	1238.7
60.00		0.4375	51.083	70.326	22790.5	19.18	116.76	78.8	878.7	1210.6
65.00		0.4375	49.892	68.672	21220.2	18.70	114.04	79.4	837.7	1182.4
70.00		0.4375	48.701	67.018	19723.7	18.22	111.32	80.0	797.7	1154.3
75.00		0.4375	47.510	65.364	18299.4	17.74	108.60	80.5	758.6	1126.2
80.00		0.4375	46.319	63.711	16945.2	17.26	105.87	81.1	720.6	1098.0
85.00	Bot - Section 3	0.4375	45.128	62.057	15659.6	16.78	103.15	81.7	683.5	1069.9
90.00		0.4375	43.938	60.403	14440.8	16.30	100.43	82.2	647.3	2104.2
91.00	Top - Section 2	0.4375	44.574	61.287	15084.3	16.55	101.88	0.0	0.0	414.1
93.00	Top - Section 3	0.4375	44.098	60.626	14601.1	16.36	100.80	82.2	652.2	414.8
93.00	Bot - Section 4	0.3750	44.098	52.039	12569.1	19.09	117.59	78.7	561.4	
95.00		0.3750	43.622	51.472	12162.7	19.10	116.32	78.9	549.2	352.2
100.00		0.3750	42.431	50.055	11185.3	18.54	113.15	79.6	519.2	863.7
105.00		0.3750	41.240	48.637	10261.6	17.98	109.97	80.3	490.1	839.6
110.00		0.3750	40.049	47.220	9390.3	17.42	106.80	80.9	461.8	815.5
115.00		0.3750	38.858	45.802	8569.8	16.86	103.62	81.6	434.4	791.3
120.00		0.3750	37.667	44.385	7798.5	16.30	100.44	82.2	407.8	767.2
125.00	Top - Section 4	0.3750	36.476	42.967	7074.9	15.74	97.27	82.5	382.0	743.1
125.00	Bot - Section 5	0.3125	36.476	35.868	5926.5	18.89	116.72	78.9	320.0	
130.00	Bot - Section 6	0.3125	35.285	34.687	5360.0	18.50	112.91	79.6	299.2	600.2
135.00	Top - Section 5	0.3125	34.719	34.125	5104.0	18.18	111.10	0.0	0.0	1170.8
140.00	Top - Section 6	0.3125	33.528	32.944	4592.1	17.51	107.29	80.8	269.8	570.6
140.00	Bot - Section 7	0.2500	33.528	26.405	3694.4	21.88	134.11	75.2	217.0	
145.00		0.2500	32.337	25.460	3311.8	21.40	129.35	76.2	201.7	441.2
150.00		0.2500	31.146	24.515	2956.5	20.56	124.58	77.2	187.0	425.1
155.00		0.2500	29.955	23.570	2627.6	19.72	119.82	78.2	172.8	409.1
160.00		0.2500	28.764	22.625	2324.1	18.88	115.06	79.2	159.1	393.0
165.00		0.2500	27.573	21.680	2044.9	18.04	110.29	80.2	146.1	376.9
170.00		0.2500	26.382	20.735	1789.0	17.20	105.53	81.2	133.6	360.8
175.00		0.2500	25.191	19.790	1555.3	16.36	100.76	82.2	121.6	344.7
180.00	Top - Section 7	0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	328.7
180.00	Bot - Section 8	0.2810	24.000	20.939	1473.6	13.80	85.41	36.0	122.8	
185.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	356.3
190.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	356.3
195.00		0.2810	24.000	20.939	1473.6	0.00	85.41	36.0	122.8	356.3

38209.1

Wind Loading - Shaft

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



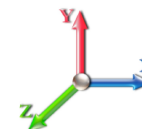
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Load Case: 1.2D + 1.0W 135 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	30.666	33.73	612.88	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	30.666	33.73	601.57	0.774 *	0.000	5.00	27.038	20.92	705.5	0.0	1799.3
10.00		1.00	0.70	30.666	33.73	590.25	0.779 *	0.000	5.00	26.534	20.66	696.9	0.0	1765.5
15.00		1.00	0.70	30.666	33.73	578.93	0.784 *	0.000	5.00	26.030	20.40	688.2	0.0	1731.8
20.00		1.00	0.70	30.666	33.73	567.62	0.789 *	0.000	5.00	25.526	20.14	679.5	0.0	1698.0
25.00		1.00	0.70	30.666	33.73	556.30	0.795 *	0.000	5.00	25.022	19.89	670.8	0.0	1664.2
30.00		1.00	0.70	30.692	33.76	545.21	0.801 *	0.000	5.00	24.518	19.63	662.7	0.0	1630.5
35.00		1.00	0.73	32.074	35.28	545.78	0.807 *	0.000	5.00	24.014	19.37	683.4	0.0	1596.7
40.00		1.00	0.76	33.322	36.65	544.49	0.813 *	0.000	5.00	23.510	19.11	700.6	0.0	1562.9
41.00	Bot - Section 2	1.00	0.77	33.558	36.91	544.05	0.817 *	0.000	1.00	4.642	3.79	140.0	0.0	308.5
45.00		1.00	0.79	34.462	37.91	541.74	0.820 *	0.000	4.00	18.661	15.31	580.3	0.0	2461.1
48.00	Top - Section 1	1.00	0.80	35.103	38.61	539.49	0.825 *	0.000	3.00	13.784	11.37	439.2	0.0	1817.5
50.00		1.00	0.81	35.515	39.07	546.72	0.823 *	0.000	2.00	9.089	7.48	292.4	0.0	604.0
55.00		1.00	0.83	36.496	40.15	541.87	0.828 *	0.000	5.00	22.369	18.53	743.9	0.0	1486.5
60.00		1.00	0.85	37.414	41.16	536.15	0.730	0.000	5.00	21.865	15.96	656.9	0.0	1452.7
65.00		1.00	0.87	38.280	42.11	529.67	0.730	0.000	5.00	21.361	15.59	656.6	0.0	1418.9
70.00		1.00	0.89	39.099	43.01	522.53	0.730	0.000	5.00	20.857	15.23	654.8	0.0	1385.2
75.00		1.00	0.91	39.877	43.87	514.80	0.730	0.000	5.00	20.353	14.86	651.7	0.0	1351.4
80.00		1.00	0.93	40.620	44.68	506.54	0.730	0.000	5.00	19.849	14.49	647.4	0.0	1317.6
85.00	Bot - Section 3	1.00	0.94	41.329	45.46	497.81	0.730	0.000	5.00	19.346	14.12	642.0	0.0	1283.9
90.00		1.00	0.96	42.010	46.21	488.65	0.730	0.000	5.00	19.212	14.02	648.1	0.0	2525.0
91.00	Top - Section 2	1.00	0.96	42.143	46.36	486.77	0.730	0.000	1.00	3.782	2.76	128.0	0.0	496.9
93.00	Top - Section 3	1.00	0.97	42.405	46.65	492.73	0.730	0.000	2.00	7.503	5.48	255.5	0.0	497.8
95.00		1.00	0.97	42.664	46.93	488.90	0.730	0.000	2.00	7.423	5.42	254.3	0.0	422.7
100.00		1.00	0.99	43.294	47.62	479.04	0.730	0.000	5.00	18.204	13.29	632.9	0.0	1036.4
105.00		1.00	1.00	43.901	48.29	468.86	0.730	0.000	5.00	17.700	12.92	624.0	0.0	1007.5
110.00		1.00	1.02	44.489	48.94	458.35	0.730	0.000	5.00	17.196	12.55	614.3	0.0	978.5
115.00		1.00	1.03	45.057	49.56	447.55	0.730	0.000	5.00	16.692	12.19	603.9	0.0	949.6
120.00		1.00	1.04	45.609	50.17	436.48	0.736 *	0.000	5.00	16.189	11.92	598.1	0.0	920.7
125.00	Top - Section 4	1.00	1.05	46.144	50.76	425.15	0.744 *	0.000	5.00	15.685	11.66	592.1	0.0	891.7
130.00	Bot - Section 6	1.00	1.07	46.664	51.33	413.58	0.751 *	0.000	5.00	15.181	11.41	585.5	0.0	720.2
135.00	Top - Section 5	1.00	1.08	47.170	51.89	401.78	0.760 *	0.000	5.00	14.941	11.35	589.0	0.0	1404.9
140.00	Top - Section 6	1.00	1.09	47.662	52.43	397.17	0.764 *	0.000	5.00	14.437	11.03	578.2	0.0	684.7
145.00		1.00	1.10	48.143	52.96	384.99	0.730	0.000	5.00	13.933	10.17	538.6	0.0	529.5
150.00		1.00	1.11	48.611	53.47	372.61	0.730	0.000	5.00	13.430	9.80	524.2	0.0	510.2
155.00		1.00	1.12	49.069	53.98	360.04	0.730	0.000	5.00	12.926	9.44	509.3	0.0	490.9
160.00		1.00	1.13	49.516	54.47	347.30	0.730	0.000	5.00	12.422	9.07	493.9	0.0	471.6
165.00		1.00	1.14	49.953	54.95	334.39	0.730	0.000	5.00	11.918	8.70	478.1	0.0	452.3
170.00		1.00	1.15	50.381	55.42	321.31	0.730	0.000	5.00	11.414	8.33	461.8	0.0	433.0
175.00	Appurtenance(s)	1.00	1.16	50.800	55.88	308.08	0.730	0.000	5.00	10.910	7.96	445.0	0.0	413.7
180.00	Top - Section 7	1.00	1.17	51.210	56.33	294.70	1.200 *	0.000	5.00	10.406	12.49	703.4	0.0	394.4
185.00	Appurtenance(s)	1.00	1.18	51.613	56.77	291.36	1.200 *	0.000	5.00	10.000	12.00	681.3	0.0	427.5
190.00		1.00	1.19	52.008	57.21	292.47	0.600	0.000	5.00	10.000	6.00	343.3	0.0	427.5
195.00	Appurtenance(s)	1.00	1.20	52.395	57.63	293.56	0.600	0.000	5.00	10.000	6.00	345.8	0.0	427.5
Totals:									195.00			23,821.3		45,850.9

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0W 135 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	195.00	Low Profile	1	52.395	57.635	1.00	1.00	26.00	2160.00	0.000	0.000	1498.50	0.00	0.00	
2	195.00	1900MHz RRH (65MHz)	3	52.395	57.635	0.67	1.00	5.57	216.00	0.000	0.000	320.89	0.00	0.00	
3	195.00	800 MHz RRH	6	52.395	57.635	0.67	1.00	10.01	381.60	0.000	0.000	576.91	0.00	0.00	
4	195.00	TD-RRH8x20-25	3	52.395	57.635	0.67	1.00	8.14	252.00	0.000	0.000	469.17	0.00	0.00	
5	195.00	NNVV-65B-R4	3	52.395	57.635	0.73	1.00	26.87	278.64	0.000	0.000	1548.72	0.00	0.00	
6	195.00	PRK-1245 (kicker kit)	1	52.395	57.635	1.00	1.00	9.50	557.89	0.000	0.000	547.53	0.00	0.00	
7	195.00	(3) SFS-H-L (V-Braces)	1	52.395	57.635	1.00	1.00	6.70	276.00	0.000	0.000	386.15	0.00	0.00	
8	195.00	HRK12 (Handrail Kit)	1	52.395	57.635	1.00	1.00	6.75	314.06	0.000	0.000	389.03	0.00	0.00	
9	195.00	APXVTM14-C-I20	3	52.395	57.635	0.78	1.00	14.84	202.32	0.000	0.000	855.04	0.00	0.00	
10	185.00	Raycap	1	51.613	56.774	0.75	0.75	3.58	19.20	0.000	0.000	203.54	0.00	0.00	
11	185.00	Raycap DC6-48-60-18-8C	1	51.613	56.774	0.75	0.75	0.95	24.00	0.000	0.000	53.65	0.00	0.00	
12	185.00	Raycap DC6-48-60-18-8F	1	51.613	56.774	0.75	0.75	0.69	38.16	0.000	0.000	39.17	0.00	0.00	
13	185.00	Ericsson RRUS 8843 B2	3	51.613	56.774	0.50	0.75	2.47	259.20	0.000	0.000	140.36	0.00	0.00	
14	185.00	Ericsson RRUS 4478 B14	3	51.613	56.774	0.50	0.75	2.77	215.64	0.000	0.000	157.48	0.00	0.00	
15	185.00	(3) SitePro 1 HRK14-3HD	1	51.613	56.774	0.75	0.75	7.31	487.93	0.000	0.000	415.16	0.00	0.00	
16	185.00	Powerwave LGP21401	6	51.613	56.774	0.50	0.75	3.89	101.52	0.000	0.000	220.81	0.00	0.00	
17	185.00	Sector Frames	1	51.613	56.774	1.00	1.00	22.00	1800.00	0.000	0.000	1249.03	0.00	0.00	
18	185.00	Powerwave 7770	3	51.613	56.774	0.58	0.80	9.64	126.00	0.000	0.000	547.08	0.00	0.00	
19	185.00	Ericsson 4449 B5/B12	3	51.613	56.774	0.50	0.75	2.97	255.60	0.000	0.000	168.61	0.00	0.00	
20	185.00	(3) SitePro 1 SFS-L with	1	51.613	56.774	0.75	0.75	7.50	616.80	0.000	0.000	425.81	0.00	0.00	
21	185.00	Powerwave LGP21903	6	51.613	56.774	0.50	0.75	0.81	39.60	0.000	0.000	46.22	0.00	0.00	
22	185.00	Cci DMP65R-BU8DA	6	51.613	56.774	0.55	0.75	58.70	691.20	0.000	0.000	3332.81	0.00	0.00	
23	185.00	(3) SitePro 1 PRK-SFS-L	1	51.613	56.774	0.75	0.75	5.03	276.00	0.000	0.000	285.29	0.00	0.00	
24	175.00	Low Profile Platform	1	50.800	55.880	1.00	1.00	25.00	1440.00	0.000	0.000	1397.00	0.00	0.00	
25	175.00	96" x 15.6" x 9" Panel	3	50.800	55.880	0.66	0.80	27.89	648.00	0.000	0.000	1558.30	0.00	0.00	
26	175.00	RRUS11	9	50.800	55.880	0.57	0.80	12.88	546.48	0.000	0.000	719.86	0.00	0.00	
27	175.00	15" x 14" x 7.5" RRU	3	50.800	55.880	0.54	0.80	2.81	252.00	0.000	0.000	157.25	0.00	0.00	
28	175.00	Commscope	3	50.800	55.880	0.64	0.80	22.02	179.28	0.000	0.000	1230.61	0.00	0.00	
29	175.00	RFS	3	50.800	55.880	0.50	0.80	9.84	146.52	0.000	0.000	549.62	0.00	0.00	
Totals:									12,801.65						19,489.61

Total Applied Force Summary

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

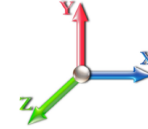


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Load Case: 1.2D + 1.0W 135 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		705.54	1928.23	0.00	0.00
10.00		696.86	1894.47	0.00	0.00
15.00		688.17	1860.71	0.00	0.00
20.00		679.49	1826.94	0.00	0.00
25.00		670.80	1793.18	0.00	0.00
30.00		662.67	1759.41	0.00	0.00
35.00		683.43	1725.65	0.00	0.00
40.00		700.57	1691.89	0.00	0.00
41.00		139.96	334.33	0.00	0.00
45.00		580.25	2564.28	0.00	0.00
48.00		439.16	1894.85	0.00	0.00
50.00		292.38	655.61	0.00	0.00
55.00		743.88	1615.40	0.00	0.00
60.00		656.91	1581.64	0.00	0.00
65.00		656.61	1547.87	0.00	0.00
70.00		654.84	1514.11	0.00	0.00
75.00		651.75	1480.34	0.00	0.00
80.00		647.44	1446.58	0.00	0.00
85.00		642.03	1412.81	0.00	0.00
90.00		648.09	2653.97	0.00	0.00
91.00		127.98	522.69	0.00	0.00
93.00		255.50	549.39	0.00	0.00
95.00		254.30	474.25	0.00	0.00
100.00		632.86	1165.36	0.00	0.00
105.00		623.98	1136.42	0.00	0.00
110.00		614.33	1107.48	0.00	0.00
115.00		603.95	1078.54	0.00	0.00
120.00		598.14	1049.60	0.00	0.00
125.00		592.08	1020.66	0.00	0.00
130.00		585.54	849.19	0.00	0.00
135.00		588.95	1533.86	0.00	0.00
140.00		578.15	813.61	0.00	0.00
145.00		538.65	658.39	0.00	0.00
150.00		524.22	639.10	0.00	0.00
155.00		509.30	619.81	0.00	0.00
160.00		493.91	600.51	0.00	0.00
165.00		478.05	581.22	0.00	0.00
170.00		461.76	561.93	0.00	0.00
175.00	(22) attachments	6057.68	3754.91	0.00	0.00
180.00		783.29	504.41	0.00	0.00
185.00	(37) attachments	8046.79	5488.37	0.00	0.00
190.00		343.25	450.40	0.00	0.00
195.00	(22) attachments	6937.76	5088.91	0.00	0.00
	Totals:	43,471.25	63,431.28	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0W 135 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.120	1.060	30.666	0.00	0.00
5.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.120	1.060	30.666	0.00	0.00
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.122	1.067	30.666	0.00	0.00
10.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.122	1.067	30.666	0.00	0.00
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.125	1.074	30.666	0.00	0.00
15.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.125	1.074	30.666	0.00	0.00
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.127	1.081	30.666	0.00	0.00
20.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.127	1.081	30.666	0.00	0.00
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.130	1.089	30.666	0.00	0.00
25.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.130	1.089	30.666	0.00	0.00
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.132	1.097	30.692	0.00	0.00
30.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.132	1.097	30.692	0.00	0.00
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.135	1.105	32.074	0.00	0.00
35.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.135	1.105	32.074	0.00	0.00
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.138	1.114	33.322	0.00	0.00
40.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.138	1.114	33.322	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.140	1.119	33.558	0.00	0.00
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.32	0.00	0.140	1.119	33.558	0.00	0.00
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	1.33	0.00	0.141	1.124	34.462	0.00	0.00
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.26	0.00	0.141	1.124	34.462	0.00	0.00
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.143	1.130	35.103	0.00	0.00
48.00	(4) C5x9	Yes	3.00	0.000	3.78	0.94	0.00	0.143	1.130	35.103	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.143	1.128	35.515	0.00	0.00
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.63	0.00	0.143	1.128	35.515	0.00	0.00
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.145	1.135	36.496	0.00	0.00
55.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.145	1.135	36.496	0.00	0.00
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.076	0.000	37.414	0.00	0.00
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.078	0.000	38.280	0.00	0.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.080	0.000	39.099	0.00	0.00
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.082	0.000	39.877	0.00	0.00
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.084	0.000	40.620	0.00	0.00
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.086	0.000	41.329	0.00	0.00
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.088	0.000	42.010	0.00	0.00
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.090	0.000	42.143	0.00	0.00
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	42.405	0.00	0.00
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	42.664	0.00	0.00
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.092	0.000	43.294	0.00	0.00
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.094	0.000	43.901	0.00	0.00
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.097	0.000	44.489	0.00	0.00
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.100	0.000	45.057	0.00	0.00
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.103	1.009	45.609	0.00	0.00
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.106	1.019	46.144	0.00	0.00
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.110	1.029	46.664	0.00	0.00
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.114	1.041	47.170	0.00	0.00
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.115	1.046	47.662	0.00	0.00
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.072	0.000	48.143	0.00	0.00
180.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.227	0.000	51.210	79.85	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

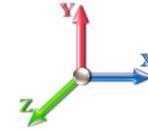


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Load Case: 1.2D + 1.0W 135 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
185.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.236	0.000	51.613	80.48	0.00
Totals:											160.3	0.0

Calculated Forces

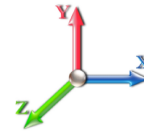
Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0W 135 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-63.36	-43.58	0.00	-6190.7	0.00	6190.78	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.820
5.00	-61.29	-43.07	0.00	-5972.9	0.00	5972.91	5739.58	1532.15	7992.25	7431.48	0.10	-0.188	0.000	0.815
10.00	-59.25	-42.56	0.00	-5757.5	0.00	5757.56	5674.37	1503.12	7692.32	7206.92	0.40	-0.379	0.000	0.810
15.00	-57.26	-42.06	0.00	-5544.7	0.00	5544.74	5607.48	1474.10	7398.13	6983.48	0.90	-0.574	0.000	0.805
20.00	-55.29	-41.55	0.00	-5334.4	0.00	5334.45	5538.91	1445.08	7109.68	6761.30	1.61	-0.773	0.000	0.800
25.00	-53.36	-41.05	0.00	-5126.7	0.00	5126.70	5468.67	1416.05	6826.96	6540.49	2.53	-0.977	0.000	0.794
30.00	-51.47	-40.54	0.00	-4921.4	0.00	4921.47	5396.74	1387.03	6549.98	6321.18	3.66	-1.185	0.000	0.789
35.00	-49.61	-40.00	0.00	-4718.7	0.00	4718.79	5323.13	1358.01	6278.73	6103.50	5.02	-1.396	0.000	0.783
40.00	-47.85	-39.37	0.00	-4518.7	0.00	4518.78	5247.84	1328.98	6013.22	5887.58	6.60	-1.613	0.000	0.778
41.00	-47.44	-39.31	0.00	-4479.4	0.00	4479.41	5232.58	1323.18	5960.81	5844.61	6.94	-1.658	0.000	0.776
45.00	-44.79	-38.77	0.00	-4322.1	0.00	4322.18	5170.87	1299.96	5753.45	5673.52	8.40	-1.836	0.000	0.771
48.00	-42.83	-38.36	0.00	-4205.8	0.00	4205.86	5181.33	1303.87	5788.10	5702.24	9.60	-1.973	0.000	0.747
50.00	-42.08	-38.16	0.00	-4129.1	0.00	4129.15	5150.16	1292.26	5685.49	5617.06	10.45	-2.066	0.000	0.744
55.00	-40.35	-37.51	0.00	-3938.3	0.00	3938.36	5071.07	1263.24	5432.97	5405.56	12.73	-2.285	0.000	0.737
60.00	-38.65	-36.94	0.00	-3750.8	0.00	3750.82	4990.29	1234.21	5186.19	5196.21	15.24	-2.509	0.000	0.730
65.00	-36.99	-36.36	0.00	-3566.1	0.00	3566.12	4907.83	1205.19	4945.14	4989.15	17.99	-2.737	0.000	0.723
70.00	-35.36	-35.78	0.00	-3384.3	0.00	3384.31	4823.69	1176.17	4709.83	4784.49	20.98	-2.970	0.000	0.716
75.00	-33.77	-35.19	0.00	-3205.4	0.00	3205.43	4737.87	1147.14	4480.26	4582.37	24.22	-3.208	0.000	0.708
80.00	-32.22	-34.60	0.00	-3029.4	0.00	3029.48	4650.37	1118.12	4256.42	4382.90	27.70	-3.450	0.000	0.699
85.00	-30.70	-34.00	0.00	-2856.5	0.00	2856.50	4561.19	1089.10	4038.32	4186.21	31.45	-3.697	0.000	0.690
90.00	-28.01	-33.25	0.00	-2686.4	0.00	2686.49	4470.33	1060.07	3825.95	3992.42	35.45	-3.949	0.000	0.680
91.00	-27.45	-33.13	0.00	-2653.2	0.00	2653.24	4519.12	1075.59	3938.79	4095.67	36.28	-4.001	0.000	0.655
93.00	-26.86	-32.88	0.00	-2586.9	0.00	2586.99	4482.67	1063.98	3854.22	4018.35	37.98	-4.106	0.000	0.651
93.00	-26.86	-32.88	0.00	-2586.9	0.00	2586.99	3684.61	913.29	3313.08	3312.42	37.98	-4.106	0.000	0.790
95.00	-26.30	-32.68	0.00	-2521.2	0.00	2521.23	3656.67	903.34	3241.28	3251.18	39.72	-4.206	0.000	0.784
100.00	-25.02	-32.09	0.00	-2357.8	0.00	2357.82	3585.64	878.46	3065.22	3099.48	44.28	-4.491	0.000	0.769
105.00	-23.78	-31.50	0.00	-2197.3	0.00	2197.38	3512.93	853.58	2894.07	2949.87	49.13	-4.781	0.000	0.753
110.00	-22.57	-30.91	0.00	-2039.9	0.00	2039.90	3438.54	828.71	2727.83	2802.49	54.29	-5.075	0.000	0.736
115.00	-21.39	-30.32	0.00	-1885.3	0.00	1885.38	3362.47	803.83	2566.52	2657.45	59.76	-5.372	0.000	0.717
120.00	-20.25	-29.73	0.00	-1733.7	0.00	1733.79	3284.72	778.95	2410.12	2514.88	65.53	-5.672	0.000	0.697
125.00	-19.14	-29.14	0.00	-1585.1	0.00	1585.15	3192.26	754.08	2258.63	2365.26	71.63	-5.975	0.000	0.678
125.00	-19.14	-29.14	0.00	-1585.1	0.00	1585.15	2545.46	629.48	1888.72	1892.56	71.63	-5.975	0.000	0.847
130.00	-18.19	-28.57	0.00	-1439.4	0.00	1439.46	2486.30	608.75	1766.36	1787.17	78.04	-6.279	0.000	0.815
135.00	-16.56	-27.92	0.00	-1296.6	0.00	1296.61	2457.60	598.90	1709.65	1737.70	84.79	-6.642	0.000	0.755
140.00	-15.65	-27.34	0.00	-1157.0	0.00	1157.01	2395.97	578.17	1593.34	1634.95	91.93	-7.003	0.000	0.716
140.00	-15.65	-27.34	0.00	-1157.0	0.00	1157.01	1788.19	463.41	1279.47	1224.81	91.93	-7.003	0.000	0.957
145.00	-14.89	-26.83	0.00	-1020.2	0.00	1020.29	1746.83	446.82	1189.53	1153.35	99.43	-7.341	0.000	0.897
150.00	-14.14	-26.32	0.00	-886.16	0.00	886.16	1703.79	430.24	1102.87	1082.85	107.31	-7.750	0.000	0.830
155.00	-13.43	-25.82	0.00	-754.55	0.00	754.55	1659.07	413.65	1019.48	1013.46	115.62	-8.145	0.000	0.757
160.00	-12.75	-25.33	0.00	-625.44	0.00	625.44	1612.67	397.07	939.37	945.29	124.32	-8.518	0.000	0.674
165.00	-12.10	-24.84	0.00	-498.81	0.00	498.81	1564.59	380.48	862.54	878.47	133.40	-8.862	0.000	0.580
170.00	-11.50	-24.35	0.00	-374.63	0.00	374.63	1514.83	363.90	788.98	813.12	142.81	-9.166	0.000	0.473
175.00	-8.71	-17.80	0.00	-252.89	0.00	252.89	1463.38	347.31	718.70	749.37	152.51	-9.416	0.000	0.346
180.00	-8.29	-16.96	0.00	-163.91	0.00	163.91	1400.09	330.73	651.70	682.38	162.44	-9.606	0.000	0.249
180.00	-8.29	-16.96	0.00	-163.91	0.00	163.91	678.42	203.53	25205.7	396.30	162.44	-9.606	0.000	0.433
185.00	-4.22	-8.12	0.00	-79.09	0.00	79.09	678.42	203.53	25205.7	396.30	172.53	-9.735	0.000	0.207
190.00	-3.83	-7.70	0.00	-38.51	0.00	38.51	678.42	203.53	25205.7	396.30	182.71	-9.792	0.000	0.104
195.00	0.00	-6.94	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	192.93	-9.810	0.000	0.001

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 14



Wind Loading - Shaft

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

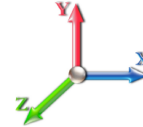


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Load Case: 0.9D + 1.0W 135 mph Wind

Iterations 25

Dead Load Factor 0.90
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	30.666	33.73	612.88	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	30.666	33.73	601.57	0.774 *	0.000	5.00	27.038	20.92	705.5	0.0	1349.5
10.00		1.00	0.70	30.666	33.73	590.25	0.779 *	0.000	5.00	26.534	20.66	696.9	0.0	1324.1
15.00		1.00	0.70	30.666	33.73	578.93	0.784 *	0.000	5.00	26.030	20.40	688.2	0.0	1298.8
20.00		1.00	0.70	30.666	33.73	567.62	0.789 *	0.000	5.00	25.526	20.14	679.5	0.0	1273.5
25.00		1.00	0.70	30.666	33.73	556.30	0.795 *	0.000	5.00	25.022	19.89	670.8	0.0	1248.2
30.00		1.00	0.70	30.692	33.76	545.21	0.801 *	0.000	5.00	24.518	19.63	662.7	0.0	1222.9
35.00		1.00	0.73	32.074	35.28	545.78	0.807 *	0.000	5.00	24.014	19.37	683.4	0.0	1197.5
40.00		1.00	0.76	33.322	36.65	544.49	0.813 *	0.000	5.00	23.510	19.11	700.6	0.0	1172.2
41.00	Bot - Section 2	1.00	0.77	33.558	36.91	544.05	0.817 *	0.000	1.00	4.642	3.79	140.0	0.0	231.4
45.00		1.00	0.79	34.462	37.91	541.74	0.820 *	0.000	4.00	18.661	15.31	580.3	0.0	1845.8
48.00	Top - Section 1	1.00	0.80	35.103	38.61	539.49	0.825 *	0.000	3.00	13.784	11.37	439.2	0.0	1363.1
50.00		1.00	0.81	35.515	39.07	546.72	0.823 *	0.000	2.00	9.089	7.48	292.4	0.0	453.0
55.00		1.00	0.83	36.496	40.15	541.87	0.828 *	0.000	5.00	22.369	18.53	743.9	0.0	1114.8
60.00		1.00	0.85	37.414	41.16	536.15	0.730	0.000	5.00	21.865	15.96	656.9	0.0	1089.5
65.00		1.00	0.87	38.280	42.11	529.67	0.730	0.000	5.00	21.361	15.59	656.6	0.0	1064.2
70.00		1.00	0.89	39.099	43.01	522.53	0.730	0.000	5.00	20.857	15.23	654.8	0.0	1038.9
75.00		1.00	0.91	39.877	43.87	514.80	0.730	0.000	5.00	20.353	14.86	651.7	0.0	1013.6
80.00		1.00	0.93	40.620	44.68	506.54	0.730	0.000	5.00	19.849	14.49	647.4	0.0	988.2
85.00	Bot - Section 3	1.00	0.94	41.329	45.46	497.81	0.730	0.000	5.00	19.346	14.12	642.0	0.0	962.9
90.00		1.00	0.96	42.010	46.21	488.65	0.730	0.000	5.00	19.212	14.02	648.1	0.0	1893.8
91.00	Top - Section 2	1.00	0.96	42.143	46.36	486.77	0.730	0.000	1.00	3.782	2.76	128.0	0.0	372.7
93.00	Top - Section 3	1.00	0.97	42.405	46.65	492.73	0.730	0.000	2.00	7.503	5.48	255.5	0.0	373.4
95.00		1.00	0.97	42.664	46.93	488.90	0.730	0.000	2.00	7.423	5.42	254.3	0.0	317.0
100.00		1.00	0.99	43.294	47.62	479.04	0.730	0.000	5.00	18.204	13.29	632.9	0.0	777.3
105.00		1.00	1.00	43.901	48.29	468.86	0.730	0.000	5.00	17.700	12.92	624.0	0.0	755.6
110.00		1.00	1.02	44.489	48.94	458.35	0.730	0.000	5.00	17.196	12.55	614.3	0.0	733.9
115.00		1.00	1.03	45.057	49.56	447.55	0.730	0.000	5.00	16.692	12.19	603.9	0.0	712.2
120.00		1.00	1.04	45.609	50.17	436.48	0.736 *	0.000	5.00	16.189	11.92	598.1	0.0	690.5
125.00	Top - Section 4	1.00	1.05	46.144	50.76	425.15	0.744 *	0.000	5.00	15.685	11.66	592.1	0.0	668.8
130.00	Bot - Section 6	1.00	1.07	46.664	51.33	413.58	0.751 *	0.000	5.00	15.181	11.41	585.5	0.0	540.2
135.00	Top - Section 5	1.00	1.08	47.170	51.89	401.78	0.760 *	0.000	5.00	14.941	11.35	589.0	0.0	1053.7
140.00	Top - Section 6	1.00	1.09	47.662	52.43	397.17	0.764 *	0.000	5.00	14.437	11.03	578.2	0.0	513.5
145.00		1.00	1.10	48.143	52.96	384.99	0.730	0.000	5.00	13.933	10.17	538.6	0.0	397.1
150.00		1.00	1.11	48.611	53.47	372.61	0.730	0.000	5.00	13.430	9.80	524.2	0.0	382.6
155.00		1.00	1.12	49.069	53.98	360.04	0.730	0.000	5.00	12.926	9.44	509.3	0.0	368.2
160.00		1.00	1.13	49.516	54.47	347.30	0.730	0.000	5.00	12.422	9.07	493.9	0.0	353.7
165.00		1.00	1.14	49.953	54.95	334.39	0.730	0.000	5.00	11.918	8.70	478.1	0.0	339.2
170.00		1.00	1.15	50.381	55.42	321.31	0.730	0.000	5.00	11.414	8.33	461.8	0.0	324.7
175.00	Appurtenance(s)	1.00	1.16	50.800	55.88	308.08	0.730	0.000	5.00	10.910	7.96	445.0	0.0	310.3
180.00	Top - Section 7	1.00	1.17	51.210	56.33	294.70	1.200 *	0.000	5.00	10.406	12.49	703.4	0.0	295.8
185.00	Appurtenance(s)	1.00	1.18	51.613	56.77	291.36	1.200 *	0.000	5.00	10.000	12.00	681.3	0.0	320.6
190.00		1.00	1.19	52.008	57.21	292.47	0.600	0.000	5.00	10.000	6.00	343.3	0.0	320.6
195.00	Appurtenance(s)	1.00	1.20	52.395	57.63	293.56	0.600	0.000	5.00	10.000	6.00	345.8	0.0	320.6
Totals:									195.00			23,821.3		34,388.2

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

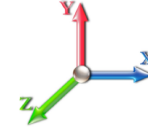
Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 135 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	195.00	Low Profile	1	52.395	57.635	1.00	1.00	26.00	1620.00	0.000	0.000	1498.50	0.00	0.00	
2	195.00	1900MHz RRH (65MHz)	3	52.395	57.635	0.67	1.00	5.57	162.00	0.000	0.000	320.89	0.00	0.00	
3	195.00	800 MHz RRH	6	52.395	57.635	0.67	1.00	10.01	286.20	0.000	0.000	576.91	0.00	0.00	
4	195.00	TD-RRH8x20-25	3	52.395	57.635	0.67	1.00	8.14	189.00	0.000	0.000	469.17	0.00	0.00	
5	195.00	NNVV-65B-R4	3	52.395	57.635	0.73	1.00	26.87	208.98	0.000	0.000	1548.72	0.00	0.00	
6	195.00	PRK-1245 (kicker kit)	1	52.395	57.635	1.00	1.00	9.50	418.42	0.000	0.000	547.53	0.00	0.00	
7	195.00	(3) SFS-H-L (V-Braces)	1	52.395	57.635	1.00	1.00	6.70	207.00	0.000	0.000	386.15	0.00	0.00	
8	195.00	HRK12 (Handrail Kit)	1	52.395	57.635	1.00	1.00	6.75	235.55	0.000	0.000	389.03	0.00	0.00	
9	195.00	APXVTM14-C-I20	3	52.395	57.635	0.78	1.00	14.84	151.74	0.000	0.000	855.04	0.00	0.00	
10	185.00	Raycap	1	51.613	56.774	0.75	0.75	3.58	14.40	0.000	0.000	203.54	0.00	0.00	
11	185.00	Raycap DC6-48-60-18-8C	1	51.613	56.774	0.75	0.75	0.95	18.00	0.000	0.000	53.65	0.00	0.00	
12	185.00	Raycap DC6-48-60-18-8F	1	51.613	56.774	0.75	0.75	0.69	28.62	0.000	0.000	39.17	0.00	0.00	
13	185.00	Ericsson RRUS 8843 B2	3	51.613	56.774	0.50	0.75	2.47	194.40	0.000	0.000	140.36	0.00	0.00	
14	185.00	Ericsson RRUS 4478 B14	3	51.613	56.774	0.50	0.75	2.77	161.73	0.000	0.000	157.48	0.00	0.00	
15	185.00	(3) SitePro 1 HRK14-3HD	1	51.613	56.774	0.75	0.75	7.31	365.95	0.000	0.000	415.16	0.00	0.00	
16	185.00	Powerwave LGP21401	6	51.613	56.774	0.50	0.75	3.89	76.14	0.000	0.000	220.81	0.00	0.00	
17	185.00	Sector Frames	1	51.613	56.774	1.00	1.00	22.00	1350.00	0.000	0.000	1249.03	0.00	0.00	
18	185.00	Powerwave 7770	3	51.613	56.774	0.58	0.80	9.64	94.50	0.000	0.000	547.08	0.00	0.00	
19	185.00	Ericsson 4449 B5/B12	3	51.613	56.774	0.50	0.75	2.97	191.70	0.000	0.000	168.61	0.00	0.00	
20	185.00	(3) SitePro 1 SFS-L with	1	51.613	56.774	0.75	0.75	7.50	462.60	0.000	0.000	425.81	0.00	0.00	
21	185.00	Powerwave LGP21903	6	51.613	56.774	0.50	0.75	0.81	29.70	0.000	0.000	46.22	0.00	0.00	
22	185.00	Cci DMP65R-BU8DA	6	51.613	56.774	0.55	0.75	58.70	518.40	0.000	0.000	3332.81	0.00	0.00	
23	185.00	(3) SitePro 1 PRK-SFS-L	1	51.613	56.774	0.75	0.75	5.03	207.00	0.000	0.000	285.29	0.00	0.00	
24	175.00	Low Profile Platform	1	50.800	55.880	1.00	1.00	25.00	1080.00	0.000	0.000	1397.00	0.00	0.00	
25	175.00	96" x 15.6" x 9" Panel	3	50.800	55.880	0.66	0.80	27.89	486.00	0.000	0.000	1558.30	0.00	0.00	
26	175.00	RRUS11	9	50.800	55.880	0.57	0.80	12.88	409.86	0.000	0.000	719.86	0.00	0.00	
27	175.00	15" x 14" x 7.5" RRU	3	50.800	55.880	0.54	0.80	2.81	189.00	0.000	0.000	157.25	0.00	0.00	
28	175.00	Commscope	3	50.800	55.880	0.64	0.80	22.02	134.46	0.000	0.000	1230.61	0.00	0.00	
29	175.00	RFS	3	50.800	55.880	0.50	0.80	9.84	109.89	0.000	0.000	549.62	0.00	0.00	
Totals:									9,601.24						19,489.61

Total Applied Force Summary

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 135 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		705.54	1446.18	0.00	0.00
10.00		696.86	1420.85	0.00	0.00
15.00		688.17	1395.53	0.00	0.00
20.00		679.49	1370.21	0.00	0.00
25.00		670.80	1344.88	0.00	0.00
30.00		662.67	1319.56	0.00	0.00
35.00		683.43	1294.24	0.00	0.00
40.00		700.57	1268.91	0.00	0.00
41.00		139.96	250.74	0.00	0.00
45.00		580.25	1923.21	0.00	0.00
48.00		439.16	1421.14	0.00	0.00
50.00		292.38	491.71	0.00	0.00
55.00		743.88	1211.55	0.00	0.00
60.00		656.91	1186.23	0.00	0.00
65.00		656.61	1160.90	0.00	0.00
70.00		654.84	1135.58	0.00	0.00
75.00		651.75	1110.26	0.00	0.00
80.00		647.44	1084.93	0.00	0.00
85.00		642.03	1059.61	0.00	0.00
90.00		648.09	1990.48	0.00	0.00
91.00		127.98	392.02	0.00	0.00
93.00		255.50	412.04	0.00	0.00
95.00		254.30	355.69	0.00	0.00
100.00		632.86	874.02	0.00	0.00
105.00		623.98	852.32	0.00	0.00
110.00		614.33	830.61	0.00	0.00
115.00		603.95	808.91	0.00	0.00
120.00		598.14	787.20	0.00	0.00
125.00		592.08	765.49	0.00	0.00
130.00		585.54	636.89	0.00	0.00
135.00		588.95	1150.39	0.00	0.00
140.00		578.15	610.21	0.00	0.00
145.00		538.65	493.80	0.00	0.00
150.00		524.22	479.33	0.00	0.00
155.00		509.30	464.86	0.00	0.00
160.00		493.91	450.38	0.00	0.00
165.00		478.05	435.91	0.00	0.00
170.00		461.76	421.44	0.00	0.00
175.00	(22) attachments	6057.68	2816.18	0.00	0.00
180.00		783.29	378.31	0.00	0.00
185.00	(37) attachments	8046.79	4116.28	0.00	0.00
190.00		343.25	337.80	0.00	0.00
195.00	(22) attachments	6937.76	3816.68	0.00	0.00
	Totals:	43,471.25	47,573.46	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 135 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.120	1.060	30.666	0.00	0.00
5.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.120	1.060	30.666	0.00	0.00
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.122	1.067	30.666	0.00	0.00
10.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.122	1.067	30.666	0.00	0.00
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.125	1.074	30.666	0.00	0.00
15.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.125	1.074	30.666	0.00	0.00
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.127	1.081	30.666	0.00	0.00
20.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.127	1.081	30.666	0.00	0.00
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.130	1.089	30.666	0.00	0.00
25.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.130	1.089	30.666	0.00	0.00
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.132	1.097	30.692	0.00	0.00
30.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.132	1.097	30.692	0.00	0.00
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.135	1.105	32.074	0.00	0.00
35.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.135	1.105	32.074	0.00	0.00
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.138	1.114	33.322	0.00	0.00
40.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.138	1.114	33.322	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.140	1.119	33.558	0.00	0.00
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.32	0.00	0.140	1.119	33.558	0.00	0.00
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	1.33	0.00	0.141	1.124	34.462	0.00	0.00
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.26	0.00	0.141	1.124	34.462	0.00	0.00
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.143	1.130	35.103	0.00	0.00
48.00	(4) C5x9	Yes	3.00	0.000	3.78	0.94	0.00	0.143	1.130	35.103	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.143	1.128	35.515	0.00	0.00
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.63	0.00	0.143	1.128	35.515	0.00	0.00
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.145	1.135	36.496	0.00	0.00
55.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.145	1.135	36.496	0.00	0.00
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.076	0.000	37.414	0.00	0.00
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.078	0.000	38.280	0.00	0.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.080	0.000	39.099	0.00	0.00
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.082	0.000	39.877	0.00	0.00
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.084	0.000	40.620	0.00	0.00
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.086	0.000	41.329	0.00	0.00
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.088	0.000	42.010	0.00	0.00
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.090	0.000	42.143	0.00	0.00
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	42.405	0.00	0.00
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	42.664	0.00	0.00
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.092	0.000	43.294	0.00	0.00
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.094	0.000	43.901	0.00	0.00
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.097	0.000	44.489	0.00	0.00
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.100	0.000	45.057	0.00	0.00
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.103	1.009	45.609	0.00	0.00
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.106	1.019	46.144	0.00	0.00
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.110	1.029	46.664	0.00	0.00
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.114	1.041	47.170	0.00	0.00
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.115	1.046	47.662	0.00	0.00
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.072	0.000	48.143	0.00	0.00
180.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.227	0.000	51.210	79.85	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 135 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
185.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.236	0.000	51.613	80.48	0.00
Totals:											160.3	0.0

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

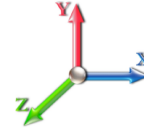


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Load Case: 0.9D + 1.0W 135 mph Wind

Iterations 25

Dead Load Factor 0.90
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.50	-43.55	0.00	-6098.7	0.00	6098.73	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.805
5.00	-45.92	-42.99	0.00	-5880.9	0.00	5880.99	5739.58	1532.15	7992.25	7431.48	0.10	-0.185	0.000	0.800
10.00	-44.36	-42.43	0.00	-5666.0	0.00	5666.04	5674.37	1503.12	7692.32	7206.92	0.39	-0.373	0.000	0.795
15.00	-42.83	-41.88	0.00	-5453.8	0.00	5453.87	5607.48	1474.10	7398.13	6983.48	0.89	-0.565	0.000	0.789
20.00	-41.32	-41.33	0.00	-5244.4	0.00	5244.48	5538.91	1445.08	7109.68	6761.30	1.59	-0.761	0.000	0.784
25.00	-39.84	-40.78	0.00	-5037.8	0.00	5037.84	5468.67	1416.05	6826.96	6540.49	2.49	-0.961	0.000	0.778
30.00	-38.39	-40.23	0.00	-4833.9	0.00	4833.96	5396.74	1387.03	6549.98	6321.18	3.61	-1.165	0.000	0.773
35.00	-36.97	-39.65	0.00	-4632.8	0.00	4632.82	5323.13	1358.01	6278.73	6103.50	4.94	-1.373	0.000	0.767
40.00	-35.63	-39.00	0.00	-4434.5	0.00	4434.55	5247.84	1328.98	6013.22	5887.58	6.49	-1.586	0.000	0.761
41.00	-35.31	-38.92	0.00	-4395.5	0.00	4395.56	5232.58	1323.18	5960.81	5844.61	6.83	-1.630	0.000	0.760
45.00	-33.30	-38.37	0.00	-4239.8	0.00	4239.88	5170.87	1299.96	5753.45	5673.52	8.27	-1.805	0.000	0.755
48.00	-31.82	-37.95	0.00	-4124.7	0.00	4124.76	5181.33	1303.87	5788.10	5702.24	9.44	-1.939	0.000	0.730
50.00	-31.24	-37.72	0.00	-4048.8	0.00	4048.87	5150.16	1292.26	5685.49	5617.06	10.28	-2.030	0.000	0.728
55.00	-29.92	-37.05	0.00	-3860.2	0.00	3860.25	5071.07	1263.24	5432.97	5405.56	12.52	-2.245	0.000	0.721
60.00	-28.62	-36.45	0.00	-3675.0	0.00	3675.01	4990.29	1234.21	5186.19	5196.21	14.99	-2.464	0.000	0.714
65.00	-27.35	-35.85	0.00	-3492.7	0.00	3492.73	4907.83	1205.19	4945.14	4989.15	17.68	-2.688	0.000	0.707
70.00	-26.10	-35.25	0.00	-3313.4	0.00	3313.46	4823.69	1176.17	4709.83	4784.49	20.62	-2.916	0.000	0.699
75.00	-24.89	-34.64	0.00	-3137.2	0.00	3137.21	4737.87	1147.14	4480.26	4582.37	23.80	-3.149	0.000	0.691
80.00	-23.70	-34.03	0.00	-2964.0	0.00	2964.00	4650.37	1118.12	4256.42	4382.90	27.22	-3.386	0.000	0.682
85.00	-22.54	-33.42	0.00	-2793.8	0.00	2793.83	4561.19	1089.10	4038.32	4186.21	30.89	-3.627	0.000	0.673
90.00	-20.51	-32.70	0.00	-2626.7	0.00	2626.71	4470.33	1060.07	3825.95	3992.42	34.82	-3.874	0.000	0.663
91.00	-20.08	-32.57	0.00	-2594.0	0.00	2594.01	4519.12	1075.59	3938.79	4095.67	35.64	-3.925	0.000	0.639
93.00	-19.63	-32.32	0.00	-2528.8	0.00	2528.86	4482.67	1063.98	3854.22	4018.35	37.30	-4.028	0.000	0.635
93.00	-19.63	-32.32	0.00	-2528.8	0.00	2528.86	3684.61	913.29	3313.08	3312.42	37.30	-4.028	0.000	0.770
95.00	-19.19	-32.11	0.00	-2464.2	0.00	2464.21	3656.67	903.34	3241.28	3251.18	39.01	-4.125	0.000	0.764
100.00	-18.21	-31.50	0.00	-2303.6	0.00	2303.67	3585.64	878.46	3065.22	3099.48	43.48	-4.404	0.000	0.750
105.00	-17.26	-30.90	0.00	-2146.1	0.00	2146.16	3512.93	853.58	2894.07	2949.87	48.24	-4.687	0.000	0.734
110.00	-16.33	-30.30	0.00	-1991.6	0.00	1991.66	3438.54	828.71	2727.83	2802.49	53.29	-4.974	0.000	0.717
115.00	-15.43	-29.71	0.00	-1840.1	0.00	1840.17	3362.47	803.83	2566.52	2657.45	58.65	-5.264	0.000	0.698
120.00	-14.55	-29.11	0.00	-1691.6	0.00	1691.64	3284.72	778.95	2410.12	2514.88	64.31	-5.557	0.000	0.678
125.00	-13.70	-28.52	0.00	-1546.0	0.00	1546.09	3192.26	754.08	2258.63	2365.26	70.28	-5.852	0.000	0.659
125.00	-13.70	-28.52	0.00	-1546.0	0.00	1546.09	2545.46	629.48	1888.72	1892.56	70.28	-5.852	0.000	0.824
130.00	-12.97	-27.94	0.00	-1403.5	0.00	1403.51	2486.30	608.75	1766.36	1787.17	76.56	-6.149	0.000	0.793
135.00	-11.72	-27.30	0.00	-1263.8	0.00	1263.80	2457.60	598.90	1709.65	1737.70	83.18	-6.503	0.000	0.734
140.00	-11.03	-26.72	0.00	-1127.2	0.00	1127.29	2395.97	578.17	1593.34	1634.95	90.16	-6.855	0.000	0.696
140.00	-11.03	-26.72	0.00	-1127.2	0.00	1127.29	1788.19	463.41	1279.47	1224.81	90.16	-6.855	0.000	0.930
145.00	-10.43	-26.20	0.00	-993.68	0.00	993.68	1746.83	446.82	1189.53	1153.35	97.50	-7.183	0.000	0.871
150.00	-9.85	-25.68	0.00	-862.70	0.00	862.70	1703.79	430.24	1102.87	1082.85	105.22	-7.582	0.000	0.806
155.00	-9.29	-25.18	0.00	-734.30	0.00	734.30	1659.07	413.65	1019.48	1013.46	113.34	-7.966	0.000	0.734
160.00	-8.77	-24.68	0.00	-608.42	0.00	608.42	1612.67	397.07	939.37	945.29	121.86	-8.330	0.000	0.653
165.00	-8.28	-24.19	0.00	-485.04	0.00	485.04	1564.59	380.48	862.54	878.47	130.73	-8.664	0.000	0.561
170.00	-7.82	-23.70	0.00	-364.11	0.00	364.11	1514.83	363.90	788.98	813.12	139.94	-8.960	0.000	0.457
175.00	-5.93	-17.30	0.00	-245.60	0.00	245.60	1463.38	347.31	718.70	749.37	149.42	-9.202	0.000	0.334
180.00	-5.64	-16.48	0.00	-159.12	0.00	159.12	1400.09	330.73	651.70	682.38	159.12	-9.387	0.000	0.240
180.00	-5.64	-16.48	0.00	-159.12	0.00	159.12	678.42	203.53	25205.7	396.30	159.12	-9.387	0.000	0.416
185.00	-2.89	-7.87	0.00	-76.72	0.00	76.72	678.42	203.53	25205.7	396.30	168.98	-9.512	0.000	0.199
190.00	-2.61	-7.48	0.00	-37.38	0.00	37.38	678.42	203.53	25205.7	396.30	178.93	-9.567	0.000	0.100
195.00	0.00	-6.94	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	188.91	-9.585	0.000	0.001

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Wind Loading - Shaft

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

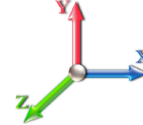


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.207	4.63	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.207	4.63	0.00	1.272 *	0.828	5.00	27.728	35.26	163.2	329.4	2128.6
10.00		1.00	0.70	4.207	4.63	0.00	1.280 *	0.887	5.00	27.273	34.90	161.5	346.8	2112.3
15.00		1.00	0.70	4.207	4.63	0.00	1.288 *	0.924	5.00	26.800	34.53	159.8	354.5	2086.3
20.00		1.00	0.70	4.207	4.63	0.00	1.297 *	0.951	5.00	26.319	34.14	158.0	358.0	2056.0
25.00		1.00	0.70	4.207	4.63	0.00	1.306 *	0.973	5.00	25.833	33.75	156.2	359.0	2023.2
30.00		1.00	0.70	4.210	4.63	0.00	1.316 *	0.991	5.00	25.344	33.35	154.5	358.4	1988.9
35.00		1.00	0.73	4.400	4.84	0.00	1.326 *	1.006	5.00	24.853	32.95	159.5	356.6	1953.3
40.00		1.00	0.76	4.571	5.03	0.00	1.336 *	1.019	5.00	24.360	32.55	163.7	354.0	1916.9
41.00	Bot - Section 2	1.00	0.77	4.603	5.06	0.00	1.343 *	1.022	1.00	4.812	6.46	32.7	70.7	379.2
45.00		1.00	0.79	4.727	5.20	0.00	1.348 *	1.032	4.00	19.349	26.09	135.7	285.0	2746.1
48.00	Top - Section 1	1.00	0.80	4.815	5.30	0.00	1.356 *	1.038	3.00	14.303	19.40	102.8	212.4	2029.9
50.00		1.00	0.81	4.872	5.36	0.00	1.354 *	1.042	2.00	9.436	12.77	68.4	140.9	745.0
55.00		1.00	0.83	5.006	5.51	0.00	1.362 *	1.052	5.00	23.246	31.65	174.3	348.0	1834.5
60.00		1.00	0.85	5.132	5.65	0.00	1.200	1.062	5.00	22.750	27.30	154.1	343.3	1796.0
65.00		1.00	0.87	5.251	5.78	0.00	1.200	1.070	5.00	22.253	26.70	154.2	338.2	1757.1
70.00		1.00	0.89	5.363	5.90	0.00	1.200	1.078	5.00	21.756	26.11	154.0	332.8	1717.9
75.00		1.00	0.91	5.470	6.02	0.00	1.200	1.086	5.00	21.258	25.51	153.5	327.1	1678.5
80.00		1.00	0.93	5.572	6.13	0.00	1.200	1.093	5.00	20.760	24.91	152.7	321.2	1638.8
85.00	Bot - Section 3	1.00	0.94	5.669	6.24	0.00	1.200	1.099	5.00	20.262	24.31	151.6	315.1	1599.0
90.00		1.00	0.96	5.763	6.34	0.00	1.200	1.106	5.00	20.133	24.16	153.1	314.8	2839.8
91.00	Top - Section 2	1.00	0.96	5.781	6.36	0.00	1.200	1.107	1.00	3.966	4.76	30.3	62.7	559.6
93.00	Top - Section 3	1.00	0.97	5.817	6.40	0.00	1.200	1.109	2.00	7.873	9.45	60.5	124.4	622.2
95.00		1.00	0.97	5.852	6.44	0.00	1.200	1.112	2.00	7.793	9.35	60.2	123.3	546.0
100.00		1.00	0.99	5.939	6.53	0.00	1.200	1.117	5.00	19.135	22.96	150.0	301.7	1338.1
105.00		1.00	1.00	6.022	6.62	0.00	1.200	1.123	5.00	18.636	22.36	148.1	294.9	1302.4
110.00		1.00	1.02	6.103	6.71	0.00	1.200	1.128	5.00	18.136	21.76	146.1	288.0	1266.5
115.00		1.00	1.03	6.181	6.80	0.00	1.200	1.133	5.00	17.637	21.16	143.9	280.9	1230.5
120.00		1.00	1.04	6.256	6.88	0.00	1.211 *	1.138	5.00	17.137	20.75	142.8	273.7	1194.4
125.00	Top - Section 4	1.00	1.05	6.330	6.96	0.00	1.223 *	1.142	5.00	16.637	20.34	141.6	266.5	1158.2
130.00	Bot - Section 6	1.00	1.07	6.401	7.04	0.00	1.235 *	1.147	5.00	16.137	19.93	140.3	259.1	979.3
135.00	Top - Section 5	1.00	1.08	6.470	7.12	0.00	1.249 *	1.151	5.00	15.901	19.86	141.3	256.0	1661.0
140.00	Top - Section 6	1.00	1.09	6.538	7.19	0.00	1.256 *	1.155	5.00	15.400	19.34	139.1	248.5	933.1
145.00		1.00	1.10	6.604	7.26	0.00	1.200	1.160	5.00	14.900	17.88	129.9	240.8	770.2
150.00		1.00	1.11	6.668	7.34	0.00	1.200	1.163	5.00	14.399	17.28	126.7	233.0	743.2
155.00		1.00	1.12	6.731	7.40	0.00	1.200	1.167	5.00	13.898	16.68	123.5	225.2	716.1
160.00		1.00	1.13	6.792	7.47	0.00	1.200	1.171	5.00	13.398	16.08	120.1	217.3	688.9
165.00		1.00	1.14	6.852	7.54	0.00	1.200	1.175	5.00	12.897	15.48	116.7	209.3	661.6
170.00		1.00	1.15	6.911	7.60	0.00	1.200	1.178	5.00	12.396	14.87	113.1	201.3	634.3
175.00	Appurtenance(s)	1.00	1.16	6.968	7.67	0.00	1.200	1.182	5.00	11.895	14.27	109.4	193.2	606.8
180.00	Top - Section 7	1.00	1.17	7.025	7.73	0.00	1.200 *	1.185	5.00	11.394	13.67	105.6	185.0	579.4
185.00	Appurtenance(s)	1.00	1.18	7.080	7.79	0.00	1.200 *	1.188	5.00	10.990	13.19	102.7	182.8	610.3
190.00		1.00	1.19	7.134	7.85	0.00	1.200	1.191	5.00	10.993	13.19	103.5	183.3	610.8
195.00	Appurtenance(s)	1.00	1.20	7.187	7.91	0.00	1.200	1.194	5.00	10.995	13.19	104.3	183.8	611.3
Totals:									195.00			5,563.2		57,051.4

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	195.00	Low Profile	1	7.187	7.906	1.00	1.00	1.00	40.29	3234.97	0.000	0.000	318.49	0.00	0.00
2	195.00	1900MHz RRH (65MHz)	3	7.187	7.906	0.67	1.00	1.00	7.31	315.61	0.000	0.000	57.81	0.00	0.00
3	195.00	800 MHz RRH	6	7.187	7.906	0.67	1.00	1.00	13.16	558.71	0.000	0.000	104.02	0.00	0.00
4	195.00	TD-RRH8x20-25	3	7.187	7.906	0.67	1.00	1.00	9.23	464.14	0.000	0.000	72.98	0.00	0.00
5	195.00	NNVV-65B-R4	3	7.187	7.906	0.76	1.00	1.00	30.25	667.54	0.000	0.000	239.14	0.00	0.00
6	195.00	PRK-1245 (kicker kit)	1	7.187	7.906	1.00	1.00	1.00	16.31	684.92	0.000	0.000	128.93	0.00	0.00
7	195.00	(3) SFS-H-L (V-Braces)	1	7.187	7.906	1.00	1.00	1.00	11.50	394.77	0.000	0.000	90.93	0.00	0.00
8	195.00	HRK12 (Handrail Kit)	1	7.187	7.906	1.00	1.00	1.00	11.26	788.35	0.000	0.000	89.06	0.00	0.00
9	195.00	APXVTM14-C-I20	3	7.187	7.906	0.81	1.00	1.00	17.22	510.93	0.000	0.000	136.14	0.00	0.00
10	185.00	Raycap	1	7.080	7.788	0.75	0.75	0.75	4.04	73.64	0.000	0.000	31.44	0.00	0.00
11	185.00	Raycap DC6-48-60-18-8C	1	7.080	7.788	0.75	0.75	0.75	1.28	44.82	0.000	0.000	9.98	0.00	0.00
12	185.00	Raycap DC6-48-60-18-8F	1	7.080	7.788	0.75	0.75	0.75	0.91	62.55	0.000	0.000	7.12	0.00	0.00
13	185.00	Ericsson RRUS 8843 B2	3	7.080	7.788	0.50	0.75	0.75	2.98	318.87	0.000	0.000	23.23	0.00	0.00
14	185.00	Ericsson RRUS 4478 B14	3	7.080	7.788	0.50	0.75	0.75	3.31	276.53	0.000	0.000	25.81	0.00	0.00
15	185.00	(3) SitePro 1 HRK14-3HD	1	7.080	7.788	0.75	0.75	0.75	12.18	1223.06	0.000	0.000	94.84	0.00	0.00
16	185.00	Powerwave LGP21401	6	7.080	7.788	0.50	0.75	0.75	5.60	161.04	0.000	0.000	43.65	0.00	0.00
17	185.00	Sector Frames	1	7.080	7.788	1.00	1.00	1.00	34.02	2391.10	0.000	0.000	264.98	0.00	0.00
18	185.00	Powerwave 7770	3	7.080	7.788	0.58	0.80	0.80	10.88	382.29	0.000	0.000	84.74	0.00	0.00
19	185.00	Ericsson 4449 B5/B12	3	7.080	7.788	0.50	0.75	0.75	3.53	323.82	0.000	0.000	27.50	0.00	0.00
20	185.00	(3) SitePro 1 SFS-L with	1	7.080	7.788	0.75	0.75	0.75	12.49	1546.08	0.000	0.000	97.27	0.00	0.00
21	185.00	Powerwave LGP21903	6	7.080	7.788	0.50	0.75	0.75	1.63	59.63	0.000	0.000	12.70	0.00	0.00
22	185.00	Cci DMP65R-BU8DA	6	7.080	7.788	0.55	0.75	0.75	62.72	2163.78	0.000	0.000	488.49	0.00	0.00
23	185.00	(3) SitePro 1 PRK-SFS-L	1	7.080	7.788	0.75	0.75	0.75	8.61	393.62	0.000	0.000	67.03	0.00	0.00
24	175.00	Low Profile Platform	1	6.968	7.665	1.00	1.00	1.00	39.18	1848.93	0.000	0.000	300.32	0.00	0.00
25	175.00	96" x 15.6" x 9" Panel	3	6.968	7.665	0.66	0.80	0.80	30.09	1289.58	0.000	0.000	230.63	0.00	0.00
26	175.00	RRUS11	9	6.968	7.665	0.58	0.80	0.80	16.74	1032.53	0.000	0.000	128.33	0.00	0.00
27	175.00	15" x 14" x 7.5" RRU	3	6.968	7.665	0.54	0.80	0.80	3.39	371.32	0.000	0.000	26.01	0.00	0.00
28	175.00	Commscope	3	6.968	7.665	0.64	0.80	0.80	26.27	448.11	0.000	0.000	201.36	0.00	0.00
29	175.00	RFS	3	6.968	7.665	0.50	0.80	0.80	12.03	283.77	0.000	0.000	92.21	0.00	0.00
Totals:									22,315.01				3,495.13		

Total Applied Force Summary

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		163.15	2284.67	0.00	0.00
10.00		161.52	2270.72	0.00	0.00
15.00		159.77	2246.21	0.00	0.00
20.00		157.98	2217.06	0.00	0.00
25.00		156.16	2185.24	0.00	0.00
30.00		154.46	2151.65	0.00	0.00
35.00		159.49	2116.79	0.00	0.00
40.00		163.68	2080.97	0.00	0.00
41.00		32.72	412.04	0.00	0.00
45.00		135.66	2877.78	0.00	0.00
48.00		102.76	2128.80	0.00	0.00
50.00		68.45	811.01	0.00	0.00
55.00		174.32	2000.01	0.00	0.00
60.00		154.12	1931.79	0.00	0.00
65.00		154.24	1893.05	0.00	0.00
70.00		154.02	1853.99	0.00	0.00
75.00		153.50	1814.66	0.00	0.00
80.00		152.69	1775.08	0.00	0.00
85.00		151.63	1735.28	0.00	0.00
90.00		153.15	2976.20	0.00	0.00
91.00		30.27	586.88	0.00	0.00
93.00		60.45	676.76	0.00	0.00
95.00		60.20	600.59	0.00	0.00
100.00		150.00	1474.66	0.00	0.00
105.00		148.14	1439.02	0.00	0.00
110.00		146.10	1403.23	0.00	0.00
115.00		143.89	1367.30	0.00	0.00
120.00		142.77	1331.26	0.00	0.00
125.00		141.61	1295.09	0.00	0.00
130.00		140.35	1116.29	0.00	0.00
135.00		141.33	1797.99	0.00	0.00
140.00		139.06	1070.22	0.00	0.00
145.00		129.88	904.12	0.00	0.00
150.00		126.74	872.15	0.00	0.00
155.00		123.49	845.02	0.00	0.00
160.00		120.12	817.82	0.00	0.00
165.00		116.65	790.54	0.00	0.00
170.00		113.08	763.20	0.00	0.00
175.00	(22) attachments	1088.27	6010.03	0.00	0.00
180.00		131.68	693.24	0.00	0.00
185.00	(37) attachments	1407.72	10145.04	0.00	0.00
190.00		103.52	633.72	0.00	0.00
195.00	(22) attachments	1341.82	8254.15	0.00	0.00
	Totals:	9,110.59	84,651.33	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



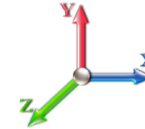
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.36	0.00	0.120	1.060	4.207	0.00	4.19
5.00	(4) C5x9	Yes	5.00	0.000	3.78	2.27	0.00	0.120	1.060	4.207	0.00	22.90
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.41	0.00	0.122	1.067	4.207	0.00	4.81
10.00	(4) C5x9	Yes	5.00	0.000	3.78	2.31	0.00	0.122	1.067	4.207	0.00	24.68
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.44	0.00	0.125	1.074	4.207	0.00	5.22
15.00	(4) C5x9	Yes	5.00	0.000	3.78	2.35	0.00	0.125	1.074	4.207	0.00	25.80
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.46	0.00	0.127	1.081	4.207	0.00	5.53
20.00	(4) C5x9	Yes	5.00	0.000	3.78	2.37	0.00	0.127	1.081	4.207	0.00	26.63
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.48	0.00	0.130	1.089	4.207	0.00	5.78
25.00	(4) C5x9	Yes	5.00	0.000	3.78	2.39	0.00	0.130	1.089	4.207	0.00	27.30
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.49	0.00	0.132	1.097	4.210	0.00	5.99
30.00	(4) C5x9	Yes	5.00	0.000	3.78	2.40	0.00	0.132	1.097	4.210	0.00	27.86
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.50	0.00	0.135	1.105	4.400	0.00	6.18
35.00	(4) C5x9	Yes	5.00	0.000	3.78	2.41	0.00	0.135	1.105	4.400	0.00	28.35
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.52	0.00	0.138	1.114	4.571	0.00	6.35
40.00	(4) C5x9	Yes	5.00	0.000	3.78	2.42	0.00	0.138	1.114	4.571	0.00	28.78
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.50	0.00	0.140	1.119	4.603	0.00	1.28
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.49	0.00	0.140	1.119	4.603	0.00	5.77
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	2.02	0.00	0.141	1.124	4.727	0.00	5.20
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.95	0.00	0.141	1.124	4.727	0.00	23.33
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.52	0.00	0.143	1.130	4.815	0.00	3.95
48.00	(4) C5x9	Yes	3.00	0.000	3.78	1.46	0.00	0.143	1.130	4.815	0.00	17.63
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	1.01	0.00	0.143	1.128	4.872	0.00	2.66
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.98	0.00	0.143	1.128	4.872	0.00	11.81
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.54	0.00	0.145	1.135	5.006	0.00	6.77
55.00	(4) C5x9	Yes	5.00	0.000	3.78	2.45	0.00	0.145	1.135	5.006	0.00	29.84
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.55	0.00	0.076	0.000	5.132	0.00	6.88
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.56	0.00	0.078	0.000	5.251	0.00	7.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.57	0.00	0.080	0.000	5.363	0.00	7.10
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.57	0.00	0.082	0.000	5.470	0.00	7.20
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.58	0.00	0.084	0.000	5.572	0.00	7.29
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.58	0.00	0.086	0.000	5.669	0.00	7.38
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.59	0.00	0.088	0.000	5.763	0.00	7.47
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.52	0.00	0.090	0.000	5.781	0.00	1.50
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	1.04	0.00	0.089	0.000	5.817	0.00	3.01
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	1.04	0.00	0.090	0.000	5.852	0.00	3.02
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.60	0.00	0.092	0.000	5.939	0.00	7.63
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.60	0.00	0.094	0.000	6.022	0.00	7.70
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.61	0.00	0.097	0.000	6.103	0.00	7.77
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.61	0.00	0.100	0.000	6.181	0.00	7.84
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.61	0.00	0.103	1.009	6.256	0.00	7.91
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.62	0.00	0.106	1.019	6.330	0.00	7.97
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.62	0.00	0.110	1.029	6.401	0.00	8.04
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.63	0.00	0.114	1.041	6.470	0.00	8.10
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	2.63	0.00	0.115	1.046	6.538	0.00	8.16
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.58	0.00	0.072	0.000	6.604	0.00	4.93
180.00	(3) Bypass Stiffeners	Yes	2.25	1.200	12.60	2.81	3.37	0.227	0.000	7.025	26.03	3.86

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

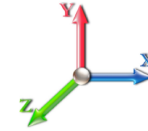


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
185.00	(3) Bypass Stiffeners	Yes	2.25	1.200	12.60	2.81	3.37	0.236	0.000	7.080	26.24	3.88
Totals:											52.3	506.2

Calculated Forces

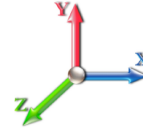
Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 27



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-84.65	-9.14	0.00	-1284.7	0.00	1284.73	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.182
5.00	-82.36	-9.03	0.00	-1239.0	0.00	1239.03	5739.58	1532.15	7992.25	7431.48	0.02	-0.039	0.000	0.181
10.00	-80.08	-8.92	0.00	-1193.8	0.00	1193.87	5674.37	1503.12	7692.32	7206.92	0.08	-0.079	0.000	0.180
15.00	-77.83	-8.82	0.00	-1149.2	0.00	1149.26	5607.48	1474.10	7398.13	6983.48	0.19	-0.119	0.000	0.178
20.00	-75.61	-8.71	0.00	-1105.1	0.00	1105.18	5538.91	1445.08	7109.68	6761.30	0.33	-0.160	0.000	0.177
25.00	-73.41	-8.60	0.00	-1061.6	0.00	1061.64	5468.67	1416.05	6826.96	6540.49	0.52	-0.203	0.000	0.176
30.00	-71.26	-8.49	0.00	-1018.6	0.00	1018.65	5396.74	1387.03	6549.98	6321.18	0.76	-0.245	0.000	0.174
35.00	-69.13	-8.37	0.00	-976.20	0.00	976.20	5323.13	1358.01	6278.73	6103.50	1.04	-0.289	0.000	0.173
40.00	-67.05	-8.23	0.00	-934.33	0.00	934.33	5247.84	1328.98	6013.22	5887.58	1.37	-0.334	0.000	0.172
41.00	-66.64	-8.22	0.00	-926.10	0.00	926.10	5232.58	1323.18	5960.81	5844.61	1.44	-0.343	0.000	0.171
45.00	-63.75	-8.10	0.00	-893.21	0.00	893.21	5170.87	1299.96	5753.45	5673.52	1.74	-0.380	0.000	0.170
48.00	-61.62	-8.01	0.00	-868.90	0.00	868.90	5181.33	1303.87	5788.10	5702.24	1.99	-0.409	0.000	0.164
50.00	-60.81	-7.97	0.00	-852.87	0.00	852.87	5150.16	1292.26	5685.49	5617.06	2.17	-0.428	0.000	0.164
55.00	-58.80	-7.83	0.00	-813.01	0.00	813.01	5071.07	1263.24	5432.97	5405.56	2.64	-0.473	0.000	0.162
60.00	-56.87	-7.71	0.00	-773.86	0.00	773.86	4990.29	1234.21	5186.19	5196.21	3.16	-0.519	0.000	0.160
65.00	-54.97	-7.58	0.00	-735.34	0.00	735.34	4907.83	1205.19	4945.14	4989.15	3.73	-0.566	0.000	0.159
70.00	-53.11	-7.45	0.00	-697.45	0.00	697.45	4823.69	1176.17	4709.83	4784.49	4.35	-0.614	0.000	0.157
75.00	-51.29	-7.32	0.00	-660.20	0.00	660.20	4737.87	1147.14	4480.26	4582.37	5.02	-0.663	0.000	0.155
80.00	-49.51	-7.19	0.00	-623.59	0.00	623.59	4650.37	1118.12	4256.42	4382.90	5.74	-0.713	0.000	0.153
85.00	-47.77	-7.06	0.00	-587.64	0.00	587.64	4561.19	1089.10	4038.32	4186.21	6.51	-0.764	0.000	0.151
90.00	-44.79	-6.89	0.00	-552.35	0.00	552.35	4470.33	1060.07	3825.95	3992.42	7.34	-0.816	0.000	0.148
91.00	-44.21	-6.86	0.00	-545.46	0.00	545.46	4519.12	1075.59	3938.79	4095.67	7.51	-0.827	0.000	0.143
93.00	-43.53	-6.81	0.00	-531.73	0.00	531.73	4482.67	1063.98	3854.22	4018.35	7.86	-0.848	0.000	0.142
93.00	-43.53	-6.81	0.00	-531.73	0.00	531.73	3684.61	913.29	3313.08	3312.42	7.86	-0.848	0.000	0.172
95.00	-42.92	-6.77	0.00	-518.11	0.00	518.11	3656.67	903.34	3241.28	3251.18	8.22	-0.869	0.000	0.171
100.00	-41.44	-6.64	0.00	-484.27	0.00	484.27	3585.64	878.46	3065.22	3099.48	9.16	-0.927	0.000	0.168
105.00	-40.00	-6.51	0.00	-451.07	0.00	451.07	3512.93	853.58	2894.07	2949.87	10.17	-0.987	0.000	0.164
110.00	-38.59	-6.38	0.00	-418.53	0.00	418.53	3438.54	828.71	2727.83	2802.49	11.23	-1.047	0.000	0.161
115.00	-37.22	-6.25	0.00	-386.64	0.00	386.64	3362.47	803.83	2566.52	2657.45	12.36	-1.108	0.000	0.157
120.00	-35.89	-6.12	0.00	-355.39	0.00	355.39	3284.72	778.95	2410.12	2514.88	13.55	-1.170	0.000	0.152
125.00	-34.59	-5.99	0.00	-324.80	0.00	324.80	3192.26	754.08	2258.63	2365.26	14.81	-1.232	0.000	0.148
125.00	-34.59	-5.99	0.00	-324.80	0.00	324.80	2545.46	629.48	1888.72	1892.56	14.81	-1.232	0.000	0.185
130.00	-33.47	-5.86	0.00	-294.86	0.00	294.86	2486.30	608.75	1766.36	1787.17	16.14	-1.294	0.000	0.179
135.00	-31.67	-5.72	0.00	-265.55	0.00	265.55	2457.60	598.90	1709.65	1737.70	17.53	-1.368	0.000	0.166
140.00	-30.59	-5.59	0.00	-236.95	0.00	236.95	2395.97	578.17	1593.34	1634.95	19.00	-1.442	0.000	0.158
140.00	-30.59	-5.59	0.00	-236.95	0.00	236.95	1788.19	463.41	1279.47	1224.81	19.00	-1.442	0.000	0.211
145.00	-29.69	-5.48	0.00	-208.98	0.00	208.98	1746.83	446.82	1189.53	1153.35	20.55	-1.511	0.000	0.198
150.00	-28.81	-5.37	0.00	-181.58	0.00	181.58	1703.79	430.24	1102.87	1082.85	22.18	-1.595	0.000	0.185
155.00	-27.96	-5.26	0.00	-154.73	0.00	154.73	1659.07	413.65	1019.48	1013.46	23.89	-1.676	0.000	0.170
160.00	-27.14	-5.15	0.00	-128.42	0.00	128.42	1612.67	397.07	939.37	945.29	25.69	-1.753	0.000	0.153
165.00	-26.35	-5.04	0.00	-102.65	0.00	102.65	1564.59	380.48	862.54	878.47	27.56	-1.823	0.000	0.134
170.00	-25.59	-4.93	0.00	-77.44	0.00	77.44	1514.83	363.90	788.98	813.12	29.51	-1.886	0.000	0.112
175.00	-19.61	-3.66	0.00	-52.79	0.00	52.79	1463.38	347.31	718.70	749.37	31.51	-1.938	0.000	0.084
180.00	-18.92	-3.51	0.00	-34.51	0.00	34.51	1400.09	330.73	651.70	682.38	33.57	-1.978	0.000	0.064
180.00	-18.92	-3.51	0.00	-34.51	0.00	34.51	678.42	203.53	25205.7	396.30	33.57	-1.978	0.000	0.115
185.00	-8.83	-1.76	0.00	-16.94	0.00	16.94	678.42	203.53	25205.7	396.30	35.65	-2.005	0.000	0.056
190.00	-8.20	-1.63	0.00	-8.16	0.00	8.16	678.42	203.53	25205.7	396.30	37.76	-2.017	0.000	0.033
195.00	0.00	-1.34	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	39.87	-2.021	0.000	0.000

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Seismic Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Ev + 1.0Eh				Iterations 22
Gust Response Factor	1.10	Sds	0.22	Ss 0.21
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.28	SA 0.02
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1628.3	2.50	71.56	0.01	
10.00		1600.2	7.50	70.32	0.06	
15.00		1572.0	12.50	69.09	0.16	
20.00		1543.9	17.50	67.85	0.30	
25.00		1515.8	22.50	66.61	0.49	
30.00		1487.6	27.50	65.38	0.70	
35.00		1459.5	32.50	64.14	0.94	
40.00		1431.3	37.50	62.91	1.20	
41.00	Bot - Section 2	282.90	40.50	12.43	0.05	
45.00		2154.1	43.00	94.67	3.58	
48.00	Top - Section 1	1591.9	46.50	69.96	2.29	
50.00		554.94	49.00	24.39	0.31	
55.00		1367.6	52.50	60.10	2.15	
60.00		1339.5	57.50	58.87	2.48	
65.00		1311.3	62.50	57.63	2.80	
70.00		1283.2	67.50	56.39	3.13	
75.00		1255.1	72.50	55.16	3.46	
80.00		1226.9	77.50	53.92	3.77	
85.00	Bot - Section 3	1198.8	82.50	52.68	4.08	
90.00		2233.1	87.50	98.14	15.94	
91.00	Top - Section 2	439.87	90.50	19.33	0.66	
93.00	Top - Section 3	466.42	92.00	20.50	0.77	
95.00		403.80	94.00	17.75	0.60	
100.00		992.63	97.50	43.62	3.91	
105.00		968.51	102.50	42.56	4.11	
110.00		944.39	107.50	41.50	4.30	
115.00		920.27	112.50	40.44	4.47	
120.00		896.16	117.50	39.38	4.63	
125.00	Top - Section 4	872.04	122.50	38.32	4.76	
130.00	Bot - Section 6	729.15	127.50	32.04	3.61	
135.00	Top - Section 5	1299.7	132.50	57.12	12.38	
140.00	Top - Section 6	699.50	137.50	30.74	3.86	
145.00		570.15	142.50	25.06	2.76	
150.00		554.07	147.50	24.35	2.79	
155.00		538.00	152.50	23.64	2.81	
160.00		521.92	157.50	22.94	2.82	
165.00		505.84	162.50	22.23	2.82	
170.00		489.76	167.50	21.52	2.81	
175.00	Appurtenance(s)	3150.5	172.50	138.46	123.28	
180.00	Top - Section 7	438.68	177.50	19.28	2.53	
185.00	Appurtenance(s)	4591.9	182.50	201.80	293.13	
190.00		379.15	187.50	16.66	2.11	
195.00	Appurtenance(s)	4244.5	192.50	186.54	278.65	
Totals:		53,655.9		2,358.0	812.5	Total Wind: 43,471.3

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 31
Struct Class: II		



195.00	0.00	-0.28	0.00	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	5.46	-0.29	0.000
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Seismic Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0Ev + 1.0Eh				Iterations 22
Gust Response Factor 1.10		Sds 0.22		Ss 0.21
Dead Load Factor 0.90	Seismic Load Factor 1.00	Sd1 0.09		S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.28	SA 0.02	Seismic Importance Factor 1.00	



Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1596.1	2.50	70.14	0.01	
10.00		1567.9	7.50	68.91	0.06	
15.00		1539.8	12.50	67.67	0.16	
20.00		1511.7	17.50	66.43	0.30	
25.00		1483.5	22.50	65.20	0.47	
30.00		1455.4	27.50	63.96	0.68	
35.00		1427.3	32.50	62.72	0.91	
40.00		1399.1	37.50	61.49	1.17	
41.00	Bot - Section 2	276.46	40.50	12.15	0.05	
45.00		2128.3	43.00	93.53	3.56	
48.00	Top - Section 1	1572.6	46.50	69.11	2.27	
50.00		542.05	49.00	23.82	0.30	
55.00		1335.4	52.50	58.69	2.09	
60.00		1307.2	57.50	57.45	2.40	
65.00		1279.1	62.50	56.21	2.71	
70.00		1251.0	67.50	54.98	3.03	
75.00		1222.8	72.50	53.74	3.34	
80.00		1194.7	77.50	52.50	3.64	
85.00	Bot - Section 3	1166.6	82.50	51.27	3.93	
90.00		2200.8	87.50	96.72	15.75	
91.00	Top - Section 2	433.43	90.50	19.05	0.65	
93.00	Top - Section 3	453.52	92.00	19.93	0.74	
95.00		390.91	94.00	17.18	0.57	
100.00		960.39	97.50	42.21	3.72	
105.00		936.27	102.50	41.15	3.91	
110.00		912.16	107.50	40.09	4.08	
115.00		888.04	112.50	39.03	4.24	
120.00		863.92	117.50	37.97	4.38	
125.00	Top - Section 4	839.80	122.50	36.91	4.50	
130.00	Bot - Section 6	696.91	127.50	30.63	3.35	
135.00	Top - Section 5	1267.4	132.50	55.70	11.98	
140.00	Top - Section 6	667.26	137.50	29.32	3.58	
145.00		537.92	142.50	23.64	2.50	
150.00		521.84	147.50	22.93	2.52	
155.00		505.76	152.50	22.23	2.53	
160.00		489.68	157.50	21.52	2.53	
165.00		473.60	162.50	20.81	2.52	
170.00		457.53	167.50	20.11	2.49	
175.00	Appurtenance(s)	3118.3	172.50	137.04	122.91	
180.00	Top - Section 7	411.18	177.50	18.07	2.26	
185.00	Appurtenance(s)	4564.4	182.50	200.59	294.76	
190.00		373.42	187.50	16.41	2.08	
195.00	Appurtenance(s)	4238.8	192.50	186.28	282.83	
Totals:		52,461.2		2,305.5	812.5	Total Wind: 43,471.3

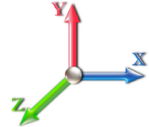
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT01916-S-SBA **Code:** EIA/TIA-222-H 3/24/2020
Site Name: North Salem **Exposure:** B
Height: 195.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 33



Load Case: 0.9D + 1.0Ev + 1.0Eh										Iterations	22	
Gust Response Factor	1.10								Sds	0.22	Ss	0.21
Dead Load Factor	0.90	Seismic Load Factor		1.00	Sd1	0.09					S1	0.06
Wind Load Factor	0.00	Structure Frequency (f1)		0.28	SA	0.02	Seismic Importance Factor		1.00			



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-49.88	-0.81	0.00	-150.62	0.00	150.62	5803.10	1561.17	8297.91	7657.05	0.00	0.00	0.00	0.028
5.00	-48.36	-0.82	0.00	-146.55	0.00	146.55	5739.58	1532.15	7992.25	7431.48	0.00	0.00	0.00	0.028
10.00	-46.87	-0.82	0.00	-142.46	0.00	142.46	5674.37	1503.12	7692.32	7206.92	0.01	-0.01	0.00	0.028
15.00	-45.41	-0.82	0.00	-138.36	0.00	138.36	5607.48	1474.10	7398.13	6983.48	0.02	-0.01	0.00	0.028
20.00	-43.97	-0.83	0.00	-134.23	0.00	134.23	5538.91	1445.08	7109.68	6761.30	0.04	-0.02	0.00	0.028
25.00	-42.56	-0.83	0.00	-130.10	0.00	130.10	5468.67	1416.05	6826.96	6540.49	0.06	-0.02	0.00	0.028
30.00	-41.18	-0.83	0.00	-125.94	0.00	125.94	5396.74	1387.03	6549.98	6321.18	0.09	-0.03	0.00	0.028
35.00	-39.82	-0.84	0.00	-121.78	0.00	121.78	5323.13	1358.01	6278.73	6103.50	0.12	-0.04	0.00	0.027
40.00	-38.49	-0.84	0.00	-117.60	0.00	117.60	5247.84	1328.98	6013.22	5887.58	0.16	-0.04	0.00	0.027
41.00	-38.23	-0.84	0.00	-116.76	0.00	116.76	5232.58	1323.18	5960.81	5844.61	0.17	-0.04	0.00	0.027
45.00	-36.21	-0.83	0.00	-113.41	0.00	113.41	5170.87	1299.96	5753.45	5673.52	0.21	-0.05	0.00	0.027
48.00	-34.72	-0.83	0.00	-110.91	0.00	110.91	5181.33	1303.87	5788.10	5702.24	0.24	-0.05	0.00	0.026
50.00	-34.21	-0.83	0.00	-109.24	0.00	109.24	5150.16	1292.26	5685.49	5617.06	0.26	-0.05	0.00	0.026
55.00	-32.94	-0.83	0.00	-105.07	0.00	105.07	5071.07	1263.24	5432.97	5405.56	0.32	-0.06	0.00	0.026
60.00	-31.69	-0.83	0.00	-100.90	0.00	100.90	4990.29	1234.21	5186.19	5196.21	0.38	-0.06	0.00	0.026
65.00	-30.47	-0.83	0.00	-96.72	0.00	96.72	4907.83	1205.19	4945.14	4989.15	0.45	-0.07	0.00	0.026
70.00	-29.28	-0.83	0.00	-92.55	0.00	92.55	4823.69	1176.17	4709.83	4784.49	0.53	-0.08	0.00	0.025
75.00	-28.12	-0.83	0.00	-88.39	0.00	88.39	4737.87	1147.14	4480.26	4582.37	0.62	-0.08	0.00	0.025
80.00	-26.98	-0.83	0.00	-84.24	0.00	84.24	4650.37	1118.12	4256.42	4382.90	0.71	-0.09	0.00	0.025
85.00	-25.87	-0.83	0.00	-80.10	0.00	80.10	4561.19	1089.10	4038.32	4186.21	0.80	-0.10	0.00	0.025
90.00	-23.78	-0.81	0.00	-75.97	0.00	75.97	4470.33	1060.07	3825.95	3992.42	0.91	-0.10	0.00	0.024
91.00	-23.37	-0.81	0.00	-75.16	0.00	75.16	4519.12	1075.59	3938.79	4095.67	0.93	-0.11	0.00	0.024
93.00	-22.94	-0.81	0.00	-73.54	0.00	73.54	4482.67	1063.98	3854.22	4018.35	0.98	-0.11	0.00	0.023
93.00	-22.94	-0.81	0.00	-73.54	0.00	73.54	3684.61	913.29	3313.08	3312.42	0.98	-0.11	0.00	0.028
95.00	-22.57	-0.81	0.00	-71.93	0.00	71.93	3656.67	903.34	3241.28	3251.18	1.02	-0.11	0.00	0.028
100.00	-21.65	-0.81	0.00	-67.88	0.00	67.88	3585.64	878.46	3065.22	3099.48	1.14	-0.12	0.00	0.028
105.00	-20.76	-0.80	0.00	-63.85	0.00	63.85	3512.93	853.58	2894.07	2949.87	1.27	-0.13	0.00	0.028
110.00	-19.89	-0.80	0.00	-59.84	0.00	59.84	3438.54	828.71	2727.83	2802.49	1.41	-0.14	0.00	0.027
115.00	-19.04	-0.80	0.00	-55.84	0.00	55.84	3362.47	803.83	2566.52	2657.45	1.56	-0.15	0.00	0.027
120.00	-18.21	-0.79	0.00	-51.85	0.00	51.85	3284.72	778.95	2410.12	2514.88	1.72	-0.15	0.00	0.026
125.00	-17.41	-0.79	0.00	-47.89	0.00	47.89	3192.26	754.08	2258.63	2365.26	1.88	-0.16	0.00	0.026
125.00	-17.41	-0.79	0.00	-47.89	0.00	47.89	2545.46	629.48	1888.72	1892.56	1.88	-0.16	0.00	0.032
130.00	-16.74	-0.79	0.00	-43.94	0.00	43.94	2486.30	608.75	1766.36	1787.17	2.06	-0.17	0.00	0.031
135.00	-15.54	-0.77	0.00	-40.01	0.00	40.01	2457.60	598.90	1709.65	1737.70	2.25	-0.18	0.00	0.029
140.00	-14.90	-0.77	0.00	-36.13	0.00	36.13	2395.97	578.17	1593.34	1634.95	2.44	-0.19	0.00	0.028
140.00	-14.90	-0.77	0.00	-36.13	0.00	36.13	1788.19	463.41	1279.47	1224.81	2.44	-0.19	0.00	0.038
145.00	-14.38	-0.77	0.00	-32.28	0.00	32.28	1746.83	446.82	1189.53	1153.35	2.65	-0.21	0.00	0.036
150.00	-13.88	-0.77	0.00	-28.43	0.00	28.43	1703.79	430.24	1102.87	1082.85	2.88	-0.22	0.00	0.034
155.00	-13.39	-0.77	0.00	-24.58	0.00	24.58	1659.07	413.65	1019.48	1013.46	3.11	-0.23	0.00	0.032
160.00	-12.92	-0.77	0.00	-20.74	0.00	20.74	1612.67	397.07	939.37	945.29	3.36	-0.24	0.00	0.030
165.00	-12.46	-0.76	0.00	-16.91	0.00	16.91	1564.59	380.48	862.54	878.47	3.62	-0.26	0.00	0.027
170.00	-12.02	-0.76	0.00	-13.10	0.00	13.10	1514.83	363.90	788.98	813.12	3.90	-0.27	0.00	0.024
175.00	-9.07	-0.63	0.00	-9.29	0.00	9.29	1463.38	347.31	718.70	749.37	4.18	-0.27	0.00	0.019
180.00	-8.67	-0.62	0.00	-6.16	0.00	6.16	1400.09	330.73	651.70	682.38	4.47	-0.28	0.00	0.015
180.00	-8.67	-0.62	0.00	-6.16	0.00	6.16	678.42	203.53	25205.7	396.30	4.47	-0.28	0.00	0.028
185.00	-4.36	-0.31	0.00	-3.05	0.00	3.05	678.42	203.53	25205.7	396.30	4.77	-0.29	0.00	0.014
190.00	-4.00	-0.30	0.00	-1.51	0.00	1.51	678.42	203.53	25205.7	396.30	5.07	-0.29	0.00	0.010

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 34
Struct Class: II		



195.00	0.00	-0.28	0.00	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	5.37	-0.29	0.000
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Wind Loading - Shaft

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

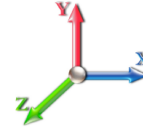


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.058	6.66	272.39	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.058	6.66	267.36	0.774 *	0.000	5.00	27.038	20.92	139.4	0.0	1499.4
10.00		1.00	0.70	6.058	6.66	262.33	0.779 *	0.000	5.00	26.534	20.66	137.7	0.0	1471.3
15.00		1.00	0.70	6.058	6.66	257.30	0.784 *	0.000	5.00	26.030	20.40	135.9	0.0	1443.1
20.00		1.00	0.70	6.058	6.66	252.27	0.789 *	0.000	5.00	25.526	20.14	134.2	0.0	1415.0
25.00		1.00	0.70	6.058	6.66	247.24	0.795 *	0.000	5.00	25.022	19.89	132.5	0.0	1386.9
30.00		1.00	0.70	6.063	6.67	242.32	0.801 *	0.000	5.00	24.518	19.63	130.9	0.0	1358.7
35.00		1.00	0.73	6.336	6.97	242.57	0.807 *	0.000	5.00	24.014	19.37	135.0	0.0	1330.6
40.00		1.00	0.76	6.582	7.24	242.00	0.813 *	0.000	5.00	23.510	19.11	138.4	0.0	1302.5
41.00	Bot - Section 2	1.00	0.77	6.629	7.29	241.80	0.817 *	0.000	1.00	4.642	3.79	27.6	0.0	257.1
45.00		1.00	0.79	6.807	7.49	240.77	0.820 *	0.000	4.00	18.661	15.31	114.6	0.0	2050.9
48.00	Top - Section 1	1.00	0.80	6.934	7.63	239.77	0.825 *	0.000	3.00	13.784	11.37	86.7	0.0	1514.6
50.00		1.00	0.81	7.015	7.72	242.99	0.823 *	0.000	2.00	9.089	7.48	57.8	0.0	503.4
55.00		1.00	0.83	7.209	7.93	240.83	0.828 *	0.000	5.00	22.369	18.53	146.9	0.0	1238.7
60.00		1.00	0.85	7.390	8.13	238.29	0.730	0.000	5.00	21.865	15.96	129.8	0.0	1210.6
65.00		1.00	0.87	7.561	8.32	235.41	0.730	0.000	5.00	21.361	15.59	129.7	0.0	1182.4
70.00		1.00	0.89	7.723	8.50	232.23	0.730	0.000	5.00	20.857	15.23	129.4	0.0	1154.3
75.00		1.00	0.91	7.877	8.66	228.80	0.730	0.000	5.00	20.353	14.86	128.7	0.0	1126.2
80.00		1.00	0.93	8.024	8.83	225.13	0.730	0.000	5.00	19.849	14.49	127.9	0.0	1098.0
85.00	Bot - Section 3	1.00	0.94	8.164	8.98	221.25	0.730	0.000	5.00	19.346	14.12	126.8	0.0	1069.9
90.00		1.00	0.96	8.298	9.13	217.18	0.730	0.000	5.00	19.212	14.02	128.0	0.0	2104.2
91.00	Top - Section 2	1.00	0.96	8.324	9.16	216.34	0.730	0.000	1.00	3.782	2.76	25.3	0.0	414.1
93.00	Top - Section 3	1.00	0.97	8.376	9.21	218.99	0.730	0.000	2.00	7.503	5.48	50.5	0.0	414.8
95.00		1.00	0.97	8.427	9.27	217.29	0.730	0.000	2.00	7.423	5.42	50.2	0.0	352.2
100.00		1.00	0.99	8.552	9.41	212.91	0.730	0.000	5.00	18.204	13.29	125.0	0.0	863.7
105.00		1.00	1.00	8.672	9.54	208.38	0.730	0.000	5.00	17.700	12.92	123.3	0.0	839.6
110.00		1.00	1.02	8.788	9.67	203.71	0.730	0.000	5.00	17.196	12.55	121.3	0.0	815.5
115.00		1.00	1.03	8.900	9.79	198.91	0.730	0.000	5.00	16.692	12.19	119.3	0.0	791.3
120.00		1.00	1.04	9.009	9.91	193.99	0.736 *	0.000	5.00	16.189	11.92	118.2	0.0	767.2
125.00	Top - Section 4	1.00	1.05	9.115	10.03	188.96	0.744 *	0.000	5.00	15.685	11.66	117.0	0.0	743.1
130.00	Bot - Section 6	1.00	1.07	9.218	10.14	183.81	0.751 *	0.000	5.00	15.181	11.41	115.7	0.0	600.2
135.00	Top - Section 5	1.00	1.08	9.317	10.25	178.57	0.760 *	0.000	5.00	14.941	11.35	116.3	0.0	1170.8
140.00	Top - Section 6	1.00	1.09	9.415	10.36	176.52	0.764 *	0.000	5.00	14.437	11.03	114.2	0.0	570.6
145.00		1.00	1.10	9.510	10.46	171.11	0.730	0.000	5.00	13.933	10.17	106.4	0.0	441.2
150.00		1.00	1.11	9.602	10.56	165.60	0.730	0.000	5.00	13.430	9.80	103.5	0.0	425.1
155.00		1.00	1.12	9.693	10.66	160.02	0.730	0.000	5.00	12.926	9.44	100.6	0.0	409.1
160.00		1.00	1.13	9.781	10.76	154.36	0.730	0.000	5.00	12.422	9.07	97.6	0.0	393.0
165.00		1.00	1.14	9.867	10.85	148.62	0.730	0.000	5.00	11.918	8.70	94.4	0.0	376.9
170.00		1.00	1.15	9.952	10.95	142.80	0.730	0.000	5.00	11.414	8.33	91.2	0.0	360.8
175.00	Appurtenance(s)	1.00	1.16	10.035	11.04	136.92	0.730	0.000	5.00	10.910	7.96	87.9	0.0	344.7
180.00	Top - Section 7	1.00	1.17	10.116	11.13	130.98	1.200 *	0.000	5.00	10.406	12.49	139.0	0.0	328.7
185.00	Appurtenance(s)	1.00	1.18	10.195	11.21	129.49	1.200 *	0.000	5.00	10.000	12.00	134.6	0.0	356.3
190.00		1.00	1.19	10.273	11.30	129.99	0.600	0.000	5.00	10.000	6.00	67.8	0.0	356.3
195.00	Appurtenance(s)	1.00	1.20	10.350	11.38	130.47	0.600	0.000	5.00	10.000	6.00	68.3	0.0	356.3
Totals:									195.00			4,705.4		38,209.1

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	195.00	Low Profile	1	10.350	11.385	1.00	1.00	26.00	1800.00	0.000	0.000	296.00	0.00	0.00
2	195.00	1900MHz RRH (65MHz)	3	10.350	11.385	0.67	1.00	5.57	180.00	0.000	0.000	63.39	0.00	0.00
3	195.00	800 MHz RRH	6	10.350	11.385	0.67	1.00	10.01	318.00	0.000	0.000	113.96	0.00	0.00
4	195.00	TD-RRH8x20-25	3	10.350	11.385	0.67	1.00	8.14	210.00	0.000	0.000	92.68	0.00	0.00
5	195.00	NNVV-65B-R4	3	10.350	11.385	0.73	1.00	26.87	232.20	0.000	0.000	305.92	0.00	0.00
6	195.00	PRK-1245 (kicker kit)	1	10.350	11.385	1.00	1.00	9.50	464.91	0.000	0.000	108.15	0.00	0.00
7	195.00	(3) SFS-H-L (V-Braces)	1	10.350	11.385	1.00	1.00	6.70	230.00	0.000	0.000	76.28	0.00	0.00
8	195.00	HRK12 (Handrail Kit)	1	10.350	11.385	1.00	1.00	6.75	261.72	0.000	0.000	76.85	0.00	0.00
9	195.00	APXVTM14-C-I20	3	10.350	11.385	0.78	1.00	14.84	168.60	0.000	0.000	168.90	0.00	0.00
10	185.00	Raycap	1	10.195	11.215	0.75	0.75	3.58	16.00	0.000	0.000	40.20	0.00	0.00
11	185.00	Raycap DC6-48-60-18-8C	1	10.195	11.215	0.75	0.75	0.95	20.00	0.000	0.000	10.60	0.00	0.00
12	185.00	Raycap DC6-48-60-18-8F	1	10.195	11.215	0.75	0.75	0.69	31.80	0.000	0.000	7.74	0.00	0.00
13	185.00	Ericsson RRUS 8843 B2	3	10.195	11.215	0.50	0.75	2.47	216.00	0.000	0.000	27.73	0.00	0.00
14	185.00	Ericsson RRUS 4478 B14	3	10.195	11.215	0.50	0.75	2.77	179.70	0.000	0.000	31.11	0.00	0.00
15	185.00	(3) SitePro 1 HRK14-3HD	1	10.195	11.215	0.75	0.75	7.31	406.61	0.000	0.000	82.01	0.00	0.00
16	185.00	Powerwave LGP21401	6	10.195	11.215	0.50	0.75	3.89	84.60	0.000	0.000	43.62	0.00	0.00
17	185.00	Sector Frames	1	10.195	11.215	1.00	1.00	22.00	1500.00	0.000	0.000	246.72	0.00	0.00
18	185.00	Powerwave 7770	3	10.195	11.215	0.58	0.80	9.64	105.00	0.000	0.000	108.06	0.00	0.00
19	185.00	Ericsson 4449 B5/B12	3	10.195	11.215	0.50	0.75	2.97	213.00	0.000	0.000	33.31	0.00	0.00
20	185.00	(3) SitePro 1 SFS-L with	1	10.195	11.215	0.75	0.75	7.50	514.00	0.000	0.000	84.11	0.00	0.00
21	185.00	Powerwave LGP21903	6	10.195	11.215	0.50	0.75	0.81	33.00	0.000	0.000	9.13	0.00	0.00
22	185.00	Cci DMP65R-BU8DA	6	10.195	11.215	0.55	0.75	58.70	576.00	0.000	0.000	658.33	0.00	0.00
23	185.00	(3) SitePro 1 PRK-SFS-L	1	10.195	11.215	0.75	0.75	5.03	230.00	0.000	0.000	56.35	0.00	0.00
24	175.00	Low Profile Platform	1	10.035	11.038	1.00	1.00	25.00	1200.00	0.000	0.000	275.95	0.00	0.00
25	175.00	96" x 15.6" x 9" Panel	3	10.035	11.038	0.66	0.80	27.89	540.00	0.000	0.000	307.81	0.00	0.00
26	175.00	RRUS11	9	10.035	11.038	0.57	0.80	12.88	455.40	0.000	0.000	142.19	0.00	0.00
27	175.00	15" x 14" x 7.5" RRU	3	10.035	11.038	0.54	0.80	2.81	210.00	0.000	0.000	31.06	0.00	0.00
28	175.00	Commscope	3	10.035	11.038	0.64	0.80	22.02	149.40	0.000	0.000	243.08	0.00	0.00
29	175.00	RFS	3	10.035	11.038	0.50	0.80	9.84	122.10	0.000	0.000	108.57	0.00	0.00
Totals:									10,668.04			3,849.80		

Total Applied Force Summary

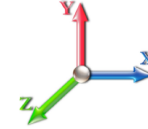
Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		139.37	1606.86	0.00	0.00
10.00		137.65	1578.73	0.00	0.00
15.00		135.94	1550.59	0.00	0.00
20.00		134.22	1522.45	0.00	0.00
25.00		132.50	1494.31	0.00	0.00
30.00		130.90	1466.18	0.00	0.00
35.00		135.00	1438.04	0.00	0.00
40.00		138.38	1409.90	0.00	0.00
41.00		27.65	278.60	0.00	0.00
45.00		114.62	2136.90	0.00	0.00
48.00		86.75	1579.04	0.00	0.00
50.00		57.75	546.34	0.00	0.00
55.00		146.94	1346.17	0.00	0.00
60.00		129.76	1318.03	0.00	0.00
65.00		129.70	1289.89	0.00	0.00
70.00		129.35	1261.76	0.00	0.00
75.00		128.74	1233.62	0.00	0.00
80.00		127.89	1205.48	0.00	0.00
85.00		126.82	1177.35	0.00	0.00
90.00		128.02	2211.64	0.00	0.00
91.00		25.28	435.57	0.00	0.00
93.00		50.47	457.82	0.00	0.00
95.00		50.23	395.21	0.00	0.00
100.00		125.01	971.14	0.00	0.00
105.00		123.26	947.02	0.00	0.00
110.00		121.35	922.90	0.00	0.00
115.00		119.30	898.78	0.00	0.00
120.00		118.15	874.67	0.00	0.00
125.00		116.95	850.55	0.00	0.00
130.00		115.66	707.66	0.00	0.00
135.00		116.34	1278.21	0.00	0.00
140.00		114.20	678.01	0.00	0.00
145.00		106.40	548.66	0.00	0.00
150.00		103.55	532.58	0.00	0.00
155.00		100.60	516.51	0.00	0.00
160.00		97.56	500.43	0.00	0.00
165.00		94.43	484.35	0.00	0.00
170.00		91.21	468.27	0.00	0.00
175.00	(22) attachments	1196.58	3129.09	0.00	0.00
180.00		154.72	420.34	0.00	0.00
185.00	(37) attachments	1589.49	4573.64	0.00	0.00
190.00		67.80	375.33	0.00	0.00
195.00	(22) attachments	1370.42	4240.76	0.00	0.00
	Totals:	8,586.91	52,859.40	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.120	1.060	6.058	0.00	0.00
5.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.120	1.060	6.058	0.00	0.00
10.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.122	1.067	6.058	0.00	0.00
10.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.122	1.067	6.058	0.00	0.00
15.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.125	1.074	6.058	0.00	0.00
15.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.125	1.074	6.058	0.00	0.00
20.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.127	1.081	6.058	0.00	0.00
20.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.127	1.081	6.058	0.00	0.00
25.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.130	1.089	6.058	0.00	0.00
25.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.130	1.089	6.058	0.00	0.00
30.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.132	1.097	6.063	0.00	0.00
30.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.132	1.097	6.063	0.00	0.00
35.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.135	1.105	6.336	0.00	0.00
35.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.135	1.105	6.336	0.00	0.00
40.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.138	1.114	6.582	0.00	0.00
40.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.138	1.114	6.582	0.00	0.00
41.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.140	1.119	6.629	0.00	0.00
41.00	(4) C5x9	Yes	1.00	0.000	3.78	0.32	0.00	0.140	1.119	6.629	0.00	0.00
45.00	(4) C6x10.5	Yes	4.00	0.000	4.00	1.33	0.00	0.141	1.124	6.807	0.00	0.00
45.00	(4) C5x9	Yes	4.00	0.000	3.78	1.26	0.00	0.141	1.124	6.807	0.00	0.00
48.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.143	1.130	6.934	0.00	0.00
48.00	(4) C5x9	Yes	3.00	0.000	3.78	0.94	0.00	0.143	1.130	6.934	0.00	0.00
50.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.143	1.128	7.015	0.00	0.00
50.00	(4) C5x9	Yes	2.00	0.000	3.78	0.63	0.00	0.143	1.128	7.015	0.00	0.00
55.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.145	1.135	7.209	0.00	0.00
55.00	(4) C5x9	Yes	5.00	0.000	3.78	1.57	0.00	0.145	1.135	7.209	0.00	0.00
60.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.076	0.000	7.390	0.00	0.00
65.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.078	0.000	7.561	0.00	0.00
70.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.080	0.000	7.723	0.00	0.00
75.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.082	0.000	7.877	0.00	0.00
80.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.084	0.000	8.024	0.00	0.00
85.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.086	0.000	8.164	0.00	0.00
90.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.088	0.000	8.298	0.00	0.00
91.00	(4) C6x10.5	Yes	1.00	0.000	4.00	0.33	0.00	0.090	0.000	8.324	0.00	0.00
93.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.089	0.000	8.376	0.00	0.00
95.00	(4) C6x10.5	Yes	2.00	0.000	4.00	0.67	0.00	0.090	0.000	8.427	0.00	0.00
100.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.092	0.000	8.552	0.00	0.00
105.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.094	0.000	8.672	0.00	0.00
110.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.097	0.000	8.788	0.00	0.00
115.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.100	0.000	8.900	0.00	0.00
120.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.103	1.009	9.009	0.00	0.00
125.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.106	1.019	9.115	0.00	0.00
130.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.110	1.029	9.218	0.00	0.00
135.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.114	1.041	9.317	0.00	0.00
140.00	(4) C6x10.5	Yes	5.00	0.000	4.00	1.67	0.00	0.115	1.046	9.415	0.00	0.00
145.00	(4) C6x10.5	Yes	3.00	0.000	4.00	1.00	0.00	0.072	0.000	9.510	0.00	0.00
180.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.227	0.000	10.116	15.77	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
185.00	(3) Bypass Stiffeners	Yes	2.25	0.600	12.60	2.36	1.42	0.236	0.000	10.195	15.90	0.00
Totals:											31.7	0.0

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 40



Load Case: 1.0D + 1.0W 60 mph Wind	Iterations	24
Dead Load Factor 1.00		
Wind Load Factor 1.00		

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-52.86	-8.60	0.00	-1214.8	0.00	1214.82	5803.10	1561.17	8297.91	7657.05	0.00	0.000	0.000	0.168
5.00	-51.24	-8.50	0.00	-1171.8	0.00	1171.80	5739.58	1532.15	7992.25	7431.48	0.02	-0.037	0.000	0.167
10.00	-49.66	-8.39	0.00	-1129.3	0.00	1129.32	5674.37	1503.12	7692.32	7206.92	0.08	-0.074	0.000	0.165
15.00	-48.10	-8.28	0.00	-1087.3	0.00	1087.37	5607.48	1474.10	7398.13	6983.48	0.18	-0.113	0.000	0.164
20.00	-46.58	-8.18	0.00	-1045.9	0.00	1045.94	5538.91	1445.08	7109.68	6761.30	0.32	-0.152	0.000	0.163
25.00	-45.08	-8.07	0.00	-1005.0	0.00	1005.05	5468.67	1416.05	6826.96	6540.49	0.50	-0.192	0.000	0.162
30.00	-43.61	-7.97	0.00	-964.68	0.00	964.68	5396.74	1387.03	6549.98	6321.18	0.72	-0.232	0.000	0.161
35.00	-42.16	-7.86	0.00	-924.84	0.00	924.84	5323.13	1358.01	6278.73	6103.50	0.98	-0.274	0.000	0.159
40.00	-40.75	-7.73	0.00	-885.55	0.00	885.55	5247.84	1328.98	6013.22	5887.58	1.29	-0.316	0.000	0.158
41.00	-40.47	-7.72	0.00	-877.82	0.00	877.82	5232.58	1323.18	5960.81	5844.61	1.36	-0.325	0.000	0.158
45.00	-38.33	-7.61	0.00	-846.95	0.00	846.95	5170.87	1299.96	5753.45	5673.52	1.65	-0.360	0.000	0.157
48.00	-36.75	-7.53	0.00	-824.12	0.00	824.12	5181.33	1303.87	5788.10	5702.24	1.88	-0.387	0.000	0.152
50.00	-36.20	-7.49	0.00	-809.06	0.00	809.06	5150.16	1292.26	5685.49	5617.06	2.05	-0.405	0.000	0.151
55.00	-34.85	-7.36	0.00	-771.64	0.00	771.64	5071.07	1263.24	5432.97	5405.56	2.50	-0.448	0.000	0.150
60.00	-33.52	-7.24	0.00	-734.86	0.00	734.86	4990.29	1234.21	5186.19	5196.21	2.99	-0.492	0.000	0.148
65.00	-32.23	-7.12	0.00	-698.66	0.00	698.66	4907.83	1205.19	4945.14	4989.15	3.53	-0.537	0.000	0.147
70.00	-30.96	-7.01	0.00	-663.04	0.00	663.04	4823.69	1176.17	4709.83	4784.49	4.11	-0.582	0.000	0.145
75.00	-29.73	-6.89	0.00	-628.00	0.00	628.00	4737.87	1147.14	4480.26	4582.37	4.75	-0.629	0.000	0.143
80.00	-28.52	-6.77	0.00	-593.55	0.00	593.55	4650.37	1118.12	4256.42	4382.90	5.43	-0.676	0.000	0.142
85.00	-27.33	-6.65	0.00	-559.69	0.00	559.69	4561.19	1089.10	4038.32	4186.21	6.17	-0.725	0.000	0.140
90.00	-25.12	-6.51	0.00	-526.41	0.00	526.41	4470.33	1060.07	3825.95	3992.42	6.95	-0.774	0.000	0.138
91.00	-24.68	-6.49	0.00	-519.90	0.00	519.90	4519.12	1075.59	3938.79	4095.67	7.12	-0.784	0.000	0.132
93.00	-24.22	-6.44	0.00	-506.93	0.00	506.93	4482.67	1063.98	3854.22	4018.35	7.45	-0.805	0.000	0.132
93.00	-24.22	-6.44	0.00	-506.93	0.00	506.93	3684.61	913.29	3313.08	3312.42	7.45	-0.805	0.000	0.160
95.00	-23.83	-6.40	0.00	-494.05	0.00	494.05	3656.67	903.34	3241.28	3251.18	7.79	-0.824	0.000	0.159
100.00	-22.85	-6.28	0.00	-462.06	0.00	462.06	3585.64	878.46	3065.22	3099.48	8.68	-0.880	0.000	0.156
105.00	-21.90	-6.16	0.00	-430.66	0.00	430.66	3512.93	853.58	2894.07	2949.87	9.64	-0.937	0.000	0.152
110.00	-20.97	-6.05	0.00	-399.84	0.00	399.84	3438.54	828.71	2727.83	2802.49	10.65	-0.995	0.000	0.149
115.00	-20.07	-5.93	0.00	-369.59	0.00	369.59	3362.47	803.83	2566.52	2657.45	11.72	-1.053	0.000	0.145
120.00	-19.19	-5.82	0.00	-339.92	0.00	339.92	3284.72	778.95	2410.12	2514.88	12.86	-1.112	0.000	0.141
125.00	-18.34	-5.70	0.00	-310.83	0.00	310.83	3192.26	754.08	2258.63	2365.26	14.05	-1.171	0.000	0.137
125.00	-18.34	-5.70	0.00	-310.83	0.00	310.83	2545.46	629.48	1888.72	1892.56	14.05	-1.171	0.000	0.172
130.00	-17.63	-5.59	0.00	-282.31	0.00	282.31	2486.30	608.75	1766.36	1787.17	15.31	-1.231	0.000	0.165
135.00	-16.34	-5.47	0.00	-254.34	0.00	254.34	2457.60	598.90	1709.65	1737.70	16.64	-1.302	0.000	0.153
140.00	-15.66	-5.36	0.00	-226.99	0.00	226.99	2395.97	578.17	1593.34	1634.95	18.04	-1.373	0.000	0.145
140.00	-15.66	-5.36	0.00	-226.99	0.00	226.99	1788.19	463.41	1279.47	1224.81	18.04	-1.373	0.000	0.194
145.00	-15.11	-5.26	0.00	-200.20	0.00	200.20	1746.83	446.82	1189.53	1153.35	19.51	-1.439	0.000	0.182
150.00	-14.57	-5.16	0.00	-173.90	0.00	173.90	1703.79	430.24	1102.87	1082.85	21.06	-1.519	0.000	0.169
155.00	-14.05	-5.07	0.00	-148.10	0.00	148.10	1659.07	413.65	1019.48	1013.46	22.70	-1.597	0.000	0.155
160.00	-13.55	-4.97	0.00	-122.77	0.00	122.77	1612.67	397.07	939.37	945.29	24.41	-1.670	0.000	0.138
165.00	-13.06	-4.88	0.00	-97.93	0.00	97.93	1564.59	380.48	862.54	878.47	26.19	-1.738	0.000	0.120
170.00	-12.59	-4.78	0.00	-73.55	0.00	73.55	1514.83	363.90	788.98	813.12	28.05	-1.797	0.000	0.099
175.00	-9.50	-3.49	0.00	-49.64	0.00	49.64	1463.38	347.31	718.70	749.37	29.96	-1.846	0.000	0.073
180.00	-9.08	-3.33	0.00	-32.17	0.00	32.17	1400.09	330.73	651.70	682.38	31.91	-1.884	0.000	0.054
180.00	-9.08	-3.33	0.00	-32.17	0.00	32.17	678.42	203.53	25205.7	396.30	31.91	-1.884	0.000	0.095
185.00	-4.57	-1.59	0.00	-15.52	0.00	15.52	678.42	203.53	25205.7	396.30	33.90	-1.909	0.000	0.046
190.00	-4.19	-1.51	0.00	-7.56	0.00	7.56	678.42	203.53	25205.7	396.30	35.91	-1.920	0.000	0.025
195.00	0.00	-1.37	0.00	0.00	0.00	0.00	678.42	203.53	25205.7	396.30	37.92	-1.924	0.000	0.000

Calculated Forces

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Final Analysis Summary

Structure: CT01916-S-SBA	Code: EIA/TIA-222-H	3/24/2020
Site Name: North Salem	Exposure: B	
Height: 195.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 135 mph Wind	43.6	0.00	63.36	0.00	0.00	6190.78
0.9D + 1.0W 135 mph Wind	43.5	0.00	47.50	0.00	0.00	6098.73
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.1	0.00	84.65	0.00	0.00	1284.73
1.2D + 1.0Ev + 1.0Eh	0.8	0.00	65.79	0.00	0.00	152.79
0.9D + 1.0Ev + 1.0Eh	0.8	0.00	49.88	0.00	0.00	150.62
1.0D + 1.0W 60 mph Wind	8.6	0.00	52.86	0.00	0.00	1214.82

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 135 mph Wind	-15.65	-27.34	0.00	-1157.0	0.00	-1157.0	2395.97	578.17	1593.34	1634.95	140.00	0.957
0.9D + 1.0W 135 mph Wind	-11.03	-26.72	0.00	-1127.2	0.00	-1127.2	2395.97	578.17	1593.34	1634.95	140.00	0.930
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-30.59	-5.59	0.00	-236.95	0.00	-236.95	2395.97	578.17	1593.34	1634.95	140.00	0.211
1.2D + 1.0Ev + 1.0Eh	-19.65	-0.79	0.00	-36.76	0.00	-36.76	2395.97	578.17	1593.34	1634.95	140.00	0.041
0.9D + 1.0Ev + 1.0Eh	-14.90	-0.77	0.00	-36.13	0.00	-36.13	2395.97	578.17	1593.34	1634.95	140.00	0.038
1.0D + 1.0W 60 mph Wind	-15.66	-5.36	0.00	-226.99	0.00	-226.99	2395.97	578.17	1593.34	1634.95	140.00	0.194



Monopole Mat Foundation Design

Date

3/24/2020

Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-H
Site Name:		Structure Height (Ft.):	195
Site Number:	CT01916-S-SBA	Engineer Name:	H. You
Engr. Number:	90288	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	79.0	Shear Force (Kips):	43.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	6190.8

Allowable overstress %: 5.0%

Foundation Geometries:

Diameter of Pier (ft.):	7.0	Mods required -Yes/No ?:	No
Pier Height A. G. (ft.):	0.25	Depth of Base BG (ft.):	6.0
Length of Pad (ft.):	36	Thickness of Pad (ft.):	4.50
		Width of Pad (ft.):	36

Final Length of pad (ft)	36.0	Final width of pad (ft):	36.0
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Material Properties and Rebar Info:

Concrete Strength (psi):	3500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	64	Tie Spacing (in):	8.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	51	Qty. of Rebar in Pad (W):	51
---------------------------	----	---------------------------	----

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	51	Qty. of Rebar in Pad (W):	51
---------------------------	----	---------------------------	----

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

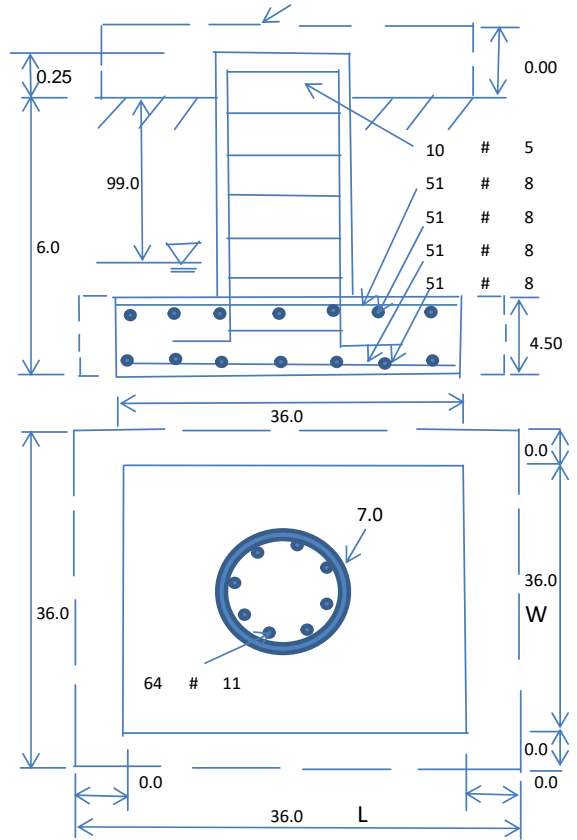
Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf	Angle from Top of Pad:	30
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Bottm of Pad:	25
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	425	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Reduction factor on the maximum soil bearing pressure:	1.00
Consider soil hor. resist. for OTM.:	No					

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1886.27	Total Dry Soil Weight (Kips):	188.63
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	188.63	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	5899.35	Total Dry Concrete Weight (Kips):	884.90
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	884.90	Total Vertical Load on Base (Kips):	1152.53

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1393	< Allowable Factored Soil Bearing (psf):	22500	0.06	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	18813.2	> Design Factored Momont (kips-ft):	6463	0.34	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.91				OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension): 0.90 Strength reduction factor (Shear): 0.75
 Strength reduction factor (Axial compression): 0.65 Wind Load Factor on Concrete Design: 1.00

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	15779.9	> Design Factored Moment (Mu, Kips-F	6267.1	0.40	OK!
Calculated Shear Capacity (Kips):	804.3	> Design Factored Shear (Kips):	43.6	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	5391.4	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	8418.7	> Design Factored Axial Load (Pu Kips):	79.0	0.01	OK!
Moment & Axial Strength Combination:	0.40	OK! Check Tie Spacing (Design/Required):	0.6667		OK!
Pier Reinforcement Ratio:	0.018	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1936.0	> One-Way Factored Shear (L-D. Kips):	406.8	0.21	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1936.0	> One-Way Factored Shear (W-D., Kips)	406.8	0.21	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1908.8	> One-Way Factored Shear (C-C, Kips):	380.7	0.20	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	8985.4	> Moment at Bottom (L-Dir. K-Ft):	3643.8	0.41	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	8985.4	> Moment at Bottom (W-Dir. K-Ft):	3643.8	0.41	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	12668.8	> Moment at Bottom (C-C Dir. K-Ft):	5153.1	0.41	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	8985.4	> Moment at the top (L-Dir K-Ft):	1287.2	0.14	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	8985.4	> Moment at the top (W-Dir K-Ft):	1287.2	0.14	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	12668.8	> Moment at the top (C-C Dir. K-Ft):	1199.9	0.09	OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	2476.3	k-ft.	Max. factored shear stress $v_{u,CD}$:	5.0	Psi
Max. factored shear stress $v_{u,AB}$:	10.4	Psi	Factored shear Strength ϕv_n :	177.5	Psi
Max. factored shear stress v_u :	10.4	Psi	Check Usage of Punching Shear Capacity:	0.06	OK!

PER THE INTERNATIONAL BUILDING CODE THIS STRUCTURE IS CLASSIFIED AS:

1. CONSTRUCTION TYPE V-B (TABLE 601 & SECTION 602.5)
2. GROUP U OCCUPANCY (SECTION 312.1 UNOCCUPIED TOWER SITE)

MODIFICATION AND DESIGN DRAWINGS FOR AN EXISTING 195' NUDD MONOPOLE TOWER

PROPOSED CARRIER: AT&T

SITE: CT01916-S-SBA / NORTH SALEM

COORDINATES (LATITUDE: 41.502828°, LONGITUDE: -72.297052°)

CONSTRUCTION CLASS

THE RIGGING PLAN FOR THIS SITE WOULD BE A
MINIMUM OF A CLASS IV AND THE CONTRACTOR
SHALL MAKE FINAL DETERMINATION

PLEASE NOTE THIS SET OF DRAWINGS IS FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 90215, DATED 12/05/2019.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	TOWER PROFILE	0
A-2	INSTALLATION OF NEW ANCHOR ROD DETAILS	0
FND-1	MONOPOLE FOUNDATION MODIFICATION DETAILS	0
RBL-1	REBAR LIST	0



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TES JOB NO:
90288

CUSTOMER SITE NO:
CT01916-S-SBA
CUSTOMER SITE NAME:
NORTH SALEM
160 WITCH MEADOW ROAD
SALEM, CT 06420

Exp.01/31/2021



04/08/2020

DRAWN BY: MN | CHECKED BY: LC/AD

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	04/08/20

SHEET TITLE:

TITLE SHEET

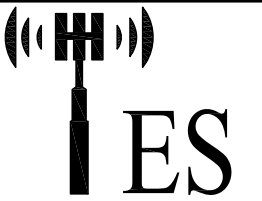
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SHEET NUMBER: T-1 | REV #: 0

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	LENGTH	SHEET LIST (INSTALLATION)	SHEET LIST (FABRICATE)	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE						
4	4	APL-6X125-B1	6" x 1.25" Flat Bar, 9" offset, Anchor bolt bracket	3'-4"	A-2	APL-6X125-B1	278.8	1115.2	Galvanized
4	4	R71-18	Williams 2 1/4" Dia. All-thread Rod (150 ksi) X 12 Ft. Long	12.00	A-2	---	169.2	676.8	Galvanized
8	8	R73-18	Williams 2 1/4" Dia. R73 Hex Nuts	---	A-2	---	---	---	Galvanized
8	8	PLW-1	PL 1 1/4" X 4 1/2" FLAT WASHER, A572 Grade 65	---	A-2	F-A	3.7	29.6	Galvanized
48	53	HB16-2	Lindapter 5/8" Type HB Hollo-Bolt (HCF, M16x100)	---	A-2	---	---	---	Galvanized
			Following Items are Non-standard Parts						
5	5	---	LANCO /HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	A-1	---	---	---	PROVIDED BY CONTRACTOR
---	---	---	SEE SHEET RBL-1 FOR REBAR REQUIREMENTS	---	RBL-1	---	---	---	
3	3	---	GROUNDING KIT (GROUND ROD 5/8" X 10'-0" FT & #2 A.W.G. SOLID BARE TINNED COPPER GROUND WIRE X 20 FT EA)	---	FND-1	---	---	---	
			ALL APLXXXX, LPXXXX AND RLPXXXX ARE PATENTED PRODUCTS AND CANNOT BE FABRICATED BY THIRD PARTIES. THESE PARTS ARE AVAILABLE FROM: METROSITE, LLC. 180 IND PARK BLVD COMMERCE, GA 30529 OFFICE: (706) 335-7045 FAX: (706) 335-7056						
			NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.						
							TOTAL WEIGHT (LBS) =	1821.6	

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CUSTOMER SITE NO:
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CUSTOMER SITE NAME:
NORTH SALEM

160 WITCH MEADOW ROAD
SALEM, CT 06420

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1	FIRST ISSUE	MN	04/08/20

SHEET TITLE:

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GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-H, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2018 SECTION 1705.2 FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING^{a,b}

BOLT LENGTH ^f	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 ^d	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS ^d
NOT MORE THAN 4d _b	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d _b BUT NOT MORE THAN 8d _b	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d _b BUT NOT MORE THAN 12d _b	2/3 TURN	5/6 TURN	1 TURN

^a NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

^b APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

^c WHEN THE BOLT LENGTH EXCEEDS 12d_b, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

^d BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.



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GN-1 | 0

NOTES:

1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE MONOPOLE AND ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
2. TEMPORARY RELOCATION OF EXISTING EQUIPMENT AROUND THE FOUNDATION MAY BE REQUIRED DURING CONSTRUCTION.

SCOPE OF WORK

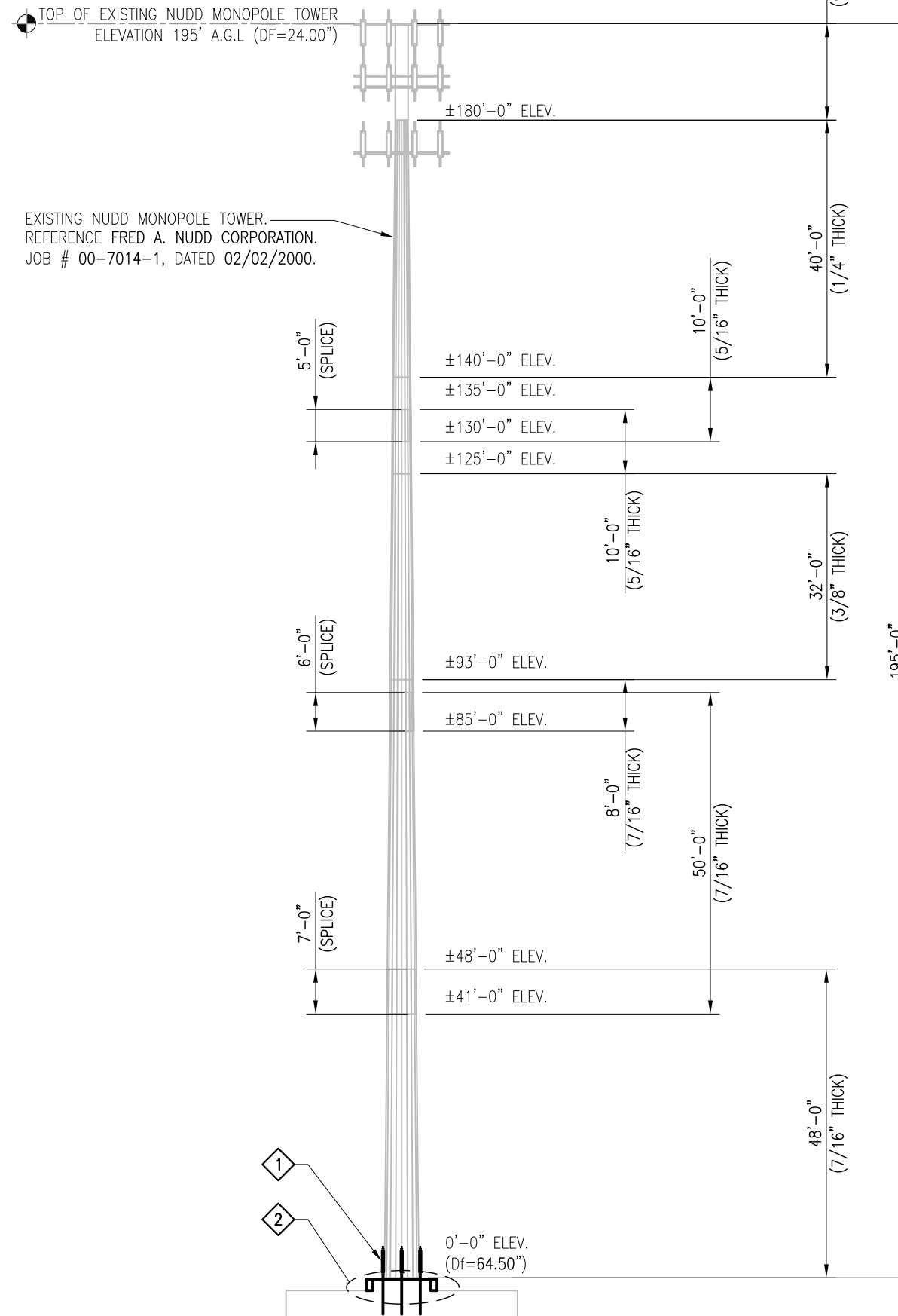
1. INSTALL (4) NEW ANCHOR ROD REINFORCEMENTS. SEE SHEET A-2 FOR DETAILS.
2. INSTALL NEW FOUNDATION MODIFICATION, SEE SHEET FND-1 FOR DETAILS. **NOTE: EMBEDMENT OF EXISTING ICE BRIDGE POST AND RELOCATION OF GROUNDING MAY BE REQUIRED.**
3. APPLY FOUNDATION COATING
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



TOWER BASE/FOUNDATION PHOTO

FOUNDATION COATING NOTES:

1. THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
2. THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
3. THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
4. THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
5. MINIMUM 30 MILS COATING IS REQUIRED.
6. APPLY COLD GALVANIZE AT LEAST 2'-3' ABOVE FOUNDATION.



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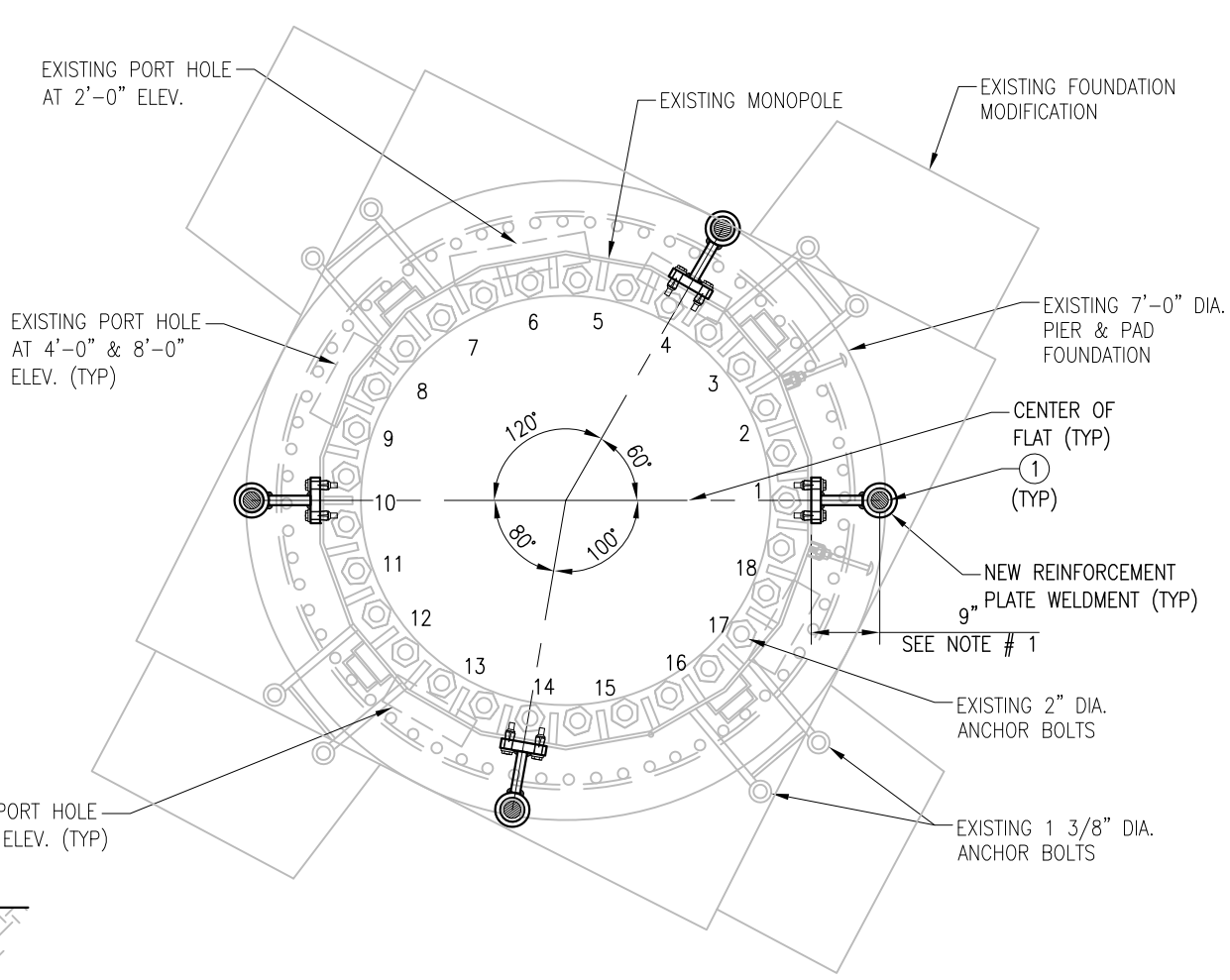
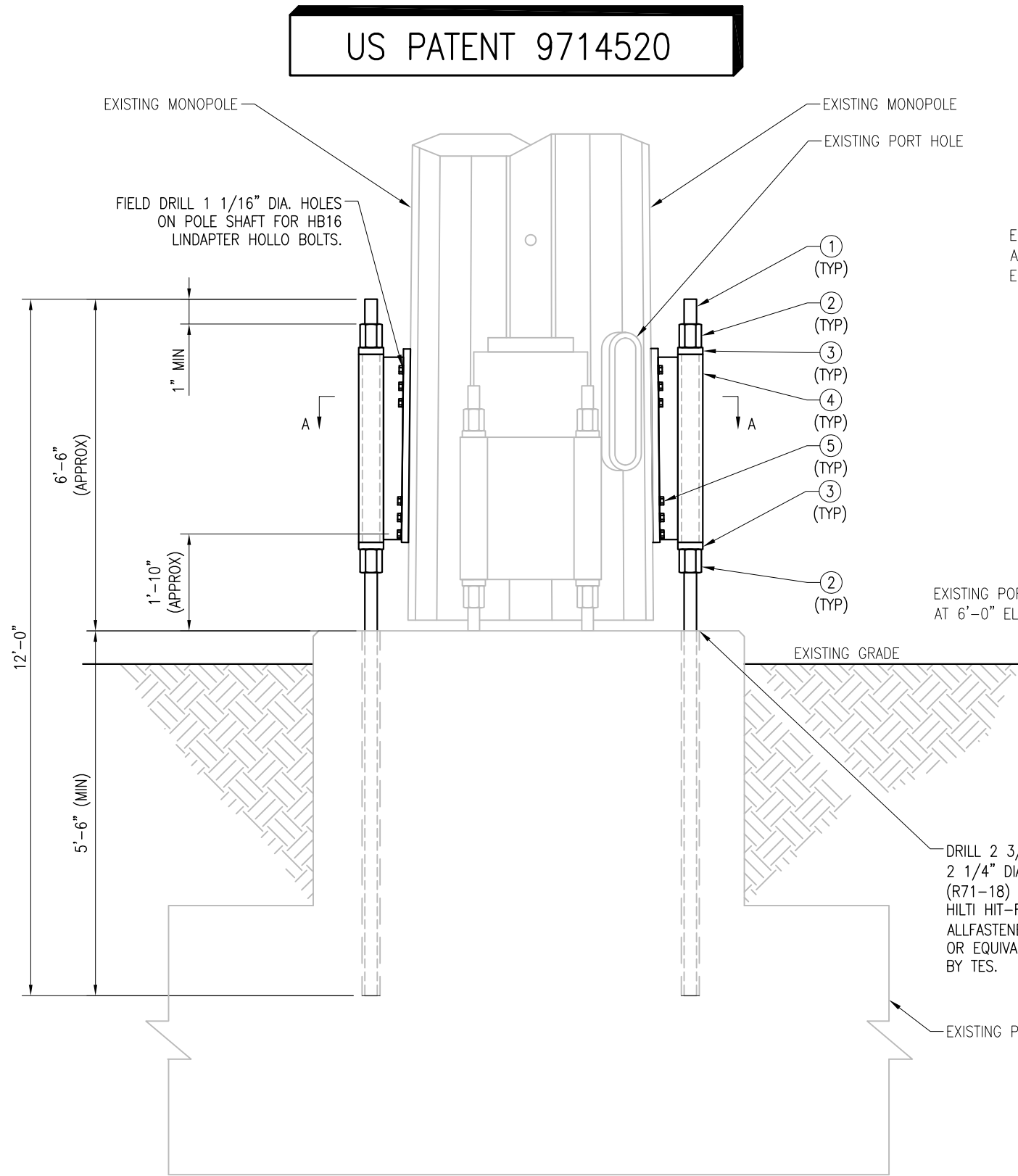
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SHEET NUMBER: | REV #:

A-1 | 0

US PATENT 9714520



SECTION "A-A"

INSTALLATION NOTES:

1. USE WELDED REINFORCEMENT BRACKET ASSEMBLY TO SET THE POSITION OF THE ALL-THREAD ROD.
2. DRILL NEW 2 3/4" DIA. HOLES INTO EXISTING FOUNDATION FOR ALL-THREAD ROD.
3. INSTALL REINFORCEMENT BRACKET AND CONFIRM FIT WITH MONOPOLE REINFORCEMENT PLATES.
4. TIGHTEN NUTS ON THE ALL-THREAD ROD LOCKING IT INTO POSITION.
5. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD CUT AND EXPOSED AREAS.
6. DRILLING CONTRACTOR TO EXERCISE EXTREME CARE TO AVOID DAMAGING THE EXISTING REINFORCING TIES IN THE CONCRETE PIER. IF REBAR IS ENCOUNTERED IN THE CONCRETE WHILE DRILLING, CONTRACTOR TO STOP DRILLING AND INFORM **TES** FOR SOLUTION.
7. CONTRACTOR PLEASE NOTE--WHILE DRILLING PREPARE TO DRILL THROUGH ANCHOR BOLT TEMPLATE.
8. INSTALLATION TORQUE FOR HOLLO BOLTS--SEE SHEET GN-1. IT IS REQUIRED THAT THE CONTRACTOR TAKE PHOTOS OF THE INSTALLED TORQUE FOR VERIFICATION OF PROPER INSTALLATION.

DRILL 2 3/4" DIA. HOLE TO ACCOMMODATE 2 1/4" DIA. WILLIAMS ALL-THREAD ROD (R71-18) AS SHOWN. GROUT USING HILTI HIT-RE 500 V3 EPOXY OR ALLFASTENERS 12AF35LVE EPOXY (TYP) OR EQUIVALENT MATERIAL APPROVED BY TES.

NOTE:
SEE NOTES ON SHEET GN-1 FOR POST-INSTALLED EPOXY INJECTED ANCHOR BOLTS

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	4	R71-18	12'-0" WILLIAMS 2 1/4" DIA. ALL-THREAD ROD (150 KSI)
2	8	R73-18	2 1/4" NUT (WILLIAMS R73-18) (TYP)
3	8	PLW-1	PL 1 1/4" X 4 1/2" FLAT WASHER, A572-65
4	4	APL-6X125-B1	ANCHOR REINFORCEMENT WELDMENT
5	48	HB16-2	LINDAPTER 5/8" TYPE HB HOLLO-BOLT (HCF)



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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
90288
CUSTOMER SITE NO:
CT01916-S-SBA
CUSTOMER SITE NAME:
NORTH SALEM
160 WITCH MEADOW ROAD
SALEM, CT 06420

DRAWN BY: MN	CHECKED BY: LC/AD		
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	04/08/20

SHEET TITLE:
INSTALLATION OF NEW ANCHOR ROD DETAILS

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SHEET NUMBER:
A-2
REV #:
0



Tower Engineering Solutions

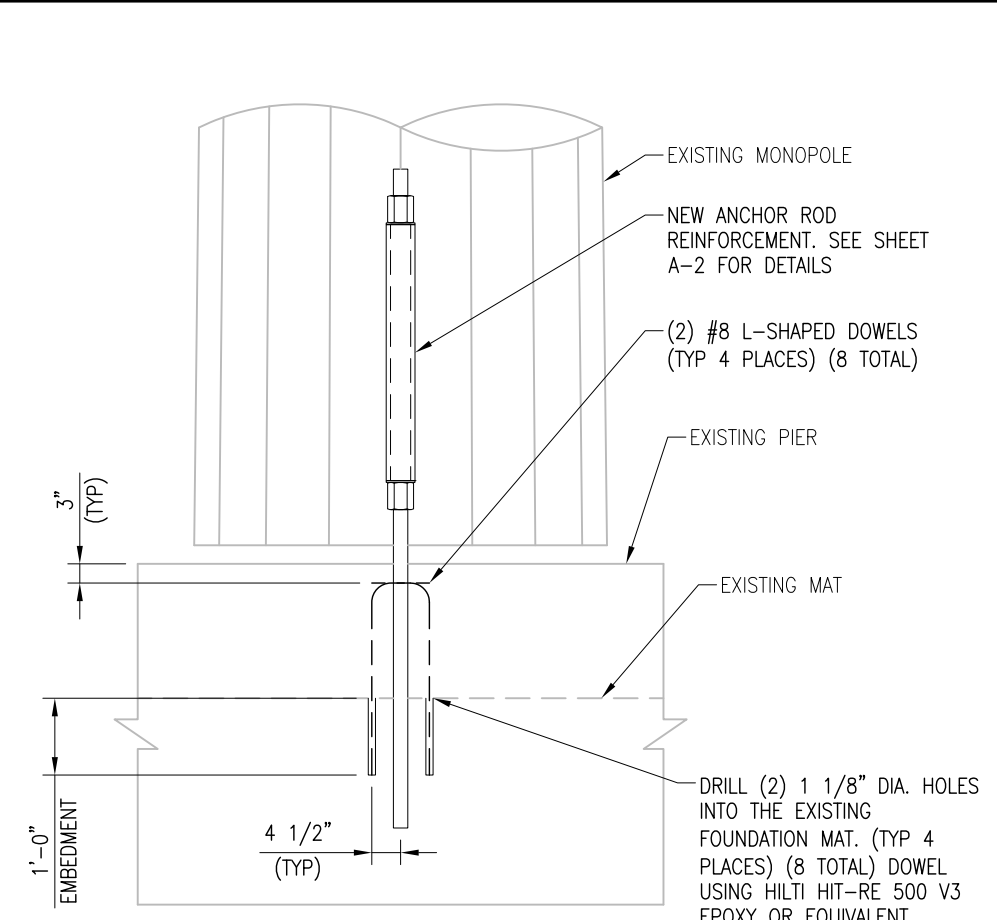
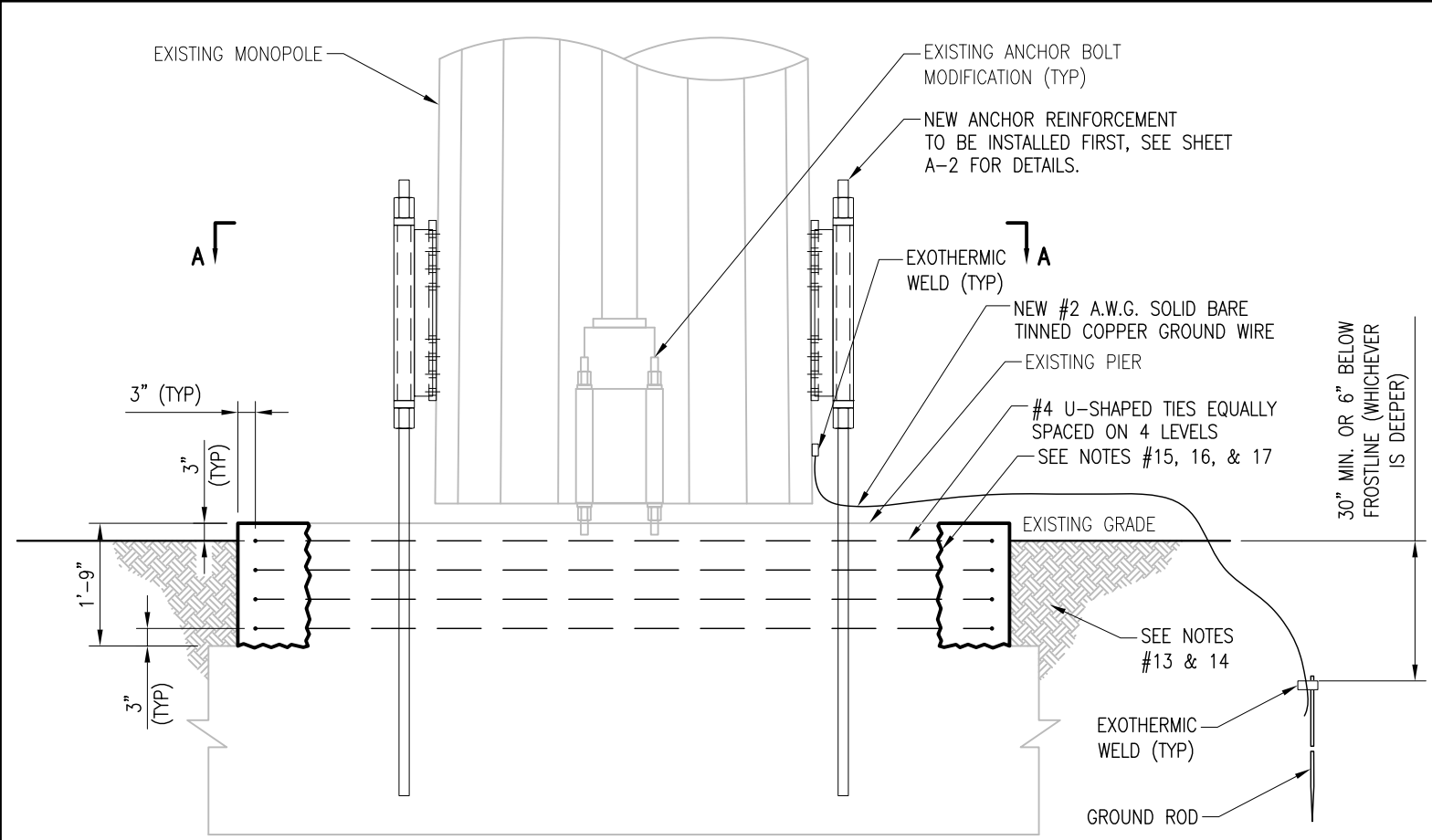
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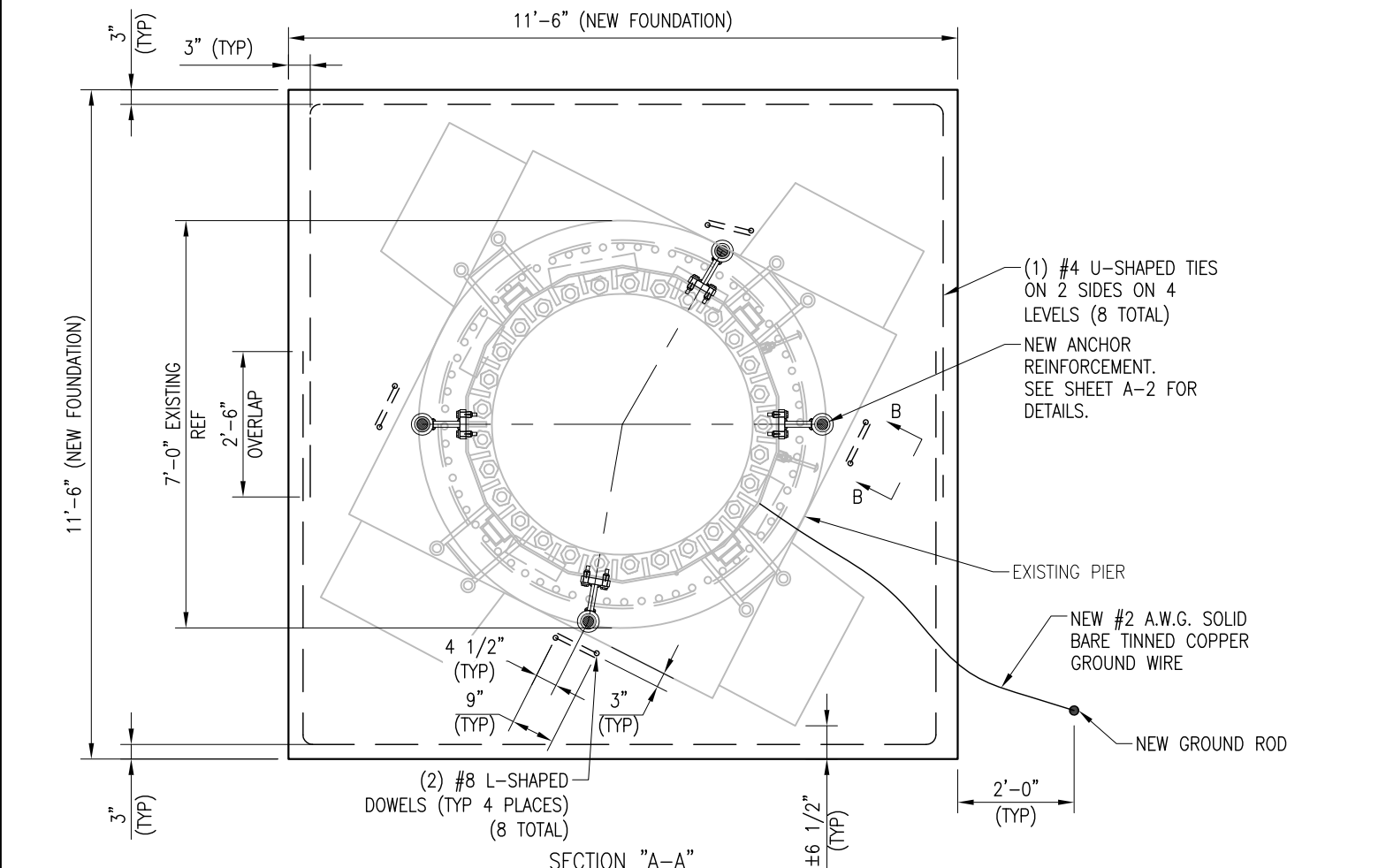
CUSTOMER SITE NO:
CT01916-S-SBA
CUSTOMER SITE NAME:
NORTH SALEM
160 WITCH MEADOW ROAD
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FIELD NOTES:
1. USE CAUTION WHEN DRILLING DOWELS TO AVOID CUTTING OR DAMAGING THE EXISTING REBAR, TIES AND ANCHOR BOLTS.

NOTES:

- CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS.
- TEST CYLINDERS SHALL BE MOLDED AND LABORATORY CURED IN ACCORDANCE WITH ASTM C31. THREE PAIRS OF CONCRETE COMPRESSION TEST CYLINDERS SHALL BE MADE FROM EACH TRUCK LOAD OF CONCRETE. TWO CYLINDERS SHALL BE TESTED AT 7 DAYS AND TWO CYLINDERS SHALL BE TESTED AT 28 DAYS. (REMAINING PAIR OF CYLINDERS ARE FOR REDUNDANCY).
- REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
- ALL REBAR SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
- VERTICAL EMBEDMENTS OUT OF PLUMB: 1.0 DEGREE.
- DEPTH OF FOUNDATION: PLUS 1" OR MINUS 0".
- CONCRETE DIMENSIONS: PLUS OR MINUS 1/2".
- REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/2" INCLUDING CONCRETE COVER.
- CONCRETE VOLUME: 4.41 CUBIC YARDS.
- MATERIALS FOR REINFORCING SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A615-85.
- ALL REBAR TO BE GRADE 60 (UNLESS NOTED OTHERWISE).
- CONCRETE SLUMP: 3"~5".
- FOUNDATION BASE SHOULD REST ON FIRM AND LEVELED SURFACE.
- FILL MATERIALS SHALL BE COMPACTED USING LAYERS OF NO MORE THAN 6". FINAL COMPACTION MUST BE A MINIMUM OF 95% DENSITY (THE MAXIMUM DRY UNIT OF WEIGHT). BACKFILL MATERIALS SHALL BE SANDY SILT (ML), SILT SAND (SM), CLAYED SAND (SC). NO ORGANIC MATERIALS, ROOTS, PLASTIC SILTS OR CLAYS, DELETERIOUS MATERIALS AND STONES SHALL BE USED. IF ROCK/SOIL MIXTURE IS USED AS BACKFILL, THE ROCK SIZE SHOULD BE LESS THAN 4" IN GREATEST DIMENSION AND NOT MORE THAN 15% BY WEIGHT SHALL BE LARGER THAN 2" IN GREATEST DIMENSION.
- CLEAN AND ROUGHEN THE SURFACE. THE SURFACE MUST BE PREPARED MECHANICALLY GIVING A SURFACE PROFILE OF MINIMUM 1/8", EXPOSING THE COARSE AGGREGATE OF THE OLD CONCRETE.
- APPLY WELD-CRETE OR CORR-BOND AGENT OVER THE SURFACE OF THE OLD CONCRETE PER THE MANUFACTURER'S SPECIFICATIONS.
- NEW CONCRETE MUST BE PLACED OVER THE BONDING AGENT WITHIN THE MAXIMUM ALLOWABLE TIME PER THE MANUFACTURER'S SPECIFICATIONS.
- THE FOUNDATION MODIFICATION MUST BE PERFORMED AT A WIND SPEED LESS THAN 25 MPH.
- THE FOUNDATION MODIFICATION MUST BE COMPLETED WITHIN 24 HOURS FROM WHEN IT WAS STARTED.
- DON'T OVER EXCAVATE SOILS BOTH VERTICALLY AND HORIZONTALLY.



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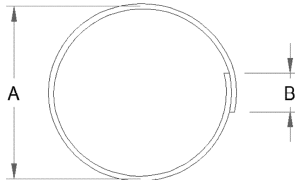
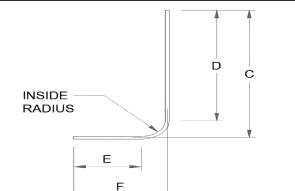
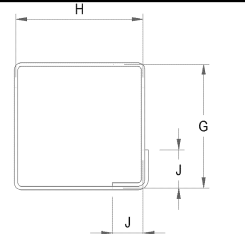
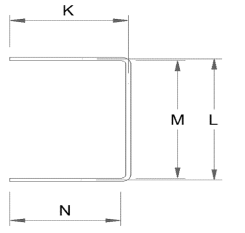
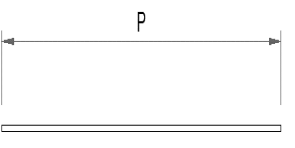
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MONOPOLE FOUNDATION MODIFICATION DETAILS

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SHEET NUMBER: FND-1 REV #: 0

REBAR CHART

TYPE OF REBAR DIAGRAM	ITEMS	QTY. REQ'D	REBAR SIZE	LENGTH REQ'D (FT.)	TOTAL WEIGHT (LBS)	DETAILS OF BAR DIMENSIONS								REBAR DIAGRAM
						A (FT.)	A	B	B (FT.)					
ROUND TIE		-	-		-	A (FT.)	A	B	B (FT.)					
90° BEND VERTICAL BAR	1	8	8	3'-2 3/8"	68.5	C (FT.)	C	D (ft)	D	E (ft.)	E	F	RADIUS	
SQUARE OR RECTANGULAR TIE		-	-	-	-	G (FT.)	G	H (ft)	H	J (ft.)	J	RADIUS		
U-SHAPE 90° BEND	2	8	4	24'-4 9/16"	130.4	K (FT.)	K	L (ft)	L	M (ft.)	M	N	RADIUS	
STRAIGHT		-	-	-	-	P (FT.)	P	MINIMUM SPLICE LENGTHS REQUIRED						
								BAR SIZE			LENGTH REQ'D			
								#6			3'-7/8"			
								#7			4'-4 1/2"			
								#8			5'-1 1/2"			
								#9			5'-9"			
								#10			6'-6"			
							#11			7'-1 1/2"				

BILL OF MATERIALS

TYPES OF REBAR CONFIGURATIONS	QTY. REQ'D	REBAR SIZE	LENGTH REQ'D (FT.)	TOTAL WEIGHT (LBS)
90° BEND VERTICAL BAR	8	8	3'-2 3/8"	68.5
U-SHAPE 90° BEND	8	4	24'-4 9/16"	130.4
TOTAL STEEL WEIGHT (LBS):	198.9			



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 160 WITCH MEADOW ROAD
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SHEET TITLE:

REBAR LIST

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SHEET NUMBER: **RBL-1** REV #: **0**

August 14, 2019
October 7, 2019 (Rev.1)



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: Site Number: CT2195 (LTE 2C/3C/4C)
 FA Number: 10035287
 PACE Number: MRCTB040679
 PT Number: 2051A0PQZ5
 Site Name: SALEM NORTH
 Site Address: 160 Witch Meadow Road
 Salem, CT 06420

To Whom It May Concern:

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

- (3) 7770 Antennas (55.0"x11.0"x5.0" – Wt. = 35 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Ø – Wt. = 33 lbs.)
- **(6) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(3) B5/B12 4449 RRH's (14.9"x13.2"x10.4" – Wt. = 73 lbs. /each)**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(2) Squid Surge Arrestors (24.0"x9.7" Ø – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on June 13, 2019.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 131 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.19 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 250 lbs. live load using a service wind speed of 30 mph wind on the worst-case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs. live load in a worst-case location on the mount.
- The existing mount is secured to the existing monopole with a ring mount. The connections are considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mount **IS NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new sector frame stabilizer, SitePro1 P/N PRK-SFS-L (or approved equal) secured to the proposed handrail kit and tower leg (typ. of 1 per sector, total of 3).**
- **Remove existing pipe mast and replace with new 2-1/2" std. (2.88" O.D.) pipe mast secured to the existing mount face (typ. of 2 per sector, total of 6).**
- **Install new handrail kit SitePro1 P/N HRK14-3HD (or approved equal) (typ. of 1 per sector, total of 3).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 2C/3C/4C) Mount Rating	77	LC1	280%	FAIL
Modified (LTE 2C/3C/4C) Mount Rating	82	LC10	66%	PASS

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

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

Respectfully Submitted,
Hudson Design Group LLC



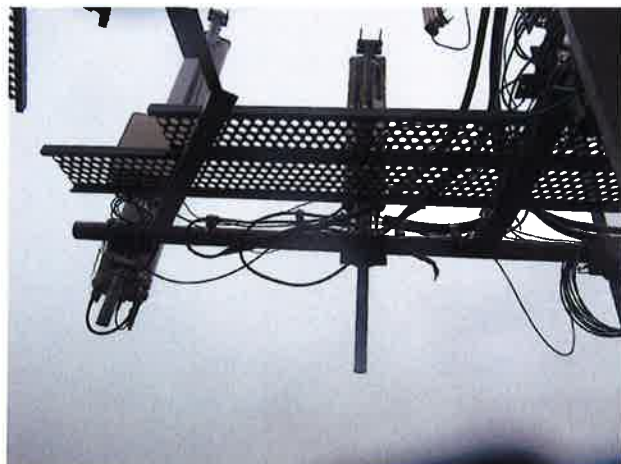
Michael Cabral
Vice President



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

**Wind & Ice
Calculations**

Date: 10/8/2019
 Project Name: SALEM NORTH
 Project No.: CT2195
 Designed By: BD Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$K_z =$ **1.178** $z =$ 185 (ft)
 $z_g =$ 1200 (ft)
 $\alpha =$ 7.0

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

$$K_h = e^{(fz/H)}$$

$K_{zt} =$ **1**

$K_h =$ 1

$K_c =$ 0.9 (from Table 2-4)

$K_t =$ 0 (from Table 2-5)

$f =$ 0 (from Table 2-5)

$z =$ 185

$z_s =$ 385 (Mean elevation of base of structure above sea level)

$H =$ 25 (Ht. of the crest above surrounding terrain)

$K_{zt} =$ 1.00 (from 2.6.6.2.1)

$K_e =$ 0.99 (from 2.6.8)

(If Category 1 then $K_{zt} = 1.0$)

Category = 1

2.6.10 Design Ice Thickness

Max Ice Thickness =

$t_i =$ 1.00 in

Importance Factor =

$I =$ 1.0 (from Table 2-3)

$K_{iz} =$ 1.19 (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} =$ **1.19** in

Date: 10/8/2019
 Project Name: SALEM NORTH
 Project No.: CT2195
 Designed By: BD Checked By: MSC



2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$ h= ht. of structure

h= 195 $G_h = 0.85$

2.6.9.2 Guyed Masts

$G_h = 0.85$

2.6.9.3 Pole Structures

$G_h = 1.1$

2.6.9 Appurtenances

$G_h = 1.0$

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

$G_h = 1.35$ $G_h = 1.00$

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

$K_z = 1.178$ (from 2.6.5.2)
 $K_{zt} = 1.0$ (from 2.6.6.2.1)
 $K_s = 1.0$ (from 2.6.7)
 $K_e = 0.99$ (from 2.6.8)
 $K_d = 0.95$ (from Table 2-2)
 $V_{max} = 131$ mph (Ultimate Wind Speed)
 $V_{max(ice)} = 50$ mph
 $V_{30} = 30$ mph

$q_z = 48.49$
 $q_z(ice) = 7.06$
 $q_z(30) = 2.54$

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		$1.2 - 2.8(r_s) ≥ 0.85$	$1.4 - 4.0(r_s) ≥ 0.90$	$2.0 - 6.0(r_s) ≥ 1.25$
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.19 in** Angle = **0 (deg)** Equivalent Angle = **180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	267	49	14
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	867	144	45
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	98	19	5
B14 4478 RRH (Shielded)	18.1	2.4	8.3	0.30	7.54	1.42	21	7	1
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.13	1.20	79	16	4
B5/B12 4449 RRH (Shielded)	14.9	7.5	10.4	0.78	1.99	1.20	45	10	2
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.20	79	16	4
B2/B66A 8843 RRH (Shielded)	14.9	7.5	10.9	0.78	1.99	1.20	45	10	2
LGP21401 TMA	14.4	2.7	9.0	0.27	5.33	1.33	17	6	1
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	55	11	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	12	4	1
2-1/2" Pipe	2.9	12.0		0.24	0.24	1.20	14	4	1
3" Pipe	3.5	12.0		0.29	0.29	1.20	17	5	1
4" Pipe	4.5	12.0		0.38	0.38	1.20	22	6	1
2-1/2x2-1/2 Angle	2.5	12.0		0.21	0.21	2.00	20	7	1
3x3 Angle	3.0	12.0		0.25	0.25	2.00	24	8	1
4x4 Angle	4.0	12.0		0.33	0.33	2.00	32	9	2
HSS 4x4	4.0	12.0		0.33	0.33	2.00	32	9	2

Date: 10/8/2019
 Project Name: SALEM NORTH
 Project No.: CT2195
 Designed By: BD Checked By: MSC



WIND LOADS

Angle = **30** (deg) Ice Thickness = **1.19** in. Equivalent Angle = **210** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	267	142	236
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	867	394	748
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	98	61	89
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	49	61	52
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	63	75
B5/B12 4449 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	40	63	45
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	66	76
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	40	66	46
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	52	26

WIND LOADS WITH ICE:

7770 Antenna	57.4	13.4	7.4	5.33	2.94	4.29	7.78	1.28	1.43	48	30	44
DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.76	6.88	4.26	9.76	1.28	1.49	142	73	125
B14 4478 RRH	20.5	15.8	10.7	2.24	1.52	1.30	1.92	1.20	1.20	19	13	17
B14 4478 RRH (Shielded)	20.5	7.9	10.7	1.12	1.52	2.60	1.92	1.20	1.20	10	13	10
B5/B12 4449 RRH	17.3	15.6	12.8	1.87	1.53	1.11	1.35	1.20	1.20	16	13	15
B5/B12 4449 RRH (Shielded)	17.3	7.8	12.8	0.93	1.53	2.22	1.35	1.20	1.20	8	13	9
B2/B66A 8843 RRH	17.3	15.6	13.3	1.87	1.59	1.11	1.30	1.20	1.20	16	14	15
B2/B66A 8843 RRH (Shielded)	17.3	7.8	13.3	0.93	1.59	2.22	1.30	1.20	1.20	8	14	9
LGP21401 TMA	16.8	5.1	11.4	0.59	1.33	3.30	1.47	1.24	1.20	5	11	7

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	14	7	12
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	45	21	39
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	5
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	3	3	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	4
B5/B12 4449 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	2	3	2
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1

Date: 10/8/2019
 Project Name: SALEM NORTH
 Project No.: CT2195
 Designed By: BD Checked By: MSC



WIND LOADS

Angle = 60 (deg) Ice Thickness = 1.19 in. Equivalent Angle = 240 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	267	142	173
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	867	394	512
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	98	61	70
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	74	61	64
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	63	67
B5/B12 4449 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	1.20	1.20	60	63	62
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	66	69
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	60	66	64
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	52	44

WIND LOADS WITH ICE:

7770 Antenna	57.4	13.4	7.4	5.33	2.94	4.29	7.78	1.28	1.43	48	30	34
DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.76	6.88	4.26	9.76	1.28	1.49	142	73	90
B14 4478 RRH	20.5	15.8	10.7	2.24	1.52	1.30	1.92	1.20	1.20	19	13	14
B14 4478 RRH (Shielded)	20.5	11.8	10.7	1.68	1.52	1.73	1.92	1.20	1.20	14	13	13
B5/B12 4449 RRH	17.3	15.6	12.8	1.87	1.53	1.11	1.35	1.20	1.20	16	13	14
B5/B12 4449 RRH (Shielded)	17.3	11.7	12.8	1.40	1.53	1.48	1.35	1.20	1.20	12	13	13
B2/B66A 8843 RRH	17.3	15.6	13.3	1.87	1.59	1.11	1.30	1.20	1.20	16	14	14
B2/B66A 8843 RRH (Shielded)	17.3	11.7	13.3	1.40	1.59	1.48	1.30	1.20	1.20	12	14	13
LGP21401 TMA	16.8	5.1	11.4	0.59	1.33	3.30	1.47	1.24	1.20	5	11	10

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	14	7	9
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	45	21	27
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	4
B5/B12 4449 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	1.20	1.20	3	3	3
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2

Date: 10/8/2019
 Project Name: SALEM NORTH
 Project No.: CT2195
 Designed By: BD Checked By: MSC



WIND LOADS

Angle = **90** (deg) Ice Thickness = **1.19** in. Equivalent Angle = **270** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	267	142	142
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	867	394	394
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	98	61	61
B14 4478 RRH (Shielded)	18.1	2.4	8.3	0.30	1.04	7.54	2.18	1.42	1.20	21	61	61
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	63	63
B5/B12 4449 RRH (Shielded)	14.9	7.5	10.4	0.78	1.08	1.99	1.43	1.20	1.20	45	63	63
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	66	66
B2/B66A 8843 RRH (Shielded)	14.9	7.5	10.9	0.78	1.13	1.99	1.37	1.20	1.20	45	66	66
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	52	52

WIND LOADS WITH ICE:

7770 Antenna	57.4	13.4	7.4	5.33	2.94	4.29	7.78	1.28	1.43	48	30	30
DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.76	6.88	4.26	9.76	1.28	1.49	142	73	73
B14 4478 RRH	20.5	15.8	10.7	2.24	1.52	1.30	1.92	1.20	1.20	19	13	13
B14 4478 RRH (Shielded)	20.5	4.8	10.7	0.68	1.52	4.29	1.92	1.28	1.20	6	13	13
B5/B12 4449 RRH	17.3	15.6	12.8	1.87	1.53	1.11	1.35	1.20	1.20	16	13	13
B5/B12 4449 RRH (Shielded)	17.3	9.9	12.8	1.18	1.53	1.75	1.35	1.20	1.20	10	13	13
B2/B66A 8843 RRH	17.3	15.6	13.3	1.87	1.59	1.11	1.30	1.20	1.20	16	14	14
B2/B66A 8843 RRH (Shielded)	17.3	9.9	13.3	1.18	1.59	1.75	1.30	1.20	1.20	10	14	14
LGP21401 TMA	16.8	5.1	11.4	0.59	1.33	3.30	1.47	1.24	1.20	5	11	11

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	14	7	7
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	45	21	21
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
B14 4478 RRH (Shielded)	18.1	2.4	8.3	0.30	1.04	7.54	2.18	1.42	1.20	1	3	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	3
B5/B12 4449 RRH (Shielded)	14.9	7.5	10.4	0.78	1.08	1.99	1.43	1.20	1.20	2	3	3
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
B2/B66A 8843 RRH (Shielded)	14.9	7.5	10.9	0.78	1.13	1.99	1.37	1.20	1.20	2	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	3

Date: 10/8/2019
 Project Name: SALEM NORTH
 Project No.: CT2195
 Designed By: BD Checked By: MSC



WIND LOADS

Angle = **120** (deg) Ice Thickness = **1.19** in. Equivalent Angle = **300** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	267	142	173
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	867	394	512
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	98	61	70
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	74	61	64
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	63	67
B5/B12 4449 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	1.20	1.20	60	63	62
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	66	69
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	60	66	64
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	52	44

WIND LOADS WITH ICE:

7770 Antenna	57.4	13.4	7.4	5.33	2.94	4.29	7.78	1.28	1.43	48	30	34
DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.76	6.88	4.26	9.76	1.28	1.49	142	73	90
B14 4478 RRH	20.5	15.8	10.7	2.24	1.52	1.30	1.92	1.20	1.20	19	13	14
B14 4478 RRH (Shielded)	20.5	11.8	10.7	1.68	1.52	1.73	1.92	1.20	1.20	14	13	13
B5/B12 4449 RRH	17.3	15.6	12.8	1.87	1.53	1.11	1.35	1.20	1.20	16	13	14
B5/B12 4449 RRH (Shielded)	17.3	11.7	12.8	1.40	1.53	1.48	1.35	1.20	1.20	12	13	13
B2/B66A 8843 RRH	17.3	15.6	13.3	1.87	1.59	1.11	1.30	1.20	1.20	16	14	14
B2/B66A 8843 RRH (Shielded)	17.3	11.7	13.3	1.40	1.59	1.48	1.30	1.20	1.20	12	14	13
LGP21401 TMA	16.8	5.1	11.4	0.59	1.33	3.30	1.47	1.24	1.20	5	11	10

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	14	7	9
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	45	21	27
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	4
B5/B12 4449 RRH (Shielded)	14.9	9.9	10.4	1.02	1.08	1.51	1.43	1.20	1.20	3	3	3
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2

Date: 10/8/2019
 Project Name: SALEM NORTH
 Project No.: CT12195
 Designed By: BD Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.19 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	267	142	236
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	867	394	748
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	98	61	89
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	49	61	52
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	79	63	75
B5/B12 4449 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	40	63	45
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	79	66	76
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	40	66	46
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	52	26

WIND LOADS WITH ICE:

7770 Antenna	57.4	13.4	7.4	5.33	2.94	4.29	7.78	1.28	1.43	48	30	44
DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.76	6.88	4.26	9.76	1.28	1.49	142	73	125
B14 4478 RRH	20.5	15.8	10.7	2.24	1.52	1.30	1.92	1.20	1.20	19	13	17
B14 4478 RRH (Shielded)	20.5	7.9	10.7	1.12	1.52	2.60	1.92	1.20	1.20	10	13	10
B5/B12 4449 RRH	17.3	15.6	12.8	1.87	1.53	1.11	1.35	1.20	1.20	16	13	15
B5/B12 4449 RRH (Shielded)	17.3	7.8	12.8	0.93	1.53	2.22	1.35	1.20	1.20	8	13	9
B2/B66A 8843 RRH	17.3	15.6	13.3	1.87	1.59	1.11	1.30	1.20	1.20	16	14	15
B2/B66A 8843 RRH (Shielded)	17.3	7.8	13.3	0.93	1.59	2.22	1.30	1.20	1.20	8	14	9
LGP21401 TMA	16.8	5.1	11.4	0.59	1.33	3.30	1.47	1.24	1.20	5	11	7

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	14	7	12
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	45	21	39
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	5
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	3	3	3
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	4	3	4
B5/B12 4449 RRH (Shielded)	14.9	6.6	10.4	0.68	1.08	2.26	1.43	1.20	1.20	2	3	2
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1

Date: 10/8/2019

Project Name: SALEM NORTH

Project No.: CT2195

Designed By: BD Checked By: MSC



HUDSON
Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.19 in.
Density of ice: 56 pcf

7770 Antenna

Weight of ice based on total radial SF area:
Height (in): 55.0
Width (in): 11.0
Depth (in): 5.0
Total weight of ice on object: 88 lbs
Weight of object: 35.0 lbs
Combined weight of ice and object: 123 lbs

DMP65R-BU8DA Antenna

Weight of ice based on total radial SF area:
Height (in): 96.0
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 271 lbs
Weight of object: 95.7 lbs
Combined weight of ice and object: 366 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:
Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3
Total weight of ice on object: 37 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 97 lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:
Height (in): 14.9
Width (in): 13.2
Depth (in): 10.4
Total weight of ice on object: 32 lbs
Weight of object: 73.0 lbs
Combined weight of ice and object: 105 lbs

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:
Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9
Total weight of ice on object: 33 lbs
Weight of object: 72.0 lbs
Combined weight of ice and object: 105 lbs

LGP21401 TMA

Weight of ice based on total radial SF area:
Height (in): 14.4
Width (in): 2.7
Depth (in): 9.0
Total weight of ice on object: 18 lbs
Weight of object: 19.0 lbs
Combined weight of ice and object: 37 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:
Depth (in): 24.0
Diameter(in): 9.7
Total weight of ice on object: 32 lbs
Weight of object: 33 lbs
Combined weight of ice and object: 65 lbs

HSS 4x4

Weight of ice based on total radial SF area:
Height (in): 4
Width (in): 4
Per foot weight of ice on object: 10 plf

L 2-1/2x2-1/2 Angles

Weight of ice based on total radial SF area:
Height (in): 2.5
Width (in): 2.5
Per foot weight of ice on object: 7 plf

L 3x3 Angles

Weight of ice based on total radial SF area:
Height (in): 3
Width (in): 3
Per foot weight of ice on object: 8 plf

L 4x4 Angles

Weight of ice based on total radial SF area:
Height (in): 4
Width (in): 4
Per foot weight of ice on object: 10 plf

2" pipe

Per foot weight of ice:
diameter (in): 2.38
Per foot weight of ice on object: 5 plf

2-1/2" pipe

Per foot weight of ice:
diameter (in): 2.88
Per foot weight of ice on object: 6 plf

3" Pipe

Per foot weight of ice:
diameter (in): 3.5
Per foot weight of ice on object: 7 plf

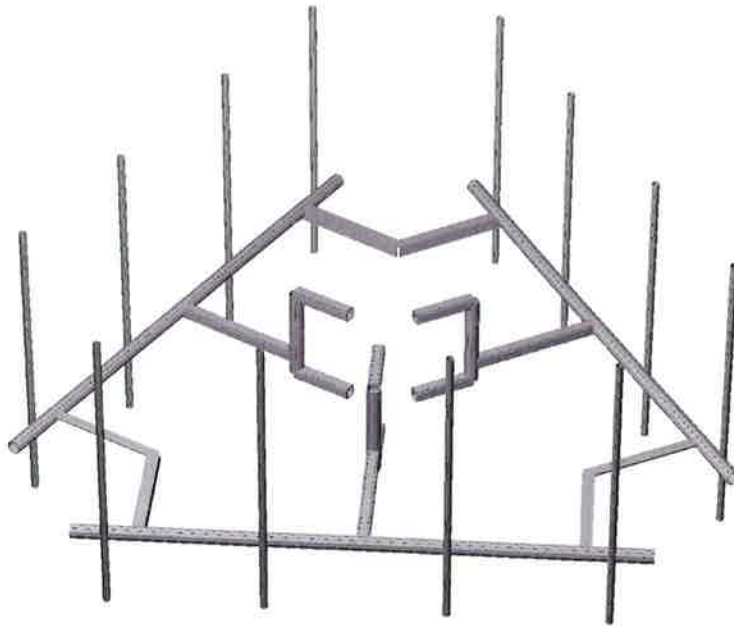
4" Pipe

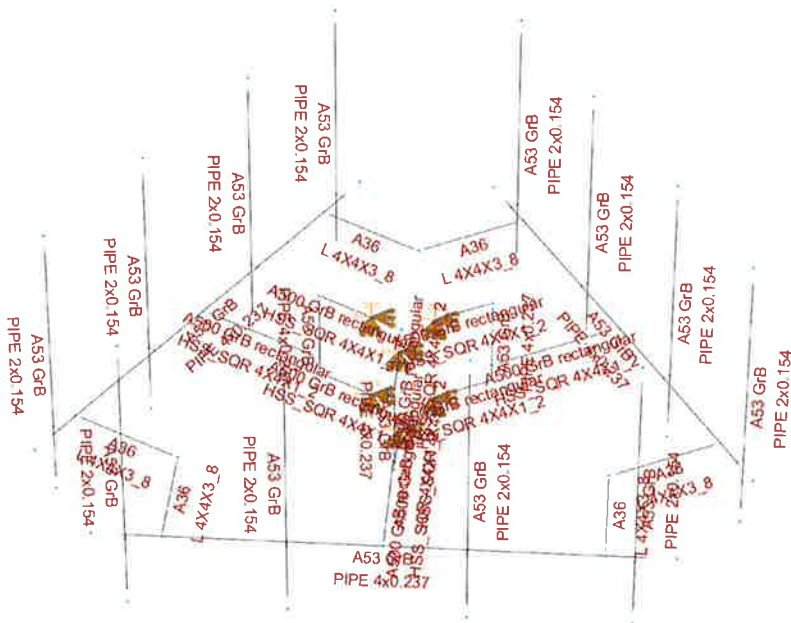
Per foot weight of ice:
diameter (in): 4.5
Per foot weight of ice on object: 8 plf







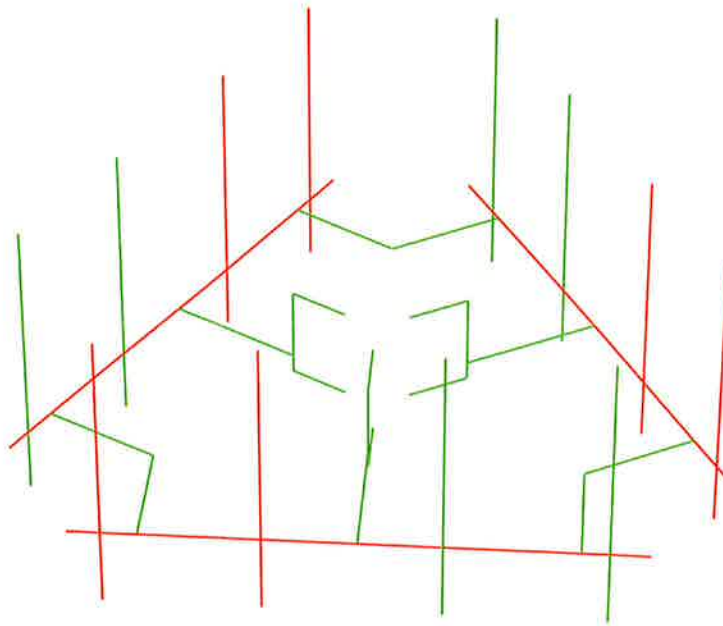
HUDSON
Design Group LLC

**Mount Calculations
(Existing Conditions)**





-  Not designed
-  Error on design
-  Design O.K.
-  With warnings



Load data

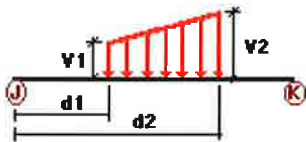
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL

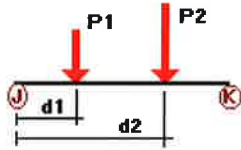
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
W0	1	z	-0.019	0.00	0.00	No	0.00	No
	9	z	-0.019	0.00	0.00	No	0.00	No
	13	z	-0.019	0.00	0.00	No	0.00	No
	23	z	-0.032	0.00	0.00	No	0.00	No
	24	z	-0.032	0.00	0.00	No	0.00	No
	25	z	-0.032	0.00	0.00	No	0.00	No
	46	z	-0.032	0.00	0.00	No	0.00	No
	47	z	-0.032	0.00	0.00	No	0.00	No
	48	z	-0.032	0.00	0.00	No	0.00	No
	49	z	-0.032	0.00	0.00	No	0.00	No
	50	z	-0.032	0.00	0.00	No	0.00	No
	51	z	-0.032	0.00	0.00	No	0.00	No
	71	z	-0.032	0.00	0.00	No	0.00	No
	72	z	-0.032	0.00	0.00	No	0.00	No
	73	z	-0.032	0.00	0.00	No	0.00	No
	74	z	-0.032	0.00	0.00	No	0.00	No

	75	z	-0.032	0.00	0.00	No	0.00	No
	76	z	-0.032	0.00	0.00	No	0.00	No
	79	z	-0.012	0.00	0.00	No	0.00	No
	83	z	-0.012	0.00	0.00	No	0.00	No
W30	87	z	-0.012	0.00	0.00	No	0.00	No
	1	x	-0.019	0.00	0.00	No	0.00	No
	9	x	-0.019	0.00	0.00	No	0.00	No
	13	x	-0.019	0.00	0.00	No	0.00	No
	23	x	-0.032	0.00	0.00	No	0.00	No
	24	x	-0.032	0.00	0.00	No	0.00	No
	25	x	-0.032	0.00	0.00	No	0.00	No
	46	x	-0.032	0.00	0.00	No	0.00	No
	47	x	-0.032	0.00	0.00	No	0.00	No
	48	x	-0.032	0.00	0.00	No	0.00	No
	49	x	-0.032	0.00	0.00	No	0.00	No
	50	x	-0.032	0.00	0.00	No	0.00	No
	51	x	-0.032	0.00	0.00	No	0.00	No
	71	x	-0.032	0.00	0.00	No	0.00	No
	72	x	-0.032	0.00	0.00	No	0.00	No
	73	x	-0.032	0.00	0.00	No	0.00	No
	74	x	-0.032	0.00	0.00	No	0.00	No
	75	x	-0.032	0.00	0.00	No	0.00	No
	76	x	-0.032	0.00	0.00	No	0.00	No
	79	x	-0.012	0.00	0.00	No	0.00	No
	83	x	-0.012	0.00	0.00	No	0.00	No
Di	87	x	-0.012	0.00	0.00	No	0.00	No
	1	y	-0.008	0.00	0.00	No	0.00	No
	9	y	-0.008	0.00	0.00	No	0.00	No
	13	y	-0.008	0.00	0.00	No	0.00	No
	23	y	-0.01	0.00	0.00	No	0.00	No
	24	y	-0.01	0.00	0.00	No	0.00	No
	25	y	-0.01	0.00	0.00	No	0.00	No
	46	y	-0.01	0.00	0.00	No	0.00	No
	47	y	-0.01	0.00	0.00	No	0.00	No
	48	y	-0.01	0.00	0.00	No	0.00	No
	49	y	-0.01	0.00	0.00	No	0.00	No
	50	y	-0.01	0.00	0.00	No	0.00	No
	51	y	-0.01	0.00	0.00	No	0.00	No
	68	y	-0.008	0.00	0.00	No	0.00	No
	69	y	-0.008	0.00	0.00	No	0.00	No
	70	y	-0.008	0.00	0.00	No	0.00	No
	71	y	-0.01	0.00	0.00	No	0.00	No
	72	y	-0.01	0.00	0.00	No	0.00	No
	73	y	-0.01	0.00	0.00	No	0.00	No
	74	y	-0.01	0.00	0.00	No	0.00	No
	75	y	-0.01	0.00	0.00	No	0.00	No
	76	y	-0.01	0.00	0.00	No	0.00	No
	78	y	-0.005	0.00	0.00	No	0.00	No
	79	y	-0.005	0.00	0.00	No	0.00	No
	80	y	-0.005	0.00	0.00	No	0.00	No
	81	y	-0.005	0.00	0.00	No	0.00	No
	82	y	-0.005	0.00	0.00	No	0.00	No
	83	y	-0.005	0.00	0.00	No	0.00	No
	84	y	-0.005	0.00	0.00	No	0.00	No
	85	y	-0.005	0.00	0.00	No	0.00	No
	77	y	-0.005	0.00	0.00	No	0.00	No
	86	y	-0.005	0.00	0.00	No	0.00	No
	87	y	-0.005	0.00	0.00	No	0.00	No
	88	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	68	y	-0.033	1.25	No
	69	y	-0.033	1.25	No
	70	y	-0.033	1.25	No
	78	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.06	3.00	No
	80	y	-0.018	2.50	No
		y	-0.018	7.00	No
		y	-0.038	4.00	No
	81	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.073	2.50	No
	82	y	-0.072	5.75	No
		y	-0.048	0.50	No
		y	-0.048	7.50	No
	84	y	-0.06	3.00	No
		y	-0.018	2.50	No
		y	-0.018	7.00	No
	85	y	-0.038	4.00	No
		y	-0.048	0.50	No
		y	-0.048	7.50	No
	77	y	-0.073	2.50	No
		y	-0.072	5.00	No
		y	-0.048	0.50	No
86	y	-0.048	7.50	No	
	y	-0.073	2.50	No	
	y	-0.072	5.00	No	
88	y	-0.048	0.50	No	
	y	-0.048	7.50	No	
	y	-0.073	2.50	No	
80	y	-0.038	4.00	No	
	y	-0.018	7.00	No	
	y	-0.018	2.50	No	
W0	68	z	-0.055	1.25	No
	69	z	-0.055	1.25	No
	70	z	-0.055	1.25	No
	78	z	-0.434	0.50	No
		z	-0.434	7.50	No
		z	-0.021	3.00	No
	80	z	-0.134	2.50	No
		z	-0.134	7.00	No
		z	-0.034	4.00	No
	81	z	-0.256	0.50	No
		z	-0.256	7.50	No
		z	-0.062	2.50	No
82	z	-0.064	5.75	No	
	z	-0.256	0.50	No	
	z	-0.256	7.50	No	
83	z	-0.064	3.00	No	
	0	0.00	0.00	No	
	0	0.00	0.00	No	
84	z	-0.087	2.50	No	

		z	-0.087	7.00	No
		z	-0.088	4.00	No
85		z	-0.256	0.50	No
		z	-0.256	7.50	No
		z	-0.062	2.50	No
		z	-0.064	5.00	No
77		z	-0.434	0.50	No
		z	-0.434	7.50	No
		z	-0.045	2.50	No
		z	-0.045	5.00	No
86		z	-0.256	0.50	No
		z	-0.256	7.50	No
		z	-0.064	5.00	No
88		z	-0.087	2.50	No
		z	-0.087	7.00	No
		z	-0.088	4.00	No
W30	68	x	-0.055	1.25	No
	69	x	-0.055	1.25	No
	70	x	-0.055	1.25	No
	78	x	-0.197	0.50	No
		x	-0.197	7.50	No
		x	-0.061	3.00	No
80		x	-0.071	2.50	No
		x	-0.071	7.00	No
		x	-0.104	4.00	No
81		x	-0.374	0.50	No
		x	-0.374	7.50	No
		x	-0.045	2.50	No
		x	-0.046	5.75	No
82		x	-0.374	0.50	No
		x	-0.374	7.50	No
		x	-0.052	3.00	No
84		x	-0.118	2.50	No
		x	-0.118	7.00	No
		x	-0.052	4.00	No
85		x	-0.374	0.50	No
		x	-0.374	7.50	No
		x	-0.045	2.50	No
		x	-0.046	5.00	No
77		x	-0.197	0.50	No
		x	-0.197	7.50	No
		x	-0.063	2.50	No
		x	-0.066	5.00	No
86		x	-0.374	0.50	No
		x	-0.374	7.50	No
		x	-0.052	5.00	No
88		x	-0.118	2.50	No
		x	-0.118	7.00	No
		x	-0.052	4.00	No
Di	68	y	-0.032	1.25	No
	69	y	-0.032	1.25	No
	70	y	-0.032	1.25	No
	78	y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.037	3.00	No
80		y	-0.044	2.50	No
		y	-0.044	7.00	No
		y	-0.036	4.00	No
81		y	-0.136	0.50	No
		y	-0.136	7.50	No

		y	-0.032	2.50	No
		y	-0.033	5.75	No
82		y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.037	3.00	No
84		y	-0.044	2.50	No
		y	-0.044	7.00	No
		y	-0.036	4.00	No
85		y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.032	2.50	No
		y	-0.033	5.00	No
77		y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.032	2.50	No
		y	-0.033	5.00	No
86		y	-0.136	0.50	No
		y	-0.136	7.50	No
		y	-0.037	5.00	No
88		y	-0.044	2.50	No
		y	-0.044	7.00	No
		y	-0.036	4.00	No
Wi0	68	z	-0.011	1.25	No
	69	z	-0.011	1.25	No
	70	z	-0.011	1.25	No
	78	z	-0.072	0.50	No
		z	-0.072	7.50	No
		z	-0.007	3.00	No
80		z	-0.025	2.50	No
		z	-0.025	7.00	No
		z	-0.012	4.00	No
81		z	-0.045	0.50	No
		z	-0.045	7.50	No
		z	-0.013	2.50	No
		z	-0.013	5.75	No
82		z	-0.045	0.50	No
		z	-0.045	7.50	No
		z	-0.013	3.00	No
84		z	-0.017	2.50	No
		z	-0.017	7.00	No
		z	-0.02	4.00	No
85		z	-0.045	0.50	No
		z	-0.045	7.50	No
		z	-0.013	2.50	No
		z	-0.013	5.00	No
77		z	-0.072	0.50	No
		z	-0.072	7.50	No
		z	-0.01	2.50	No
		z	-0.01	5.00	No
86		z	-0.045	0.50	No
		z	-0.045	7.50	No
		z	-0.013	5.00	No
88		z	-0.017	2.50	No
		z	-0.017	7.00	No
		z	-0.02	4.00	No
Wi30	68	x	-0.011	1.25	No
	69	x	-0.011	1.25	No
	70	x	-0.011	1.25	No
	78	x	-0.037	0.50	No
		x	-0.037	7.50	No

		x	-0.013	3.00	No
80		x	-0.015	2.50	No
		x	-0.015	7.00	No
		x	-0.022	4.00	No
81		x	-0.063	0.50	No
		x	-0.063	7.50	No
		x	-0.009	2.50	No
		x	-0.009	5.75	No
82		x	-0.063	0.50	No
		x	-0.063	7.50	No
		x	-0.01	3.00	No
84		x	-0.022	2.50	No
		x	-0.022	7.00	No
		x	-0.014	4.00	No
85		x	-0.063	0.50	No
		x	-0.063	7.50	No
		x	-0.009	2.50	No
		x	-0.009	5.00	No
77		x	-0.037	0.50	No
		x	-0.037	7.50	No
		x	-0.013	2.50	No
		x	-0.014	5.00	No
86		x	-0.063	0.50	No
		x	-0.063	7.50	No
		x	-0.01	5.00	No
88		x	-0.022	2.50	No
		x	-0.022	7.00	No
		x	-0.014	4.00	No
WLO 68		z	-0.003	1.25	No
69		z	-0.003	1.25	No
70		z	-0.003	1.25	No
78		z	-0.023	0.50	No
		z	-0.023	7.50	No
		z	-0.001	3.00	No
80		z	-0.007	2.50	No
		z	-0.007	7.00	No
		z	-0.002	4.00	No
81		z	-0.014	0.50	No
		z	-0.014	7.50	No
		z	-0.003	2.50	No
		z	-0.003	5.75	No
82		z	-0.014	0.50	No
		z	-0.014	7.50	No
		z	-0.003	3.00	No
84		z	-0.005	2.50	No
		z	-0.005	7.00	No
		z	-0.004	4.00	No
85		z	-0.014	0.50	No
		z	-0.014	7.50	No
		z	-0.003	2.50	No
		z	-0.003	5.00	No
77		z	-0.023	0.50	No
		z	-0.023	7.50	No
		z	-0.002	2.50	No
		z	-0.002	5.00	No
86		z	-0.014	0.50	No
		z	-0.014	7.50	No
		z	-0.003	5.00	No
88		z	-0.005	2.50	No
		z	-0.005	7.00	No

		z	-0.004	4.00	No
WL30	68	x	-0.003	1.25	No
	69	x	-0.003	1.25	No
	70	x	-0.003	1.25	No
	78	x	-0.011	0.50	No
		x	-0.011	7.50	No
		x	-0.003	3.00	No
	80	x	-0.004	2.50	No
		x	-0.004	7.00	No
		x	-0.006	4.00	No
	81	x	-0.02	0.50	No
		x	-0.02	7.50	No
		x	-0.002	2.50	No
		x	-0.002	5.75	No
	82	x	-0.02	0.50	No
		x	-0.02	7.50	No
		x	-0.003	3.00	No
	84	x	-0.006	2.50	No
		x	-0.006	7.00	No
		x	-0.002	4.00	No
	85	x	-0.02	0.50	No
		x	-0.02	7.50	No
		x	-0.002	2.50	No
		x	-0.002	5.00	No
	77	x	-0.011	0.50	No
		x	-0.011	7.50	No
		x	-0.003	2.50	No
		x	-0.003	5.00	No
	86	x	-0.02	0.50	No
		x	-0.02	7.50	No
		x	-0.003	5.00	No
	88	x	-0.006	2.50	No
		x	-0.006	7.00	No
		x	-0.002	4.00	No
LL1	13	y	-0.25	7.25	No
LL2	1		0.00	0.00	No
			-0.25	14.50	No
	9		0.00	0.00	No
			-0.25	14.50	No
	13	y	-0.25	0.00	No
LLa1	80	y	-0.25	4.00	No
LLa2	79	y	-0.25	4.00	No
LLa3	78	y	-0.25	4.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00

WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00

Steel Code Check

Report: Summary - Group by member
Load conditions to be included in design :

LC1=1.2DL+W0
 LC2=1.2DL+W30
 LC3=1.2DL-W0
 LC4=1.2DL-W30
 LC5=0.9DL+W0
 LC6=0.9DL+W30
 LC7=0.9DL-W0
 LC8=0.9DL-W30
 LC9=1.2DL+Di+Wi0
 LC10=1.2DL+Di+Wi30
 LC11=1.2DL+Di-Wi0
 LC12=1.2DL+Di-Wi30
 LC13=1.2DL
 LC15=1.2DL+1.5LL1
 LC16=1.2DL+1.5LL2
 LC17=1.2DL+W0+1.5LLa1
 LC18=1.2DL+W30+1.5LLa1
 LC19=1.2DL-W0+1.5LLa1
 LC20=1.2DL-W30+1.5LLa1
 LC21=1.2DL+W0+1.5LLa2
 LC22=1.2DL+W30+1.5LLa2
 LC23=1.2DL-W0+1.5LLa2
 LC24=1.2DL-W30+1.5LLa2
 LC25=1.2DL+W0+1.5LLa3
 LC26=1.2DL+W30+1.5LLa3
 LC27=1.2DL-W0+1.5LLa3
 LC28=1.2DL-W30+1.5LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_2	23	LC3 at 0.00%	0.52	OK	Eq. H1-1b
		24	LC2 at 0.00%	0.57	OK	Eq. H1-1b
		25	LC4 at 0.00%	0.59	OK	Eq. H1-1b
		71	LC2 at 100.00%	0.20	OK	Eq. H1-1b
		72	LC4 at 0.00%	0.22	OK	Eq. H1-1b
		73	LC4 at 100.00%	0.26	OK	Eq. H1-1b
		74	LC2 at 0.00%	0.23	OK	Eq. H1-1b
		75	LC1 at 100.00%	0.27	OK	Eq. H1-1b
		76	LC3 at 100.00%	0.29	OK	Eq. H1-1b
	L 4X4X3_8	46	LC1 at 100.00%	0.56	OK	Sec. F1
		47	LC3 at 0.00%	0.47	OK	Sec. F1
		48	LC1 at 0.00%	0.48	OK	Sec. F1
		49	LC2 at 100.00%	0.48	OK	Sec. F1
		50	LC4 at 0.00%	0.57	OK	Sec. F1
		51	LC4 at 100.00%	0.55	OK	Sec. F1
	PIPE 2x0.154	78	LC1 at 25.00%	2.74	N.G.	Eq. H1-1b
		79	LC1 at 25.00%	0.25	OK	Eq. H1-1b
		80	LC1 at 25.00%	0.92	OK	Eq. H1-1b
		81	LC2 at 25.00%	2.57	N.G.	Eq. H1-1b
		82	LC2 at 25.00%	2.40	N.G.	Eq. H1-1b

83	LC1 at 25.00%	0.25	OK	Eq. H1-1b
84	LC2 at 25.00%	0.86	OK	Eq. H1-1b
85	LC2 at 71.88%	2.45	N.G.	Eq. H1-1b
77	LC1 at 71.88%	2.80	N.G.	Eq. H1-1b
86	LC2 at 71.88%	2.28	N.G.	Eq. H1-1b
87	LC1 at 25.00%	0.25	OK	Eq. H1-1b
88	LC2 at 25.00%	0.86	OK	Eq. H1-1b

PIPE 4x0.237

1	LC4 at 49.22%	1.35	N.G.	Eq. H1-1b
9	LC1 at 49.22%	1.19	N.G.	Eq. H1-1b
13	LC3 at 49.22%	1.15	N.G.	Eq. H1-1b
68	LC3 at 21.88%	0.84	OK	Eq. H1-1b
69	LC12 at 78.13%	0.87	OK	Eq. H1-1b
70	LC10 at 78.13%	0.93	OK	Eq. H1-1b

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
3	1.8656	0.00	-9.4487	0
4	9.1156	0.00	3.1087	0
19	-9.1156	0.00	3.1087	0
20	-1.8656	0.00	-9.4487	0
27	7.25	0.00	6.34	0
28	-7.25	0.00	6.34	0
38	5.4552	0.00	3.1496	0
39	0.00	0.00	-6.2991	0
40	-5.4552	0.00	3.1496	0
49	0.00	0.00	6.34	0
50	5.4906	0.00	-3.17	0
51	-5.4906	0.00	-3.17	0
52	2.2776	0.00	-1.315	0
54	-2.2776	0.00	-1.315	0
55	0.00	0.00	2.63	0
97	-5.50	0.00	6.34	0
98	5.50	0.00	6.34	0
115	2.7406	0.00	-7.9331	0
116	-8.2406	0.00	1.5931	0
117	8.2406	0.00	1.5931	0
118	-2.7406	0.00	-7.9331	0

135	0.00	2.00	2.63	0
136	0.00	-0.50	2.63	0
137	2.2776	-0.50	-1.315	0
138	-2.2776	-0.50	-1.315	0
139	-2.2776	2.00	-1.315	0
140	2.2776	2.00	-1.315	0
141	0.00	-0.50	0.9633	0
142	0.00	2.00	0.9633	0
143	0.8343	-0.50	-0.4817	0
144	-0.8343	-0.50	-0.4817	0
145	0.8343	2.00	-0.4817	0
146	-0.8343	2.00	-0.4817	0
147	-6.375	-2.00	6.54	0
148	-2.4167	-2.00	6.54	0
149	2.1249	-2.00	6.54	0
150	6.2082	-2.00	6.54	0
151	8.8513	-2.00	2.2509	0
152	6.8722	-2.00	-1.1771	0
153	4.6014	-2.00	-5.1102	0
154	2.5597	-2.00	-8.6465	0
155	-2.4763	-2.00	-8.7909	0
156	-4.4555	-2.00	-5.3629	0
157	-6.7263	-2.00	-1.4298	0
158	-8.7679	-2.00	2.1065	0
159	-6.375	6.00	6.54	0
160	-2.4167	6.00	6.54	0
161	2.1249	6.00	6.54	0
162	6.2082	6.00	6.54	0
163	8.8513	6.00	2.2509	0
164	6.8722	6.00	-1.1771	0
165	4.6014	6.00	-5.1102	0
166	2.5597	6.00	-8.6465	0
167	-2.4763	6.00	-8.7909	0
168	-4.4555	6.00	-5.3629	0
169	-6.7263	6.00	-1.4298	0
170	-8.7679	6.00	2.1065	0
183	0.00	2.00	0.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
141	1	1	1	1	1	1
142	1	1	1	1	1	1
143	1	1	1	1	1	1
144	1	1	1	1	1	1
145	1	1	1	1	1	1
146	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	4	3		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
9	20	19		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
13	28	27		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
23	55	49		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
24	54	51		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
25	52	50		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
46	40	97		L 4X4X3_8	A36	0.00	0.00	0.00
47	98	38		L 4X4X3_8	A36	0.00	0.00	0.00
48	116	40		L 4X4X3_8	A36	0.00	0.00	0.00
49	38	117		L 4X4X3_8	A36	0.00	0.00	0.00
50	115	39		L 4X4X3_8	A36	0.00	0.00	0.00
51	39	118		L 4X4X3_8	A36	0.00	0.00	0.00
68	136	135		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
69	140	137		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
70	139	138		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
71	135	142		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
72	141	136		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
73	140	145		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
74	143	137		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
75	139	146		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
76	138	144		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
78	148	160		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
79	149	161		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
80	150	162		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
81	151	163		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
82	152	164		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
83	153	165		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
84	154	166		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
85	167	155		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
77	159	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
86	168	156		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
87	157	169		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
88	158	170		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

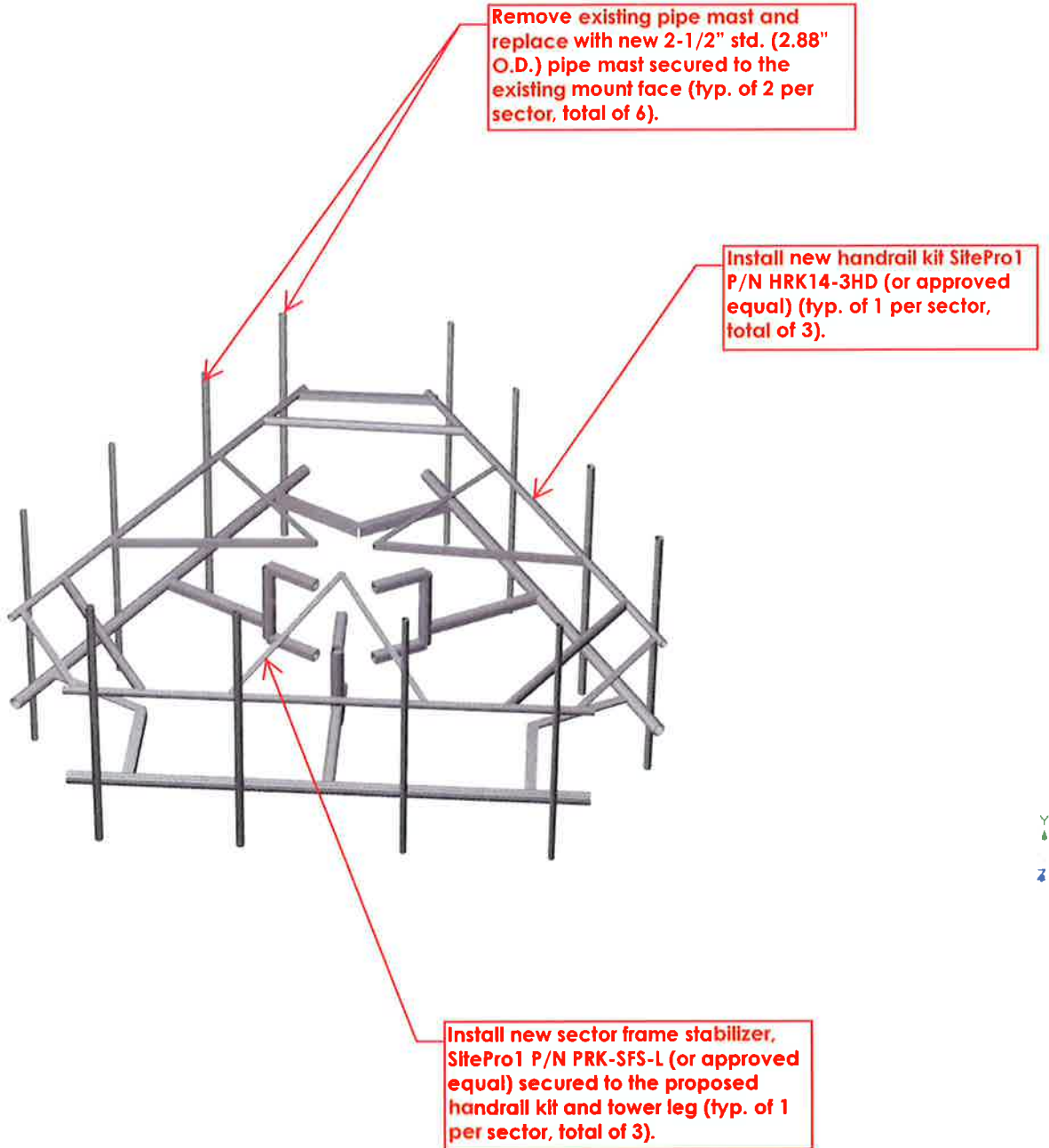
Orientation of local axes





Member	Rotation [Deg]	Axis23	NX	NY	NZ
46	90.00	0	0.00	0.00	0.00
47	90.00	0	0.00	0.00	0.00
48	90.00	0	0.00	0.00	0.00
49	90.00	0	0.00	0.00	0.00
50	90.00	0	0.00	0.00	0.00
51	90.00	0	0.00	0.00	0.00
78	315.00	0	0.00	0.00	0.00
79	315.00	0	0.00	0.00	0.00
80	315.00	0	0.00	0.00	0.00
81	315.00	0	0.00	0.00	0.00
82	315.00	0	0.00	0.00	0.00
83	315.00	0	0.00	0.00	0.00
84	315.00	0	0.00	0.00	0.00
85	315.00	0	0.00	0.00	0.00
77	315.00	0	0.00	0.00	0.00
86	315.00	0	0.00	0.00	0.00
87	315.00	0	0.00	0.00	0.00
88	315.00	0	0.00	0.00	0.00

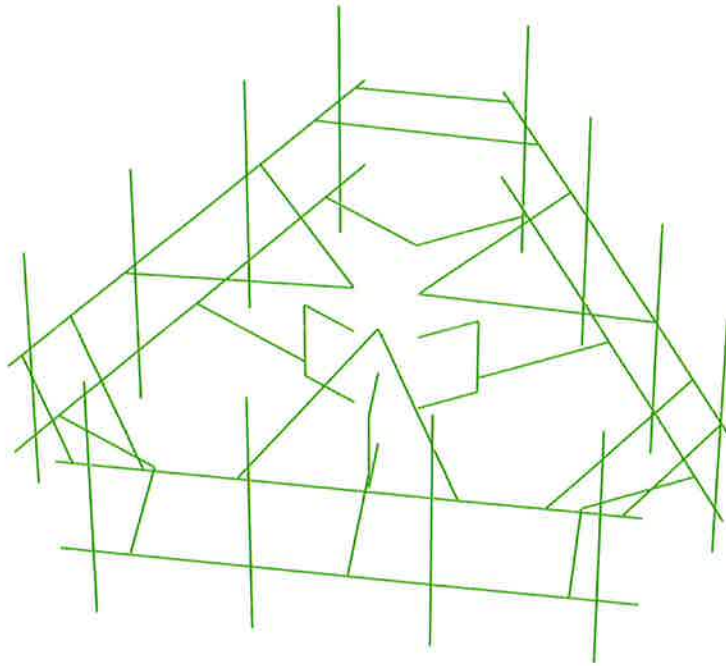


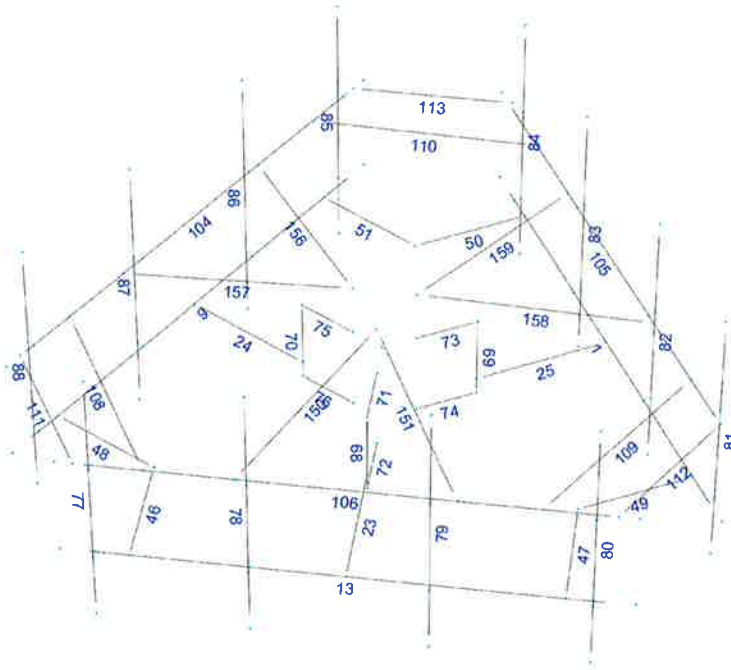
HUDSON
Design Group LLC

**Mount Calculations
(Modified Conditions)**



-  Not designed
-  Error on design
-  Design O.K.
-  With warnings





Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

- LC1=1.2DL+W0
- LC2=1.2DL+W30
- LC3=1.2DL-W0
- LC4=1.2DL-W30
- LC5=0.9DL+W0
- LC6=0.9DL+W30
- LC7=0.9DL-W0
- LC8=0.9DL-W30
- LC9=1.2DL+Di+W0
- LC10=1.2DL+Di+W30
- LC11=1.2DL+Di-W0
- LC12=1.2DL+Di-W30
- LC13=1.2DL
- LC15=1.2DL+1.5LL1
- LC16=1.2DL+1.5LL2
- LC17=1.2DL+W0+1.5LLa1
- LC18=1.2DL+W30+1.5LLa1
- LC19=1.2DL-W0+1.5LLa1
- LC20=1.2DL-W30+1.5LLa1
- LC21=1.2DL+W0+1.5LLa2
- LC22=1.2DL+W30+1.5LLa2
- LC23=1.2DL-W0+1.5LLa2
- LC24=1.2DL-W30+1.5LLa2
- LC25=1.2DL+W0+1.5LLa3
- LC26=1.2DL+W30+1.5LLa3
- LC27=1.2DL-W0+1.5LLa3
- LC28=1.2DL-W30+1.5LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_2	23	LC9 at 0.00%	0.33	OK	Eq. H1-1b
		24	LC11 at 0.00%	0.34	OK	Eq. H1-1b
		25	LC10 at 0.00%	0.34	OK	Eq. H1-1b
		71	LC10 at 100.00%	0.12	OK	Eq. H1-1b
		72	LC4 at 0.00%	0.12	OK	Eq. H1-1b
		73	LC12 at 100.00%	0.12	OK	Eq. H1-1b
		74	LC2 at 0.00%	0.16	OK	Eq. H1-1b
		75	LC3 at 100.00%	0.13	OK	Eq. H1-1b
		76	LC3 at 100.00%	0.18	OK	Eq. H1-1b
	L 2-1_2X2-1_2X3_8	150	LC9 at 0.00%	0.55	OK	Sec. F1
		151	LC11 at 0.00%	0.42	OK	Sec. F1
		156	LC12 at 0.00%	0.55	OK	Sec. F1
		157	LC11 at 100.00%	0.43	OK	Sec. F1
		158	LC11 at 0.00%	0.54	OK	Sec. F1
		159	LC10 at 100.00%	0.43	OK	Sec. F1
	L 3X3X3_8	111	LC3 at 0.00%	0.21	OK	Eq. H2-1
		112	LC4 at 100.00%	0.21	OK	Eq. H2-1
		113	LC4 at 100.00%	0.18	OK	Sec. F1
	L 4X4X3_8	46	LC1 at 100.00%	0.27	OK	Eq. H2-1

	47	LC3 at 0.00%	0.27	OK	Eq. H2-1
	48	LC1 at 0.00%	0.25	OK	Eq. H2-1
	49	LC2 at 100.00%	0.21	OK	Eq. H2-1
	50	LC4 at 0.00%	0.32	OK	Eq. H2-1
	51	LC4 at 100.00%	0.21	OK	Eq. H2-1
<hr/>					
PIPE 2-1_2x0.203	78	LC1 at 62.50%	0.64	OK	Eq. H1-1b
	81	LC2 at 62.50%	0.58	OK	Eq. H1-1b
	82	LC10 at 25.00%	0.66	OK	Eq. H1-1b
	85	LC2 at 35.42%	0.53	OK	Eq. H1-1b
	77	LC1 at 35.42%	0.61	OK	Eq. H1-1b
	86	LC11 at 72.92%	0.58	OK	Eq. H1-1b
	104	LC1 at 69.32%	0.54	OK	Eq. H1-1b
	105	LC4 at 69.32%	0.54	OK	Eq. H1-1b
	106	LC3 at 69.32%	0.49	OK	Eq. H1-1b
<hr/>					
PIPE 2x0.154	79	LC11 at 25.00%	0.51	OK	Eq. H1-1b
	80	LC10 at 25.00%	0.61	OK	Eq. H1-1b
	83	LC12 at 25.00%	0.63	OK	Eq. H1-1b
	84	LC12 at 25.00%	0.59	OK	Eq. H1-1b
	87	LC9 at 25.00%	0.65	OK	Eq. H1-1b
	88	LC9 at 25.00%	0.48	OK	Eq. H1-1b
<hr/>					
PIPE 3x0.216	108	LC3 at 0.00%	0.24	OK	Eq. H1-1b
	109	LC4 at 100.00%	0.21	OK	Eq. H1-1b
	110	LC4 at 0.00%	0.16	OK	Eq. H1-1b
<hr/>					
PIPE 4x0.237	1	LC2 at 49.22%	0.55	OK	Eq. H1-1b
	9	LC3 at 49.22%	0.51	OK	Eq. H1-1b
	13	LC9 at 49.22%	0.49	OK	Eq. H1-1b
	68	LC9 at 21.88%	0.49	OK	Eq. H1-1b
	69	LC10 at 78.13%	0.64	OK	Eq. H1-1b
	70	LC12 at 78.13%	0.65	OK	Eq. H1-1b

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
3	1.8656	0.00	-9.4487	0
4	9.1156	0.00	3.1087	0
19	-9.1156	0.00	3.1087	0
20	-1.8656	0.00	-9.4487	0
27	7.25	0.00	6.34	0
28	-7.25	0.00	6.34	0
38	5.4552	0.00	3.1496	0
39	0.00	0.00	-6.2991	0
40	-5.4552	0.00	3.1496	0
49	0.00	0.00	6.34	0
50	5.4906	0.00	-3.17	0
51	-5.4906	0.00	-3.17	0
52	2.2776	0.00	-1.315	0
54	-2.2776	0.00	-1.315	0
55	0.00	0.00	2.63	0
81	-6.375	0.00	6.34	0
82	-2.4167	0.00	6.34	0
83	2.1249	0.00	6.34	0
84	6.2082	0.00	6.34	0
85	-2.4167	0.00	6.54	0
86	2.1249	0.00	6.54	0

87	-6.375	0.00	6.54	0
88	6.2082	0.00	6.54	0
97	-5.50	0.00	6.34	0
98	5.50	0.00	6.34	0
99	8.6781	0.00	2.3509	0
100	8.8513	0.00	2.2509	0
101	6.699	0.00	-1.0771	0
102	6.8722	0.00	-1.1771	0
103	4.4282	0.00	-5.0102	0
104	4.6014	0.00	-5.1102	0
105	2.3865	0.00	-8.5465	0
106	2.5597	0.00	-8.6465	0
107	-2.3031	0.00	-8.6909	0
108	-2.4763	0.00	-8.7909	0
109	-4.2823	0.00	-5.2629	0
110	-4.4555	0.00	-5.3629	0
111	-6.5531	0.00	-1.3298	0
112	-6.7263	0.00	-1.4298	0
113	-8.5947	0.00	2.2065	0
114	-8.7679	0.00	2.1065	0
115	2.7406	0.00	-7.9331	0
116	-8.2406	0.00	1.5931	0
117	8.2406	0.00	1.5931	0
118	-2.7406	0.00	-7.9331	0
135	0.00	2.00	2.63	0
136	0.00	-0.50	2.63	0
137	2.2776	-0.50	-1.315	0
138	-2.2776	-0.50	-1.315	0
139	-2.2776	2.00	-1.315	0
140	2.2776	2.00	-1.315	0
141	0.00	-0.50	0.9633	0
142	0.00	2.00	0.9633	0
143	0.8343	-0.50	-0.4817	0
144	-0.8343	-0.50	-0.4817	0
145	0.8343	2.00	-0.4817	0
146	-0.8343	2.00	-0.4817	0
147	-6.375	-2.00	6.54	0
148	-2.4167	-2.00	6.54	0
149	2.1249	-2.00	6.54	0
150	6.2082	-2.00	6.54	0
151	8.8513	-2.00	2.2509	0
152	6.8722	-2.00	-1.1771	0
153	4.6014	-2.00	-5.1102	0
154	2.5597	-2.00	-8.6465	0
155	-2.4763	-2.00	-8.7909	0
156	-4.4555	-2.00	-5.3629	0
157	-6.7263	-2.00	-1.4298	0
158	-8.7679	-2.00	2.1065	0
159	-6.375	6.00	6.54	0
160	-2.4167	6.00	6.54	0
161	2.1249	6.00	6.54	0
162	6.2082	6.00	6.54	0
163	8.8513	6.00	2.2509	0
164	6.8722	6.00	-1.1771	0
165	4.6014	6.00	-5.1102	0
166	2.5597	6.00	-8.6465	0
167	-2.4763	6.00	-8.7909	0
168	-4.4555	6.00	-5.3629	0
169	-6.7263	6.00	-1.4298	0
170	-8.7679	6.00	2.1065	0

171	-6.375	3.00	6.54	0
172	-2.4167	3.00	6.54	0
173	2.1249	3.00	6.54	0
174	6.2082	3.00	6.54	0
175	8.8513	3.00	2.2509	0
176	6.8722	3.00	-1.1771	0
177	4.6014	3.00	-5.1102	0
178	2.5597	3.00	-8.6465	0
179	-4.4555	3.00	-5.3629	0
180	-2.4763	3.00	-8.7909	0
181	-6.7263	3.00	-1.4298	0
182	-8.7679	3.00	2.1065	0
183	0.00	2.00	0.00	0
184	-6.375	3.00	6.34	0
185	-2.4167	3.00	6.34	0
186	2.1249	3.00	6.34	0
187	6.2082	3.00	6.34	0
188	8.6781	3.00	2.3509	0
189	-2.3031	3.00	-8.6909	0
190	6.699	3.00	-1.0771	0
191	-4.2823	3.00	-5.2629	0
192	4.4282	3.00	-5.0102	0
193	-6.5531	3.00	-1.3298	0
194	2.3865	3.00	-8.5465	0
195	-8.5947	3.00	2.2065	0
196	-9.1156	3.00	3.1087	0
197	-7.25	3.00	6.34	0
198	7.25	3.00	6.34	0
199	9.1156	3.00	3.1087	0
200	1.8656	3.00	-9.4487	0
201	-1.8656	3.00	-9.4487	0
211	-7.9142	3.00	1.0277	0
213	-5.0556	3.00	6.34	0
214	8.0184	3.00	1.2082	0
215	-2.9628	3.00	-7.5482	0
216	4.8471	3.00	6.34	0
217	3.0671	3.00	-7.3677	0
218	-6.8125	3.00	6.34	0
219	-8.8552	3.00	2.6576	0
220	6.7291	3.00	6.34	0
221	8.8969	3.00	2.7298	0
222	-2.0844	3.00	-9.0698	0
223	2.2127	3.00	-9.0476	0
284	-2.75	3.00	6.34	0
285	2.75	3.00	6.34	0
290	0.00	3.50	0.9633	0
291	0.8343	3.50	-0.4817	0
292	-0.8343	3.50	-0.4817	0
297	4.1156	3.00	-5.5516	0
298	-6.8656	3.00	-0.7884	0
299	6.8656	3.00	-0.7884	0
300	-4.1156	3.00	-5.5516	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
141	1	1	1	1	1	1
142	1	1	1	1	1	1
143	1	1	1	1	1	1
144	1	1	1	1	1	1
145	1	1	1	1	1	1
146	1	1	1	1	1	1
290	1	1	1	1	1	1
291	1	1	1	1	1	1
292	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	4	3		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
9	20	19		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
13	28	27		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
23	55	49		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
24	54	51		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
25	52	50		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
46	40	97		L 4X4X3_8	A36	0.00	0.00	0.00
47	98	38		L 4X4X3_8	A36	0.00	0.00	0.00
48	116	40		L 4X4X3_8	A36	0.00	0.00	0.00
49	38	117		L 4X4X3_8	A36	0.00	0.00	0.00
50	115	39		L 4X4X3_8	A36	0.00	0.00	0.00
51	39	118		L 4X4X3_8	A36	0.00	0.00	0.00
68	136	135		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
69	140	137		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
70	139	138		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
71	135	142		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
72	141	136		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
73	140	145		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
74	143	137		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
75	139	146		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
76	138	144		HSS_SQR 4X4X1_2	A500 GrB rectangular	0.00	0.00	0.00
78	148	160		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
79	149	161		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
80	150	162		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
81	151	163		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
82	152	164		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
83	153	165		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
84	154	166		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
85	167	155		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
77	159	147		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
86	168	156		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
87	157	169		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
88	158	170		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
104	196	201		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
105	200	199		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
106	198	197		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
108	213	211		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
109	216	214		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
110	215	217		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
111	219	218		L 3X3X3_8	A36	0.00	0.00	0.00
112	221	220		L 3X3X3_8	A36	0.00	0.00	0.00
113	223	222		L 3X3X3_8	A36	0.00	0.00	0.00

150	290	284	L 2-1_2X2-1_2X3_8	A36	0.00	0.00	0.00
151	290	285	L 2-1_2X2-1_2X3_8	A36	0.00	0.00	0.00
156	292	300	L 2-1_2X2-1_2X3_8	A36	0.00	0.00	0.00
157	298	292	L 2-1_2X2-1_2X3_8	A36	0.00	0.00	0.00
158	291	299	L 2-1_2X2-1_2X3_8	A36	0.00	0.00	0.00
159	297	291	L 2-1_2X2-1_2X3_8	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
46	90.00	0	0.00	0.00	0.00
47	90.00	0	0.00	0.00	0.00
48	90.00	0	0.00	0.00	0.00
49	90.00	0	0.00	0.00	0.00
50	90.00	0	0.00	0.00	0.00
51	90.00	0	0.00	0.00	0.00
78	315.00	0	0.00	0.00	0.00
79	315.00	0	0.00	0.00	0.00
80	315.00	0	0.00	0.00	0.00
81	315.00	0	0.00	0.00	0.00
82	315.00	0	0.00	0.00	0.00
83	315.00	0	0.00	0.00	0.00
84	315.00	0	0.00	0.00	0.00
85	315.00	0	0.00	0.00	0.00
77	315.00	0	0.00	0.00	0.00
86	315.00	0	0.00	0.00	0.00
87	315.00	0	0.00	0.00	0.00
88	315.00	0	0.00	0.00	0.00
111	90.00	0	0.00	0.00	0.00
112	180.00	0	0.00	0.00	0.00
113	90.00	0	0.00	0.00	0.00
150	180.00	0	0.00	0.00	0.00
151	90.00	0	0.00	0.00	0.00
156	180.00	0	0.00	0.00	0.00
157	180.00	0	0.00	0.00	0.00
158	180.00	0	0.00	0.00	0.00
159	180.00	0	0.00	0.00	0.00

160 WITCH MEADOW RD

Location 160 WITCH MEADOW RD

Mblu 10/ / 044/ 000/

Acct# 659

Owner RENZ RONALD R

Assessment \$625,580

Appraisal \$1,209,300

PID 626

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$361,200	\$848,100	\$1,209,300
Assessment			
Valuation Year	Improvements	Land	Total
2016	\$252,800	\$372,780	\$625,580

Owner of Record

Owner RENZ RONALD R
Co-Owner
Address PO BOX 2100
 SALEM, CT 06420-0000

Sale Price \$0
Certificate
Book & Page 0133/0303
Sale Date 11/05/2001
Instrument 1N

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
RENZ RONALD R	\$0		0133/0303	1N	11/05/2001
NATIONWIDE 1031	\$1,167,000		127/ 439		01/12/2001
PHILLIPS ROGER L & LINDA F	\$80,500		35/ 609		12/26/1984

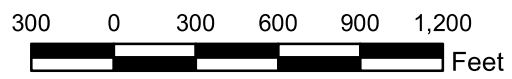
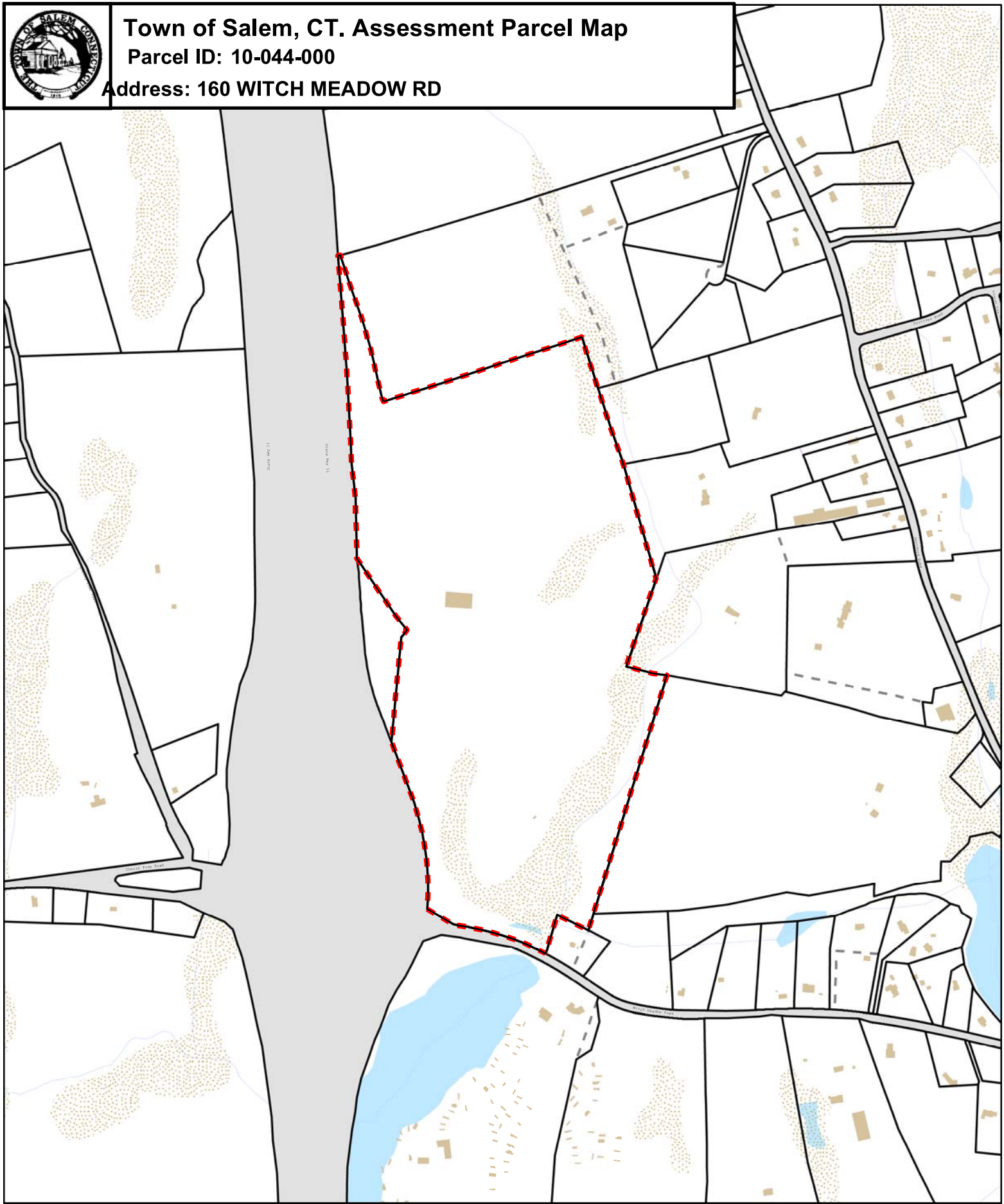
Building Information



Town of Salem, CT. Assessment Parcel Map

Parcel ID: 10-044-000

Address: 160 WITCH MEADOW RD



Map Produced: December 2018

Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Salem and its mapping contractors assume
no legal responsibility for the information contained herein.

approved as amended 2/15/00 (SM)

file

SALEM PLANNING AND ZONING COMMISSION

February 3, ~~1999~~ 2000

Postponed and Continued from 1/25/00

UNAPPROVED

Present: Asafaylo, R.
Bingham, D.
Duncan, J.
Fontneau, C.
McKenney, H., Alt.
Samokar, H. - Town Planner
Sanders, T. - ZEO
Stevens, L.

Absent: Burnett, D.
Jensen, M.
Parker, J., Alt
Thill, T., Alt.

Guests: See attached.

CALL TO ORDER:

L. Stevens, chairman, called the meeting to order at 7:05 pm.

The chairman seated H. McKenney for D. Burnett.

PUBLIC HEARINGS:

1. SBA/Sprint - Special Exception application for the construction of a telecommunications tower on the east side of the access road to 160 Witch Meadow Road (Phillips property) [continued]

Legal Notice reread.

E. McNany, applicant's representative, appeared:
Presented and reviewed a visual analysis of the site.
Very minimal visual impact.
Picture of existing monopole in Plainfield, CT submitted.

H. Samokar, Town Planner, stated:
Reiterated the recommendations she made in her 12/21/99 memo (see attached) to the PZC in regards to this application.

Lengthy discussion regarding seamless coverage area.

RECEIVED
FEB 8 10 11 AM '00
TOWN OF SALEM
John M. DeG...

Public comments:

- Representative from Message Center - informed the Commission that they are in the planning stages for a telecommunications tower near the Colchester/Salem border (in Colchester). The coverage area for this tower will be basically the same as the SBA/Sprint tower.

H. Samokar, Town Planner, noted:

All required information has been presented by the applicants.

M/S/C (Bingham/McKenney) to close the public hearing on the Special Exception application of SBA/Sprint for the construction of a telecommunications tower on the east side of the access road to 160 Witch Meadow Road (Phillips property). Vote: approved unanimously.

2. Amendments to Section 29 - Wireless telecommunications Towers, Antennae and Facilities, of the Salem Zoning regulations

Correspondence of 1/24/00 from J. Knuff regarding the amendments received and read.

H. Samokar reviewed CRERPA comments and her recommendations for revisions:

- ◆ Section 29.3 - add, in the first sentence, after "...Facilities from requiring a Special Exception" provided the tower is less than 65 feet in height: "Police, Fire..."
- ◆ Section 29.5 - add, in the sentence, after ..."construction of a tower" and not exempt in accordance with Section 29.3, "may be located in all zoning districts..."
- ◆ Section 29.5 - add, in the sentence, after ..."according to the standards in these regulations" in "addition to the standards..."
- ◆ Section 29.7.1 - change to read as follows: "Within residential zones, each accessory building shall not exceed 200 square feet gross floor area and shall not exceed 10 feet in height."

Is not sure if any of these changes are substantial enough to require a new Public Hearing. Will seek advice and try to have an answer at the 2/15/00 PZC meeting.

M/S/C (Fontneau/Asafaylo) to close the Public Hearing on the amendments to Section 29 - Wireless telecommunication Towers, Antennae and Facilities, of the Salem Zoning Regulations. Vote: approved unanimously.

ENFORCEMENT OFFICER'S REPORT: N/A

INLAND WETLANDS AND CONSERVATION COMMISSION REPORT:
N/A

APPROVAL OF MINUTES OF PREVIOUS MEETINGS: N/A

PETITIONERS:

There were no PETITIONERS.

OLD BUSINESS:

1. Town Planner's Report:

H. Samokar, Town Planner, noted:

- A large parcel of land off Route 85, just south of Horse Pond, will be subdivided into 40-45 building lots.
Presently in discussions with the engineers.
Test pits are being dug.
- In regards to the Smart Growth Plan, the COG will now be working with the four town planners.
- The Route 85 "sensitive upgrade" report should be ready by next week.
PZC will receive a copy.

2. Quarry - Rattlesnake Ledge Road - ongoing concerns

T. Sanders, ZEO, stated:

A. Bisacky, Pare Engineering, has looked at the site and has been given copies of the plan on file by the Administrative Asst.
Has already stated that the face of the cliff is undercut.
Should hear from him by next week.

NEW BUSINESS:

1. Possible action on Public Hearing items

The record reflects that C. Fontneau reviewed the tapes of the January 25, 2000 Public Hearing regarding the SBA/Sprint Special Exception application.

SBA/Sprint - Special Exception application for the construction of a telecommunications tower on the east side of the access road to 160 Witch Meadow Road (Phillips property)

M/S/C (Duncan/Asafaylo) to approve the Special Exception application of SBA/Sprint for the construction of a telecommunications tower on the east side of the access road to 160 Witch Meadow Road (Phillips property) with the following conditions:

- 1) It is stated in the Erosion & Sedimentation Control Narrative that extra silt fencing will be kept on site during construction and the anti-tracking pad will be in place prior to construction.
- 2) In the project summary box on drawing number T-1, the third paragraph shall be changed to state that the utilities will be below ground.
- 3) In the address box on drawing number T-1, the street name shall be corrected. It should read: "Witch Meadow Road".
- 4) Delete "or as otherwise shown on the contract drawings" under note #2 for access.
- 5) The pole shall be galvanized steel.
- 6) The site plan shall state that if the facility is not in use for 12 consecutive months, it shall be removed by the facility owner at his or her expense. The removal shall occur within 90 days of the end of such 12 month period.

Vote: approved unanimously.

Amendments to Section 29 - Wireless Telecommunication Towers, Antennae and Facilities, of the Salem Zoning Regulations

It was the Commission's consensus to wait to find out if the changes proposed tonight were substantial enough to require another Public Hearing.


2. 2000/2001 Budget

The Plan of Conservation and Development Subcommittee will begin expending funds from the \$18,000 in their line item.

Another \$36,000 should be requested for this budget and the \$18,000 should be requested as a continued appropriation.

M/S/C (Bingham/Duncan) to request that the Board of Finance carry the \$18,000 in the Plan of Conservation and Development line as a continued appropriation for the 2000/2001 budget and request that an additional \$36,000 be placed in the line for 2000/2001. Vote: approved unanimously.

T. Sanders, ZEO/WEO, spoke regarding the increased hours needed for the ZEO/WEO and requested a \$2.00 per hour increase in his pay.




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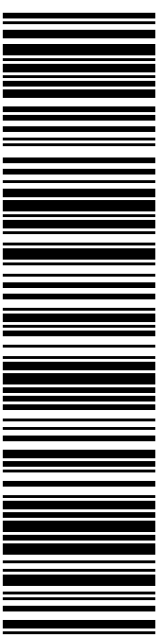
0024

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R003

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 TO: TOWN OF SALEM
 270 HARTFORD RD
 CC: MR JUSTIN LAFOUNTAIN
 SALEM CT 06420-3804

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Ship Date: 05/02/2020	
Expected Delivery Date: 05/04/2020	


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 QC DEVELOPMENT
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 STORRS CT 06268-0916

To: MR. KEVIN T LYDEN
 TOWN OF SALEM
 270 HARTFORD RD
 CC: MR JUSTIN LAFOUNTAIN
 SALEM CT 06420-3804

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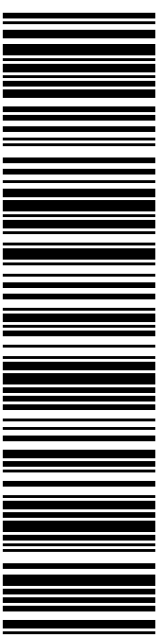
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 RONALD R RENZ
 PO BOX 2100
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5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0357 5090 64

Trans. #: 492114436	Priority Mail® Postage: \$7.75
Print Date: 05/01/2020	Total: \$7.75
Ship Date: 05/02/2020	
Expected Delivery Date: 05/04/2020	

From: MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

To: RONALD R RENZ
 PO BOX 2100
 SALEM CT 06420-2100

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