



QC Development

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Storrs, CT 06268

860-670-9068

QCDevelopment9068@gmail.com

August 30, 2018

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) – CT1086
171 Town Hill Road, Plymouth, CT 06786
N 41.66839167
W 73.01989722

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 115-foot level of the existing 170-foot Monopole at 171 Town Hill Road, Plymouth, CT. The tower is owned by Crown Castle. The property is owned by Terryville Lions Club. AT&T now intends to install (3) new Kathrein 800-10965 antennas, three (3) Ericsson 4426-B66, (3) 4478-B14 and (3) 4478-B5 Remote Radio Units (RRU). The new antennas and RRUs will also be installed at the 115-foot level of the tower.

This facility was approved by the Planning and Zoning Commission of the Town of Plymouth with Zoning Permit # 00-201 on June 22, 2000. This approval included no condition(s) that could feasibly be violated by this modification, including total facility height or mounting restrictions. This modification therefore complies with the aforementioned 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 David V. Merchant, Mayor of the Town of Plymouth and the Plymouth Land Use Department, as well as the property owner and the tower owner.

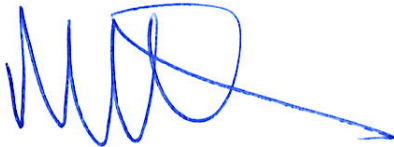
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

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 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: Honorable David V. Merchant - as elected official
Margus T. Laan – Director of Planning
Terryville Lions Club - as property owner
Crown Castle - as 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*							7.47%
AT&T LTE	1	1285	115	0.0389	2300	1.0000	0.39%
AT&T LTE	1	1476	115	0.0447	725	0.4833	0.92%
AT&T LTE	2	3664	115	0.2218	1900	1.0000	2.22%
AT&T GSM	1	300	115	0.0091	850	0.5667	0.16%
AT&T UMTS	2	300	115	0.0182	850	0.5667	0.32%
AT&T UMTS	1	578	115	0.0175	1900	1.0000	0.17%
Site Total							11.66%

*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*							7.47%
AT&T UMTS	1	300	115	0.0091	850	0.5667	0.16%
AT&T LTE	3	2951	115	0.2680	700	0.4667	5.74%
AT&T LTE / 5G	2	1000	115	0.0605	850	0.5667	1.07%
AT&T LTE	2	3664	115	0.2218	1900	1.0000	2.22%
AT&T LTE	1	3837	115	0.1161	2100	1.0000	1.16%
AT&T LTE	1	1285	115	0.3718	2300	1.0000	3.72%
Site Total							21.54%

*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 TOWER:
 •NEW AT&T ANTENNAS: (80010965) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 •NEW AT&T RRUS B66 4426 (AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 •NEW AT&T RRUS B14 4478 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 •NEW AT&T RRUS B5 4478 (850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 •NEW SURGE ARRESTOR DC6-48-60-18-8C (TOTAL OF 1) WITH (2) DC POWER CABLES, & (1) FIBER RUN.
 •NEW LOW BAND COMBINERS (DBCT108F1V92-1) (TYP. OF 1 PER SECTOR, TOTAL OF 3).

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
 •ADD (1) FIBER MANAGEMENT BOX MOUNTED ON ICE BRIDGE POST.
 •ADD (3) LTE 700 RRUS-E2 B9 WITH (6) APTDC-BDFDM-DB SURGE ARRESTORS (TYP. OF 1 PER SECTOR).
 •REPLACE DIPLEXERS WITH LBSCS.
 •SWAP BB WITH (2) RBS 5216'S.
 •ADD IDL2 WITH IDLe.
 •ADD RBS 6630.
 •BASEBAND CONFIGURATION AS PER PD / SECTION-7.

ITEMS TO REMAIN:
 •(9) ANTENNAS, (9) RRU'S, (3) TWIN TMA'S, (6) TRIPLEXERS, (2) SURGE ARRESTORS, (12) COAX CABLES, (4) DC POWER & (2) FIBER.

SITE ADDRESS: 171 TOWN HILL ROAD
TERRYVILLE, CT 06786

LATITUDE: 41.668397 N, 41' 40' 06.23 N
 LONGITUDE: 73.019914 W, 73' 01' 11.69" W
 TYPE OF SITE: MONOPOLE/ EQUIPMENT SHELTER
 STRUCTURE HEIGHT: 169'±
 RAD CENTER: 115'±
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT1086
SITE NAME: PLYMOUTH TOWN HILL ROAD
FA CODE:10065737
PACE ID: MRCTB032220, MRCTB032204,
MRCTB032181, MRCTB032199
PROJECT: LTE 5C/6C/7C/RF MOD 2019 UPGRADE

DRAWING INDEX

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

VICINITY MAP

DIRECTIONS TO SITE:
 500 ENTERPRISE DR, ROCKY HILL, CT 06067. 500 ENTERPRISE DR, ROCKY HILL, CT 06067. DEPART ENTERPRISE DR TOWARD CAPITOL BLVD. TURN LEFT ONTO CAPITOL BLVD. TURN LEFT ONTO WEST ST. TAKE RAMP LEFT FOR I-91 S. AT EXIT 22N, TAKE RAMP RIGHT FOR CT-9 NORTH TOWARD NEW BRITAIN. AT EXIT 28, TAKE RAMP LEFT FOR CT-72 WEST TOWARD BRISTOL. TAKE RAMP LEFT FOR CT-72 WEST TOWARD BRISTOL/WATERBURY. AT EXIT 33, TAKE RAMP RIGHT FOR CT-72 WEST TOWARD BRISTOL. KEEP STRAIGHT TO STAY ON CT-72 W. TURN RIGHT TO STAY ON CT-72 KEEP STRAIGHT ONTO MEMORIAL BLVD. KEEP STRAIGHT ONTO CT-72 / SCHOOL ST. BEAR LEFT ONTO US-6/ MAIN ST. TURN LEFT ONTO TOWN HILL RD. ARRIVE AT TOWN HILL RD. 171 TOWN HILL RD, TERRYVILLE, CT 06786.



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.

CROWN CASTLE SITE NAME: PLYMOUTH / RT 6
CROWN CASTLE SITE #: 826768

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: CT1086 SITE NAME: PLYMOUTH TOWN HILL ROAD CCI SITE #: 826768 171 TOWN HILL ROAD TERRYVILLE, CT 06786 LITCHFIELD COUNTY	 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067	1 07/30/18 ISSUED FOR CONSTRUCTION ET AT DJC		AT&T TITLE SHEET (LTE 5C/6C/7C/RF MOD)
				A 06/27/18 ISSUED FOR REVIEW ET AT DJC		

GROUNDING NOTES

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

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – 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. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: IBC 2012 WITH 2016 CT STATE BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS

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

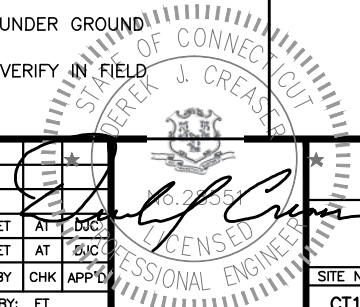
AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

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

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

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

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



HGD 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

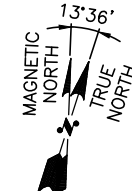
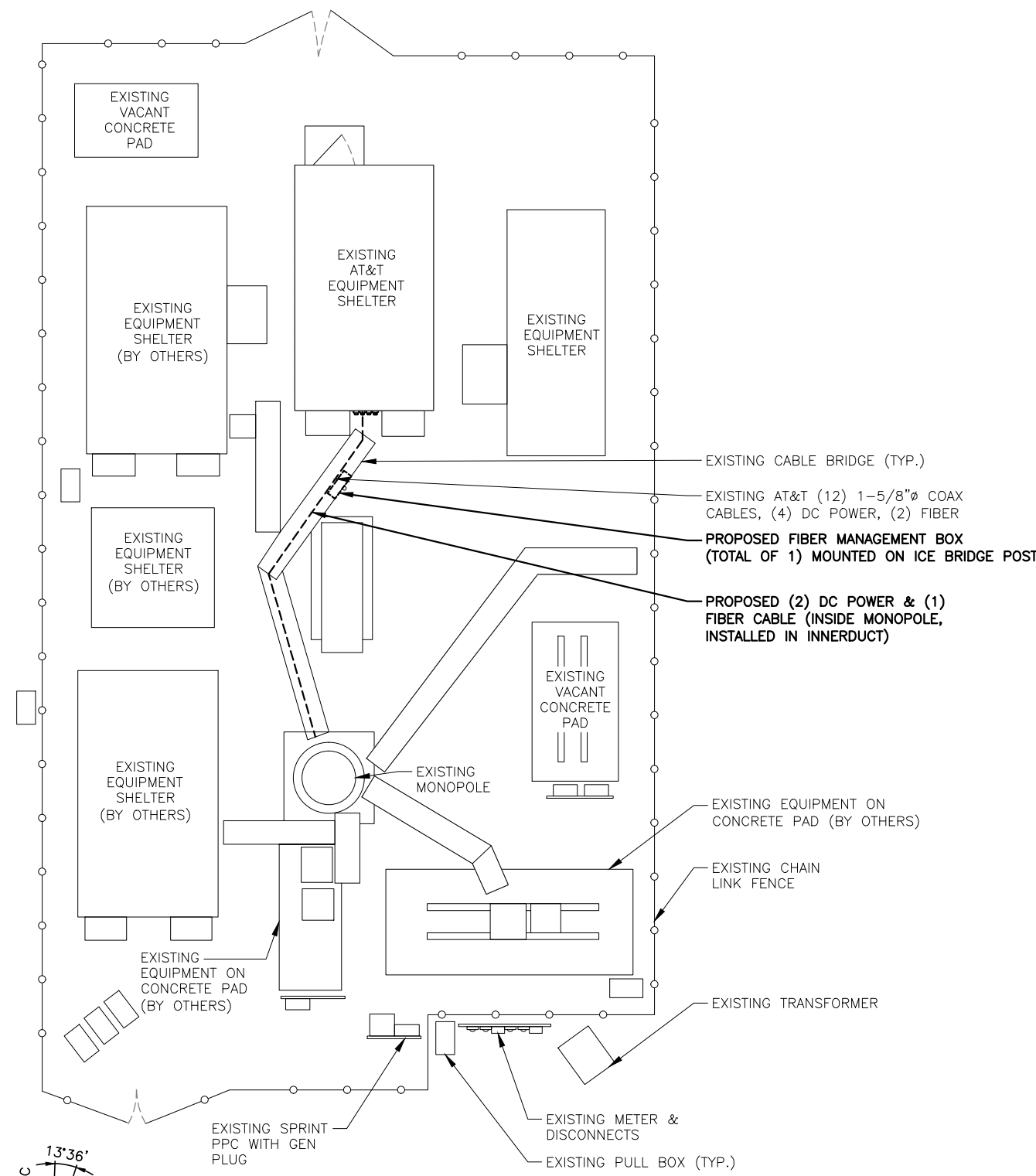
SITE NUMBER: CT1086
SITE NAME: PLYMOUTH TOWN HILL ROAD
CCI SITE #: 826768
 171 TOWN HILL ROAD TERRYVILLE, CT 06786 LITCHFIELD COUNTY

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

1	07/30/18	ISSUED FOR CONSTRUCTION	ET	AT	CHK
A	06/27/18	ISSUED FOR REVIEW	ET	AT	CHK
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		

AT&T
GENERAL NOTES
 (LTE 5C/6C/7C/RF MOD)

SITE NUMBER	DRAWING NUMBER	REV
CT1086	GN-1	1



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

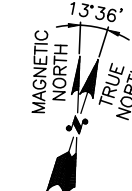
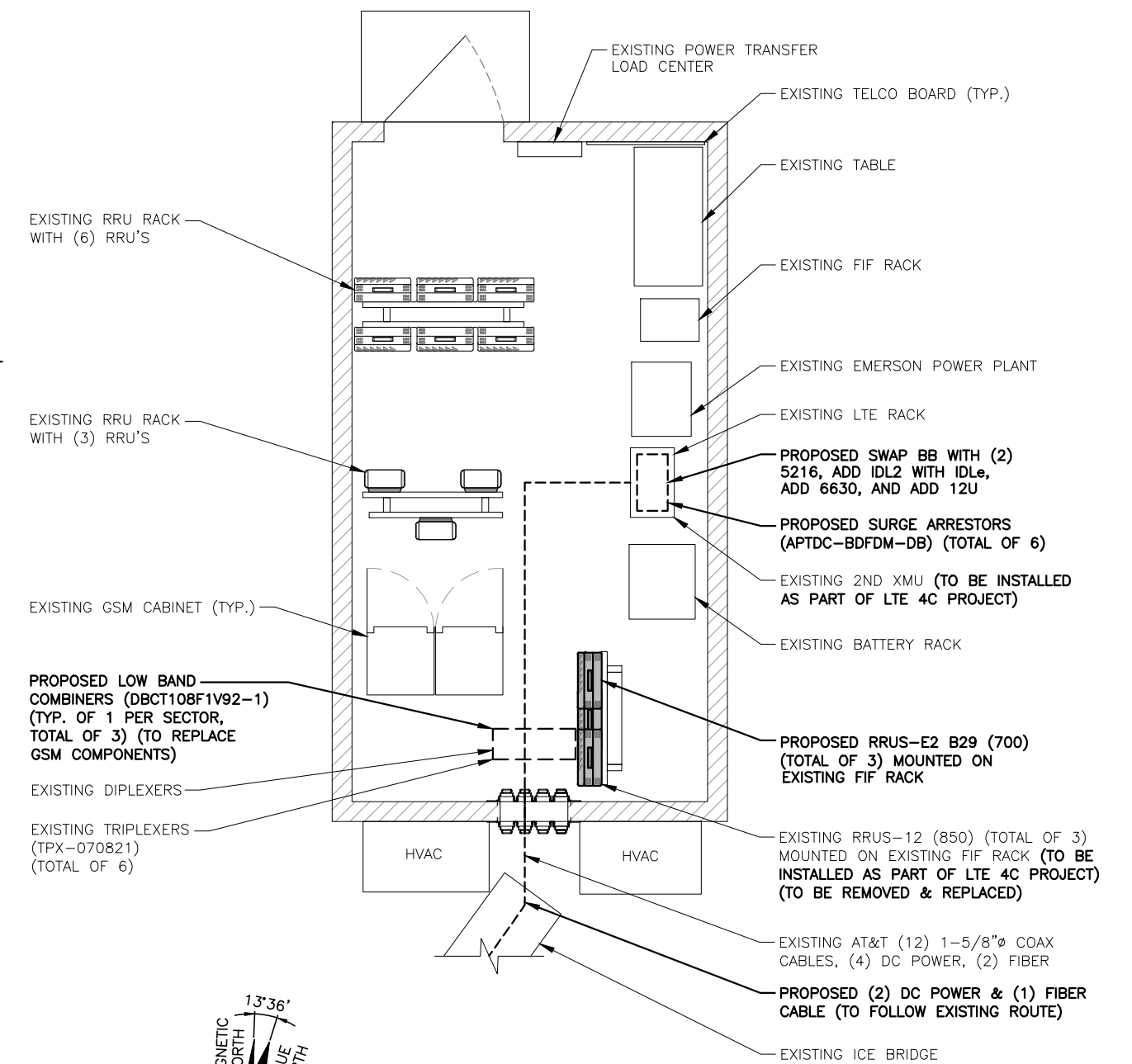


SPECIAL CONSTRUCTION/PLANNING NOTE:
 EQUIPMENT SHOWN AS "TO BE INSTALLED AS PART OF LTE 4C PROJECT" REFERS TO RECORD DRAWINGS AND NOT ACTUAL FIELD CONDITIONS. DEPLOYMENT OF EQUIPMENT "TO BE INSTALLED AS PART OF LTE 4C PROJECT" UNDER A SEPARATE BUILDING PERMIT PRIOR TO CONSTRUCTION START OF THIS PROJECT.

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: JULY 11, 2018

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

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



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



HG 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: CT1086
SITE NAME: PLYMOUTH TOWN HILL ROAD
CCI SITE #: 826768
 171 TOWN HILL ROAD
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 LITCHFIELD COUNTY

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

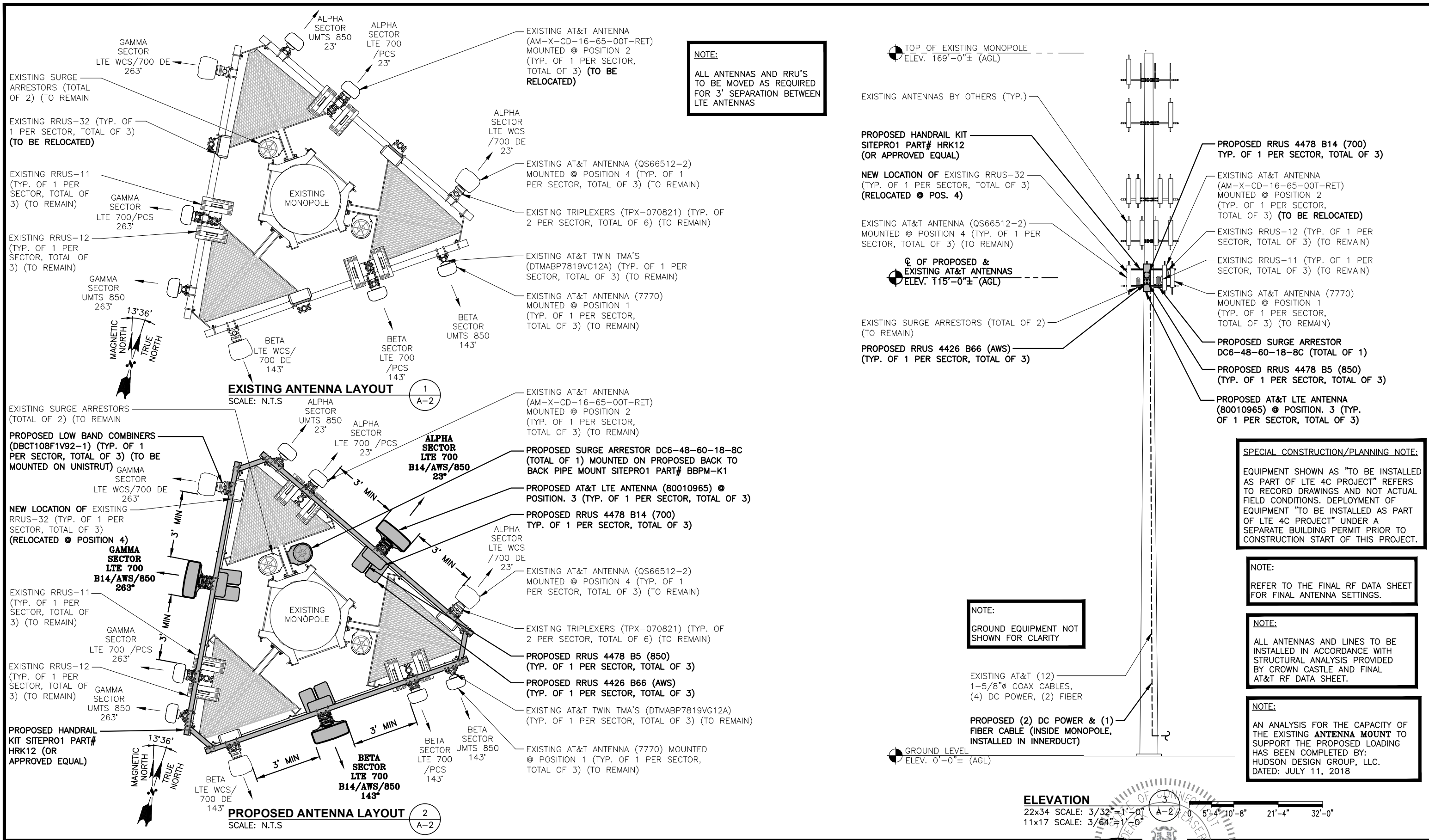
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	07/30/18	ISSUED FOR CONSTRUCTION	ET	AT	DJC
A	06/27/18	ISSUED FOR REVIEW	ET	AT	DJC

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



AT&T
COMPOUND & EQUIPMENT PLAN
 (LTE 5C/6C/7C/RF MOD)

SITE NUMBER	DRAWING NUMBER	REV
CT1086	A-1	1



NOTE:
ALL ANTENNAS AND RRU'S TO BE MOVED AS REQUIRED FOR 3' SEPARATION BETWEEN LTE ANTENNAS

TOP OF EXISTING MONOPOLE
ELEV. 169'-0"± (AGL)

Q OF PROPOSED & EXISTING AT&T ANTENNAS
ELEV. 115'-0"± (AGL)

GROUND LEVEL
ELEV. 0'-0"± (AGL)

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EQUIPMENT SHOWN AS "TO BE INSTALLED AS PART OF LTE 4C PROJECT" REFERS TO RECORD DRAWINGS AND NOT ACTUAL FIELD CONDITIONS. DEPLOYMENT OF EQUIPMENT "TO BE INSTALLED AS PART OF LTE 4C PROJECT" UNDER A SEPARATE BUILDING PERMIT PRIOR TO CONSTRUCTION START OF THIS PROJECT.

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NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

EXISTING AT&T (12)
1-5/8"Ø COAX CABLES,
(4) DC POWER, (2) FIBER

PROPOSED (2) DC POWER & (1) FIBER CABLE (INSIDE MONOPOLE, INSTALLED IN INNERDUCT)

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

HGD 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: CT1086
SITE NAME: PLYMOUTH TOWN HILL ROAD
CCI SITE #: 826768
171 TOWN HILL ROAD
TERRYVILLE, CT 06786
LITCHFIELD COUNTY

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

1	07/30/18	ISSUED FOR CONSTRUCTION	ET	AT	CHK
A	06/27/18	ISSUED FOR REVIEW	ET	AT	CHK
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		

AT&T
ANTENNA LAYOUTS & ELEVATION
(LTE 5C/6C/7C/RF MOD)

SITE NUMBER	DRAWING NUMBER	REV
CT1086	A-2	1

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

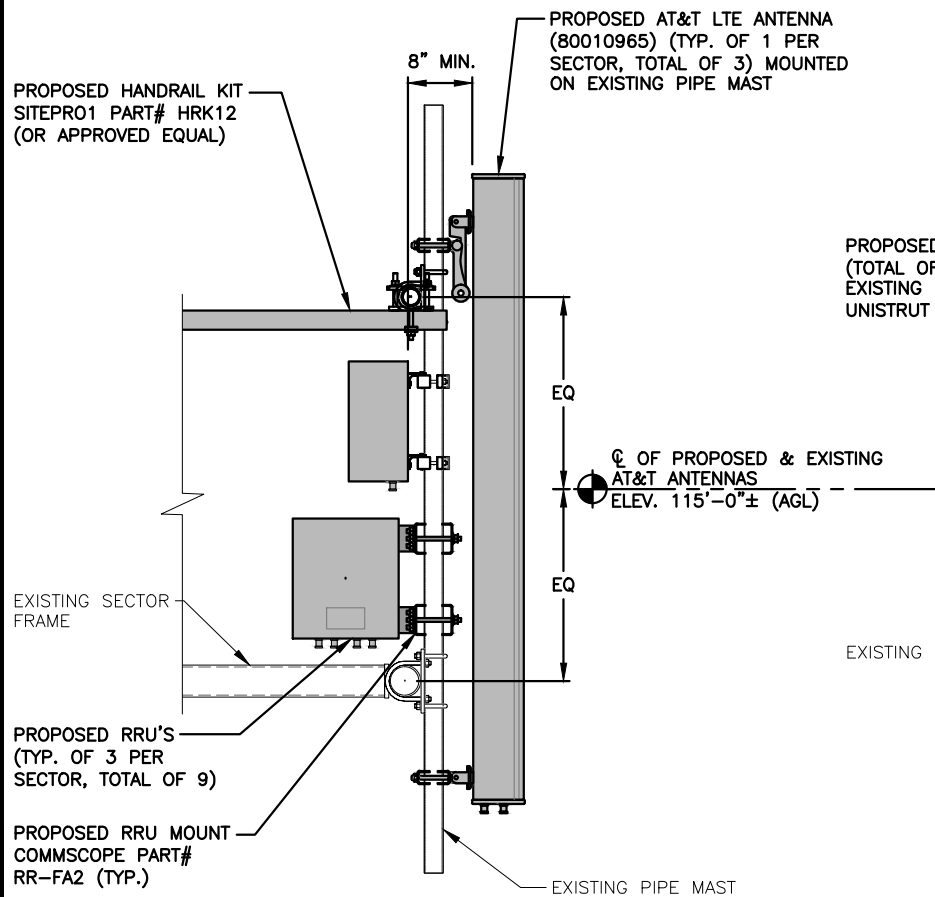
NOTE:
ALL ANTENNAS AND LINES TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY CROWN CASTLE AND FINAL AT&T RF DATA SHEET.

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: JULY 11, 2018

SPECIAL CONSTRUCTION/PLANNING NOTE:
EQUIPMENT SHOWN AS "TO BE INSTALLED AS PART OF LTE 4C PROJECT" REFERS TO RECORD DRAWINGS AND NOT ACTUAL FIELD CONDITIONS. DEPLOYMENT OF EQUIPMENT "TO BE INSTALLED AS PART OF LTE 4C PROJECT" UNDER A SEPARATE BUILDING PERMIT PRIOR TO CONSTRUCTION START OF THIS PROJECT.

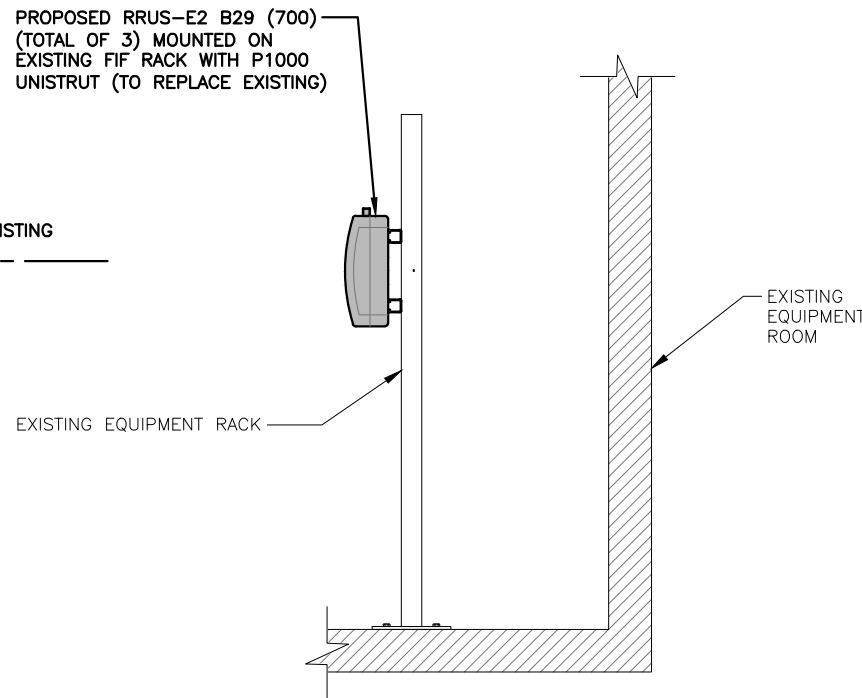
ANTENNA SCHEDULE

SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA Q HEIGHT	AZIMUTH	TMA/COMBINERS	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	7770	55X11X5	115'-0"±	23°	CCI (1) DTMABP7819VG12A	--	--	(2) 1-5/8 COAX LENGTH = 140'±	(E) (1) RAYCAP DC6-48-60-18-8C
A2	EXISTING	LTE 700 BC/PCS	AM-X-CD-16-65-00T-RET	72X11.8X5.9	115'-0"±	23°	--	(E) (1) RRUS-11 (700) (E) (1) RRUS-12 (PCS)	--	--	
A3	PROPOSED	LTE 700 B14/AWS/850	80010965	78.7X20X6.9	115'-0"±	23°	--	(P) (1) 4478 B14 (700) (P) (1) 4478 B5 (850) (P) (1) 4426 B66 (AWS)	15X13.2X7.4 15X13.2X7.4 15X13.2X7.4	--	
A4	EXISTING	LTE WCS/700 DE	QS66512-2	72X12X9.6	115'-0"±	23°	KAEIUS (2) DBCT108F1V92-1 (2) CCI (TPX-070821) (2)(G) CCI (TPX-070821)	RRUS-32 (WCS) (P) (G) RRUS-E2 B29	--	(2) 1-5/8 COAX LENGTH = 140'±	
B1	EXISTING	UMTS 850	7770	55X11X5	115'-0"±	143°	CCI (1) DTMABP7819VG12A	--	--	(2) 1-5/8 COAX LENGTH = 140'±	(E) (1) RAYCAP DC6-48-60-18-8C
B2	EXISTING	LTE 700 BC/PCS	AM-X-CD-16-65-00T-RET	72X11.8X5.9	115'-0"±	143°	--	(E) (1) RRUS-11 (700) (E) (1) RRUS-12 (PCS)	--	--	
B3	PROPOSED	LTE 700 B14/AWS/850	80010965	78.7X20X6.9	115'-0"±	143°	--	(P) (1) 4478 B14 (700) (P) (1) 4478 B5 (850) (P) (1) 4426 B66 (AWS)	15X13.2X7.4 15X13.2X7.4 15X13.2X7.4	--	
B4	EXISTING	LTE WCS/700 DE	QS66512-2	72X12X9.6	115'-0"±	143°	KAEIUS (2) DBCT108F1V92-1 (2) CCI (TPX-070821) (2)(G) CCI (TPX-070821)	RRUS-32 (WCS) (P) (G) RRUS-E2 B29	--	(2) 1-5/8 COAX LENGTH = 140'±	
C1	EXISTING	UMTS 850	7770	55X11X5	115'-0"±	263°	CCI (1) DTMABP7819VG12A	--	--	(2) 1-5/8 COAX LENGTH = 140'±	(P) (1) RAYCAP DC6-48-60-0-8C
C2	EXISTING	LTE 700 BC/PCS	AM-X-CD-16-65-00T-RET	72X11.8X5.9	115'-0"±	263°	--	(E) (1) RRUS-11 (700) (E) (1) RRUS-12 (PCS)	--	--	
C3	PROPOSED	LTE 700 B14/AWS/850	80010965	78.7X20X6.9	115'-0"±	263°	--	(P) (1) 4478 B14 (700) (P) (1) 4478 B5 (850) (P) (1) 4426 B66 (AWS)	15X13.2X7.4 15X13.2X7.4 15X13.2X7.4	--	
C4	EXISTING	LTE WCS/700 DE	QS66512-2	72X12X9.6	115'-0"±	263°	KAEIUS (2) DBCT108F1V92-1 (2) CCI (TPX-070821) (2)(G) CCI (TPX-070821)	RRUS-32 (WCS) (P) (G) RRUS-E2 B29	--	(2) 1-5/8 COAX LENGTH = 140'±	



PROPOSED LTE ANTENNA & RRH MOUNTING DETAIL

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



RRUS MOUNTING DETAIL ON EXISTING FIF RACK

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

FINAL ANTENNA SCHEDULE

SCALE: N.T.S.

RRU CHART

QUANTITY	MODEL	L	W	D
3(E)	RRUS-11	19.7"	17.0"	7.2"
3(E)	RRUS-12	20.4"	18.5"	7.5"
3(E)(G)	RRUS-E2	20.4"	18.5"	7.5"
3(E)	RRUS-32	27.2"	12.1"	7.0"
3(P)	B5.4478	15.0"	13.2"	7.4"
3(P)	B14.4478	15.0"	13.2"	7.4"
3(P)	B66.4426	15.0"	13.2"	7.4"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

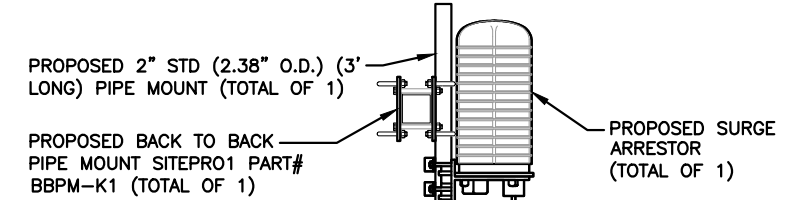
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

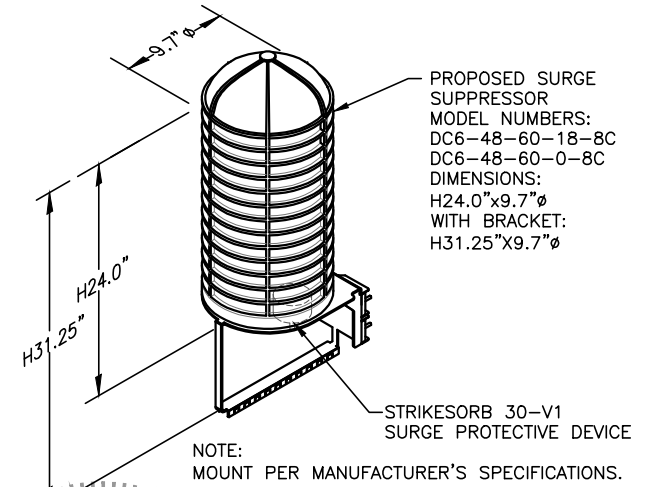
RRUS DETAIL

SCALE: N.T.S.



PROPOSED SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.



DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.

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

AT&T
DETAILS
(LTE 5C/6C/7C/RF MOD)

SITE NUMBER	DRAWING NUMBER	REV
CT1086	A-3	1

STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- 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.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-70 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:	

NOTES:

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

NOTES:

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



45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
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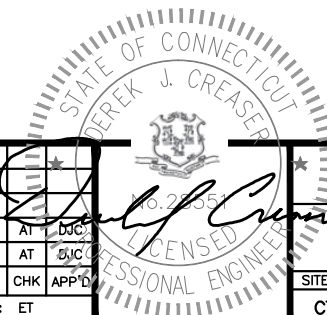
12 INDUSTRIAL WAY
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SITE NUMBER: CT1086
SITE NAME: PLYMOUTH TOWN HILL ROAD
CCI SITE #: 826768
171 TOWN HILL ROAD
TERRYVILLE, CT 06786
LITCHFIELD COUNTY



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

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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		

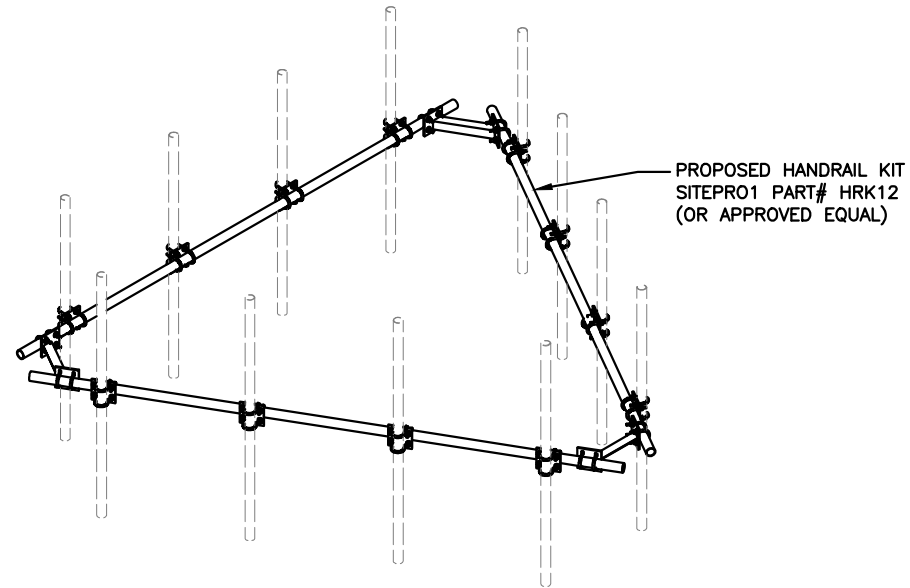


AT&T	
STRUCTURAL NOTES (LTE 5C/6C/7C/RF MOD)	
SITE NUMBER	DRAWING NUMBER
CT1086	SN-1
	REV
	1

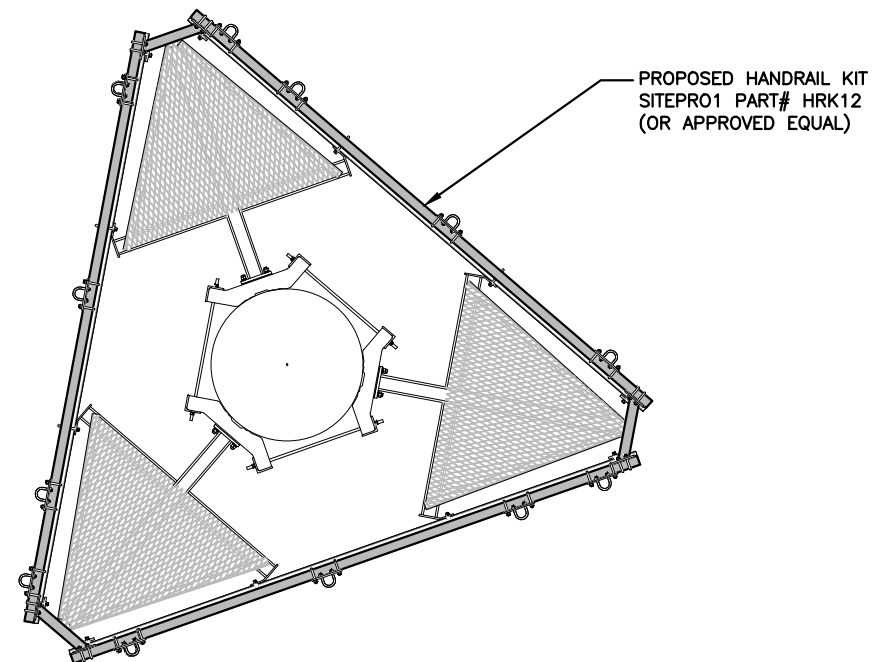
NOTE:
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NOTE:
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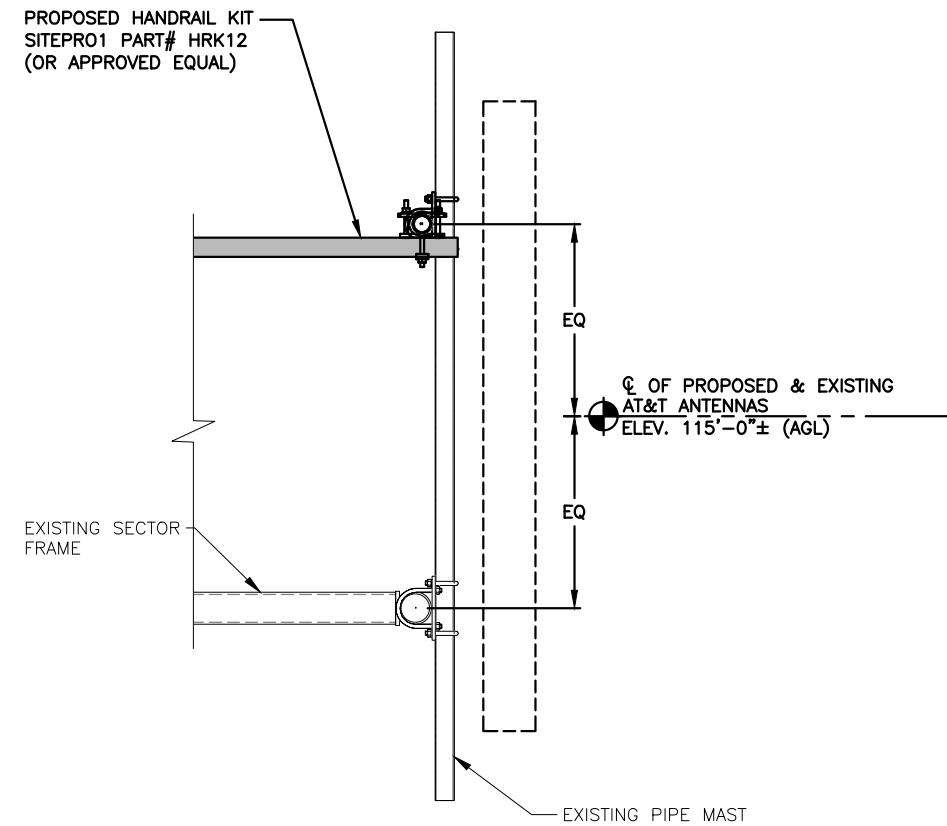
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JULY 11, 2018



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



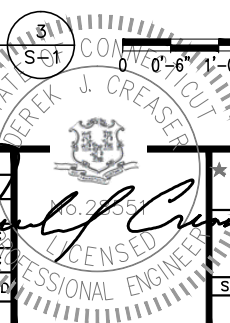
PROPOSED MODIFICATIONS PLAN 2
S-1
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"



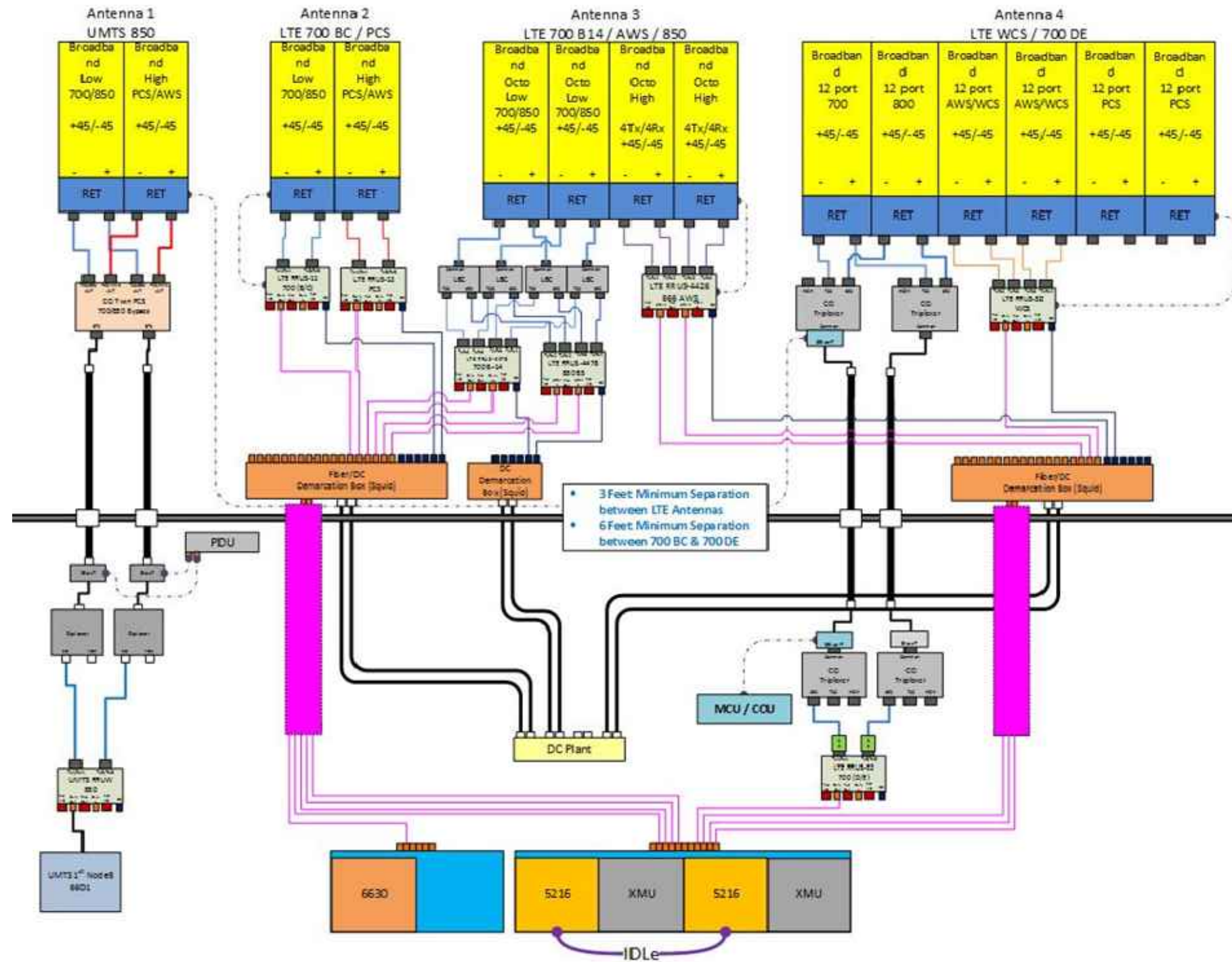
PROPOSED MODIFICATIONS DETAIL 3
S-1
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
0 0'-6" 1'-0" 2'-0" 3'-0"

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AT&T	
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	1



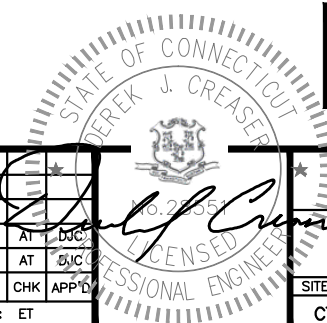
RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

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

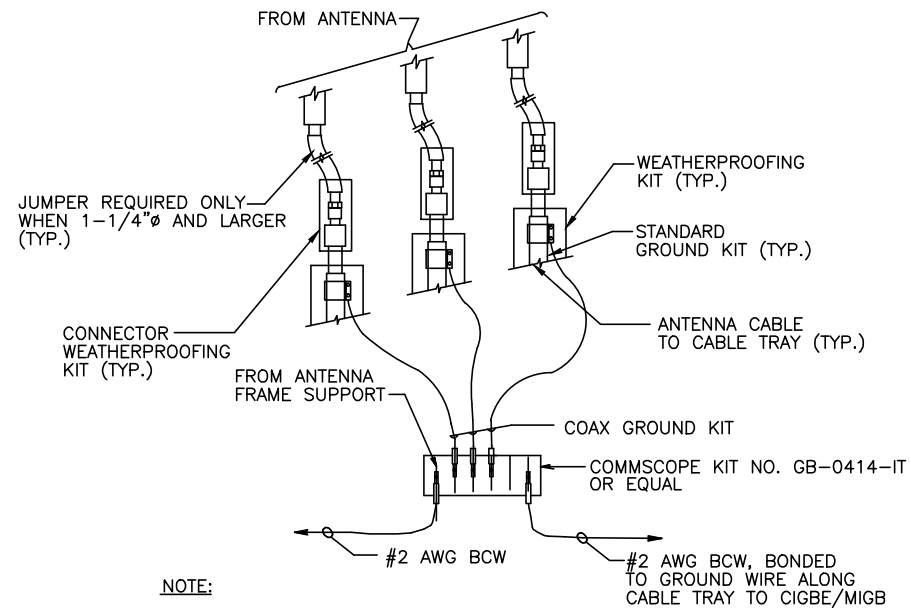
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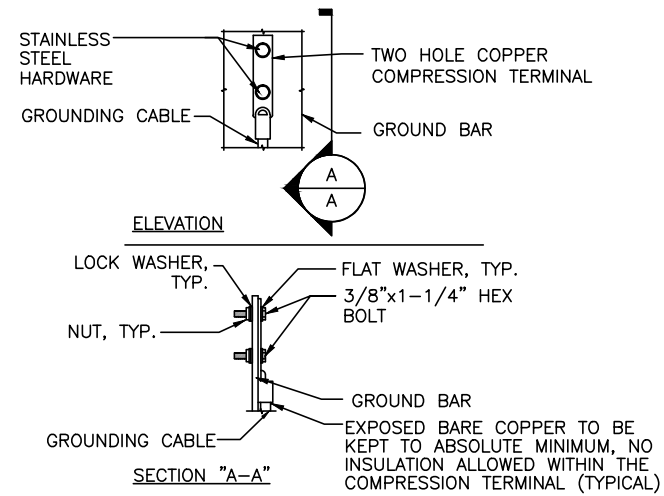


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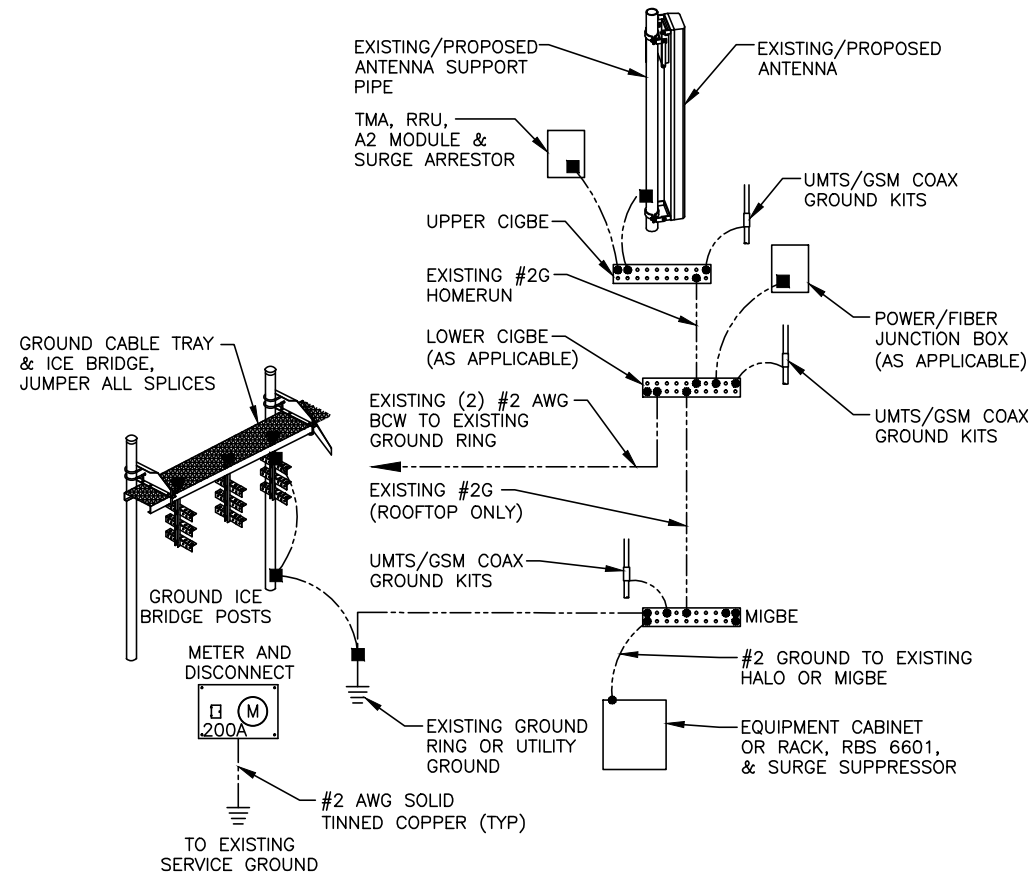
NOTE:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

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



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

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



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

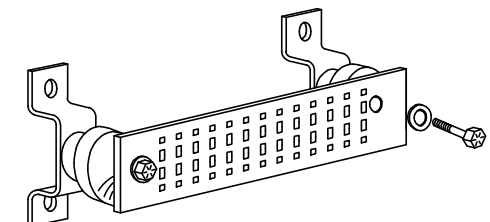
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

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

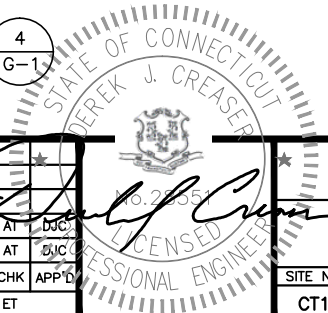
SECTION "A" - SURGE ABSORBERS

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



GROUND BAR - DETAIL 4
 SCALE: N.T.S. G-1

1	07/30/18	ISSUED FOR CONSTRUCTION	ET	AT	DJC
A	06/27/18	ISSUED FOR REVIEW	ET	AT	DJC
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		



AT&T		
GROUNDING DETAILS (LTE 5C/6C/7C/RF MOD)		
SITE NUMBER	DRAWING NUMBER	REV
CT1086	G-1	1

Date: **August 06, 2018**

Amanda Brown
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277



Destek Engineering, LLC
1281 Kennestone Circle, Suite 100
Marietta, GA 30066
(770) 693-0835

Subject: Structural Analysis Report

Carrier Designation: **AT&T Mobility Co-Locate**
Carrier Site Number: CT1086
Carrier Site Name: Plymouth

Crown Castle Designation: **Crown Castle BU Number:** 826768
Crown Castle Site Name: PLYMOUTH/RT 6
Crown Castle JDE Job Number: 522180
Crown Castle Work Order Number: 1609552
Crown Castle Application Number: 449240 Rev. 0

Engineering Firm Designation: **Destek Engineering, LLC Project Number:** 1802192

Site Data: **171 Town Hill Road, Plymouth, Litchfield County, CT**
Latitude 41° 40' 6.197", Longitude -73° 1' 11.842"
169 Foot - Monopole Tower

Dear Amanda Brown,

Destek Engineering, LLC is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1228977, in accordance with application 449240, revision 0.

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

LC7: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind speed of 93 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C and Risk Category II were used in this analysis.

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

We at Destek Engineering, LLC appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Wade Baxter, EIT

Respectfully submitted by:

Ahmet Colakoglu, PE
President



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1) INTRODUCTION

This tower is a 169 ft Monopole tower designed by Pirod Inc. in September of 2000. The tower was originally designed for a wind speed of 80 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 93 mph with no ice, 40 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category C with topographic category 1 and crest height of 0 feet.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
115.0	115.0	3	ericsson	RRUS 12 B2	2 1	5/8 3/8	-
		3	ericsson	RRUS 4426 B66			
		3	ericsson	RRUS 4478 B14			
		3	ericsson	RRUS 4478 B5			
		6	kaelus	DBCT108F1V92-1			
		3	kathrein	80010965 w/ Mount Pipe			
		3	quintel technology	QS66512-2 w/ Mount Pipe			
		1	raycap	DC6-48-60-18-8C			
		1	site pro 1	HRK12			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note	
164.0	186.0	1	rfi antennas	COL45-70	10	1-5/8	1	
	168.0	2	rfi antennas	COL45-70	7	7/8		
	165.0	165.0	3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe	2	1-3/8	2
			3	ericsson	RADIO 4449 B12/B71			
			3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe			
	164.0	164.0	1	tower mounts	Platform Mount [LP 403-1]	-	-	1
155.0	155.0	3	alcatel lucent	1900MHz RRH	4	1-1/4	1	
		3	alcatel lucent	800MHZ RRH				
		3	alcatel lucent	TD-RRH8x20-25				
		3	rfs celwave	APXVSP18-C-A20 w/ Mount Pipe				
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe				
		1	tower mounts	Platform Mount [LP 305-1]				

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
142.0	142.0	3	alcatel lucent	B4 RRH2X60-4R	14	1-5/8	1
		3	alcatel lucent	RRH2X60-AWS			
		3	alcatel lucent	RRH2x60-700			
		6	antel	LPA-80080/6CF w/ Mount Pipe			
		6	commscope	SBNHH-1D65B w/ Mount Pipe			
		1	rfs celwave	DB-T1-6Z-8AB-0Z			
		1	tower mounts	Platform Mount [LP 403-1]			
121.0	125.0	1	rfs celwave	201-4	1	1/2	1
	121.0	1	tower mounts	Pipe Mount [PM 601-1]			
115.0	115.0	3	ericsson	RRUS 11	12	1-5/8	1
		3	quintel technology	QS66512-3 w/ Mount Pipe			
		3	cci antennas	DTMABP7819VG12A			
		6	cci antennas	TPX-070821			
		3	ericsson	RRUS 11			
		3	ericsson	WCS RRUS-32-B30			
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	powerwave technologies	7770.00 w/ Mount Pipe			
		2	raycap	DC6-48-60-18-8F			
		1	tower mounts	Platform Mount [LP 305-1]			
105.0	105.0	3	rfs celwave	APXV18-206517S-C w/ Mount Pipe	6	1-5/8	1
		1	tower mounts	Pipe Mount [PM 601-3]			
74.0	83.0	1	decibel	DB810T3E-XT	1	7/8	1
	74.0	1	tower mounts	Side Arm Mount [SO 306-1]			

Notes:

- 1) Existing Equipment
- 2) Reserved Equipment
- 3) Equipment To Be Removed

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
169	169	12	-	RR65-19-00XP	12	1-5/8
165	165	12	-	RR65-19-00XP	12	1-5/8
155	155	12	-	RR65-19-00XP	12	1-5/8
145	145	12	-	RR65-19-00XP	12	1-5/8
135	135	12	-	RR65-19-00XP	12	1-5/8
125	125	12	-	RR65-19-00XP	12	1-5/8

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	Pirod; A-117464; 9/1/2000	3491992	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Pirod; A-117464; 9/1/2000	3678682	CCISITES
4-GEOTECHNICAL REPORTS	Clarence Welti Assoc.' 8/14/2000	3491991	CCISITES
4-TOWER STRUCTURAL ANALYSIS REPORT	PJF&Co.; 37518-2650.001.7805 08/01/2018	7703276	CCISITES
4-MOUNT STRUCTURAL ANALYSIS REPORT	Hudson Design Group CT1086 07/11/2018	-	CCI

3.1) Analysis Method

tnxTower (version 8.0.2.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) Base plate design methodology of the manufacturer has been reviewed and found to be an acceptable means of designing to resist the full capacity of the bolts and shaft.

This analysis may be affected if any assumptions are not valid or have been made in error. Destek Engineering, LLC should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	169 - 164.25	Pole	TP26x18x0.25	1	-0.24	1506.86	0.1	Pass
L2	164.25 - 129.75	Pole	TP34.0625x21.5x0.3125	2	-12.78	2368.37	21.6	Pass
L3	129.75 - 96.08	Pole	TP41.75x32.1327x0.375	3	-25.34	3489.81	37.9	Pass
L4	96.08 - 63.25	Pole	TP49.0625x39.8023x0.375	4	-35.26	3910.87	55.0	Pass
L5	63.25 - 31.25	Pole	TP56.125x46.9543x0.375	5	-46.53	4259.40	67.4	Pass
L6	31.25 - 0	Pole	TP62.9375x53.8466x0.375	6	-61.76	4606.06	78.9	Pass
							Summary	
						Pole (L6)	78.9	Pass
						Rating =	78.9	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	64.8	Pass
2	Base Plate	0	78.9	Pass
1	Base Foundation	0	71.0	Pass
1	Base Foundation Soil Interaction	0	56.5	Pass

Structure Rating (max from all components) =	78.9%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Base plates are assumed to have the same capacity as their respective splice bolts or shaft.

4.1) Recommendations

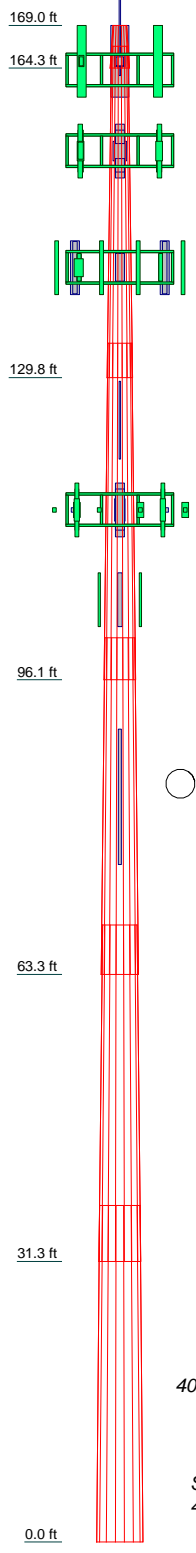
The monopole and its foundation have sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

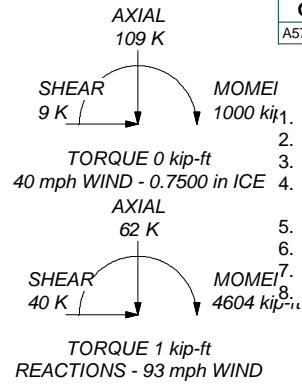
DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
AIR 32 B2A/B66AA w/ Mount Pipe	164	DB-T1-6Z-8AB-0Z	142
AIR 32 B2A/B66AA w/ Mount Pipe	164	Platform Mount [LP 403-1]	142
AIR 32 B2A/B66AA w/ Mount Pipe	164	201-4	121
APXVAARR24_43-U-NA20 w/ Mount Pipe	164	Pipe Mount [PM 601-1]	121
APXVAARR24_43-U-NA20 w/ Mount Pipe	164	7770.00 w/ Mount Pipe	115
APXVAARR24_43-U-NA20 w/ Mount Pipe	164	7770.00 w/ Mount Pipe	115
APXVAARR24_43-U-NA20 w/ Mount Pipe	164	7770.00 w/ Mount Pipe	115
APXVAARR24_43-U-NA20 w/ Mount Pipe	164	AM-X-CD-16-65-00T-RET w/ Mount Pipe	115
RADIO 4449 B12/B71	164	AM-X-CD-16-65-00T-RET w/ Mount Pipe	115
RADIO 4449 B12/B71	164	AM-X-CD-16-65-00T-RET w/ Mount Pipe	115
RADIO 4449 B12/B71	164	AM-X-CD-16-65-00T-RET w/ Mount Pipe	115
(2) COL45-70	164	DTMABP7819VG12A	115
COL45-70	164	DTMABP7819VG12A	115
ATMAA1412D-1A20	164	DTMABP7819VG12A	115
ATMAA1412D-1A20	164	DC6-48-60-18-8F	115
ATMAA1412D-1A20	164	DC6-48-60-18-8F	115
Platform Mount [LP 403-1]	164	DC6-48-60-18-8F	115
(2) 2.375" OD x 6' Mount Pipe	164	(2) RRUS 11	115
2.375" OD x 6' Mount Pipe	164	RRUS 11	115
APXVTM14-C-120 w/ Mount Pipe	155	WCS RRUS-32-B30	115
APXVTM14-C-120 w/ Mount Pipe	155	WCS RRUS-32-B30	115
APXVTM14-C-120 w/ Mount Pipe	155	WCS RRUS-32-B30	115
APXVSPP18-C-A20 w/ Mount Pipe	155	(2) TPX-070821	115
APXVSPP18-C-A20 w/ Mount Pipe	155	(2) TPX-070821	115
APXVSPP18-C-A20 w/ Mount Pipe	155	(2) TPX-070821	115
TD-RRH8x20-25	155	80010965 w/ Mount Pipe	115
TD-RRH8x20-25	155	80010965 w/ Mount Pipe	115
TD-RRH8x20-25	155	80010965 w/ Mount Pipe	115
800MHZ RRH	155	QS66512-2 w/ Mount Pipe	115
800MHZ RRH	155	QS66512-2 w/ Mount Pipe	115
800MHZ RRH	155	QS66512-2 w/ Mount Pipe	115
1900MHz RRH	155	(3) DBCT108F1V92-1	115
1900MHz RRH	155	(2) DBCT108F1V92-1	115
1900MHz RRH	155	DBCT108F1V92-1	115
Platform Mount [LP 305-1]	155	RRUS 4478 B5	115
2.375" OD x 6' Mount Pipe	155	RRUS 4478 B5	115
2.375" OD x 6' Mount Pipe	155	RRUS 4478 B5	115
2.375" OD x 6' Mount Pipe	155	RRUS 4478 B14	115
(2) LPA-80080/6CF w/ Mount Pipe	142	(2) RRUS 4478 B14	115
(2) LPA-80080/6CF w/ Mount Pipe	142	RRUS 12 B2	115
(2) LPA-80080/6CF w/ Mount Pipe	142	RRUS 12 B2	115
(2) SBNHH-1D65B w/ Mount Pipe	142	RRUS 12 B2	115
(2) SBNHH-1D65B w/ Mount Pipe	142	DC6-48-60-18-8C	115
(2) SBNHH-1D65B w/ Mount Pipe	142	RRUS 4426 B66	115
B4 RRH2X60-4R	142	(2) RRUS 4426 B66	115
B4 RRH2X60-4R	142	Platform Mount [LP 305-1]	115
B4 RRH2X60-4R	142	Miscellaneous [NA 507-1]	115
RRH2x60-700	142	APXV18-206517S-C w/ Mount Pipe	105
RRH2x60-700	142	APXV18-206517S-C w/ Mount Pipe	105
RRH2x60-700	142	APXV18-206517S-C w/ Mount Pipe	105
RRH2X60-AWS	142	Pipe Mount [PM 601-3]	105
RRH2X60-AWS	142	DB810T3E-XT	74
RRH2X60-AWS	142	Side Arm Mount [SO 306-1]	74

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	4.75	18	0.2500	2.38	18.0000	26.0000	A572-65	0.3
2	36.88	18	0.3125	3.83	21.5000	34.0625	A572-65	3.4
3	37.50	18	0.3750	4.67	32.1327	41.7500	A572-65	5.6
4	37.50	18	0.3750	5.50	39.8023	49.0625	A572-65	6.7
5	37.50	18	0.3750	6.25	46.9543	56.1250	A572-65	7.8
6	37.50	18	0.3750	5.38466	62.9375		A572-65	8.8



ALL REACTIONS ARE FACTORED



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 93 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 40 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 78.9%

Destek Engineering, LLC 1281 Kennestone Circle, Suite 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:		Job: 826768 - Plymouth/Rt 6 Project: 1802191 Client: Crown Castle Code: TIA-222-G Path:		Drawn by: Ahmet Colakoglu Date: 08/06/18 App'd: Scale: NTS Dwg No. E-1	
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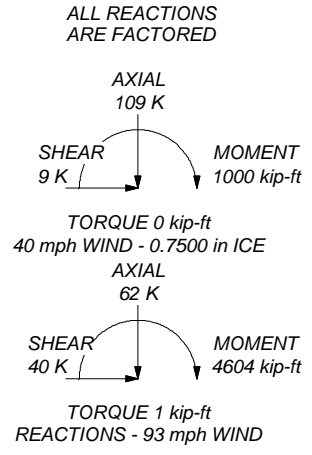
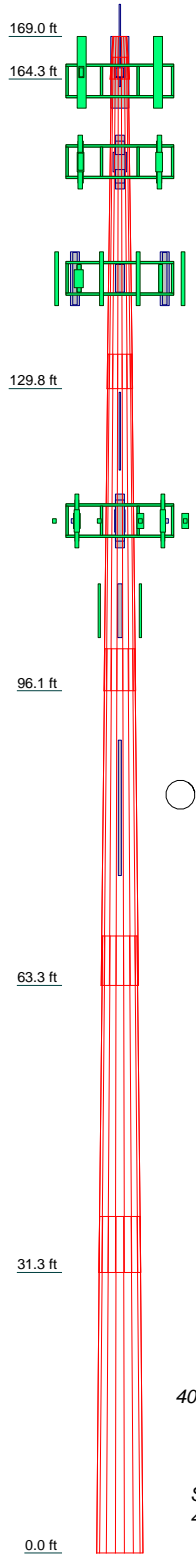
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
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4. Tower is also designed for a 40 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 78.9%

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	4.75	18	0.2500	2.38	18.0000	26.0000		0.3
2	36.88	18	0.3125	3.83	21.5000	34.0625		3.4
3	37.50	18	0.3750	4.67	32.1327	41.7500		5.6
4	37.50	18	0.3750	5.50	39.8023	49.0625	A572-65	6.7
5	37.50	18	0.3750	6.25	46.9543	56.1250		7.8
6	37.50	18	0.3750	53.8466	62.9375			8.8
Grade								32.5



<p>Destek Engineering, LLC 1281 Kennestone Circle, Suite 100 Marietta, GA 30066 Phone: (770) 693-0835 FAX:</p>		<p>Job: 826768 - Plymouth/Rt 6</p>	
		<p>Project: 1802191</p>	<p>Client: Crown Castle</p>
<p>Code: TIA-222-G</p>		<p>Date: 08/06/18</p>	<p>Scale: NTS</p>
<p>Path:</p>		<p>Dwg No. E-1</p>	

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

- 4) Tower is located in Litchfield County, Connecticut.
- 5) Basic wind speed of 93 mph.
- 6) Structure Class II.
- 7) Exposure Category C.
- 8) Topographic Category 1.
- 9) Crest Height 0.00 ft.
- 10) Nominal ice thickness of 0.7500 in.
- 11) Ice thickness is considered to increase with height.
- 12) Ice density of 56 pcf.
- 13) A wind speed of 40 mph is used in combination with ice.
- 14) Temperature drop of 50 °F.
- 15) Deflections calculated using a wind speed of 60 mph.
- 16) A non-linear (P-delta) analysis was used.
- 17) Pressures are calculated at each section.
- 18) Stress ratio used in pole design is 1.
- 19) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|--|---|
| Consider Moments - Legs
Consider Moments - Horizontals
Consider Moments - Diagonals
Use Moment Magnification
✓ Use Code Stress Ratios
✓ Use Code Safety Factors - Guys
Escalate Ice
Always Use Max Kz
Use Special Wind Profile

Include Bolts In Member Capacity

Leg Bolts Are At Top Of Section
Secondary Horizontal Braces Leg
Use Diamond Inner Bracing (4 Sided)
SR Members Have Cut Ends
SR Members Are Concentric | Distribute Leg Loads As Uniform
Assume Legs Pinned
✓ Assume Rigid Index Plate
✓ Use Clear Spans For Wind Area
Use Clear Spans For KL/r
Retension Guys To Initial Tension
✓ Bypass Mast Stability Checks
✓ Use Azimuth Dish Coefficients
✓ Project Wind Area of Appurt.

Autocalc Torque Arm Areas

Add IBC .6D+W Combination
Sort Capacity Reports By Component
Triangulate Diamond Inner Bracing
Treat Feed Line Bundles As Cylinder | Use ASCE 10 X-Brace Ly Rules
Calculate Redundant Bracing Forces
Ignore Redundant Members in FEA
SR Leg Bolts Resist Compression
All Leg Panels Have Same Allowable
Offset Girt At Foundation
✓ Consider Feed Line Torque
Include Angle Block Shear Check
Use TIA-222-G Bracing Resist.
Exemption
Use TIA-222-G Tension Splice
Exemption

<div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction
Always Use Sub-Critical Flow
Use Top Mounted Sockets
Pole Without Linear Attachments
Pole With Shroud Or No
Appurtenances
Outside and Inside Corner Radii Are
Known |
|--|--|---|

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	169.00-164.25	4.75	2.38	18	18.0000	26.0000	0.2500	1.0000	A572-65 (65 ksi)
L2	164.25-129.75	36.88	3.83	18	21.5000	34.0625	0.3125	1.2500	A572-65 (65 ksi)
L3	129.75-96.08	37.50	4.67	18	32.1327	41.7500	0.3750	1.5000	A572-65 (65 ksi)
L4	96.08-63.25	37.50	5.50	18	39.8023	49.0625	0.3750	1.5000	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L5	63.25-31.25	37.50	6.25	18	46.9543	56.1250	0.3750	1.5000	A572-65 (65 ksi)
L6	31.25-0.00	37.50		18	53.8466	62.9375	0.3750	1.5000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I ² /Q in ²	w in	w/t
L1	18.2391	14.0846	560.6340	6.3012	9.1440	61.3117	1122.0058	7.0437	2.7280	10.912
	26.3625	20.4326	1711.6544	9.1412	13.2080	129.5922	3425.5610	10.2183	4.1360	16.544
L2	22.6051	21.0154	1191.8828	7.5216	10.9220	109.1268	2385.3338	10.5097	3.2340	10.349
	34.5398	33.4758	4817.4335	11.9812	17.3038	278.4040	9641.2058	16.7411	5.4450	17.424
L3	33.5680	37.7996	4816.4040	11.2740	16.3234	295.0611	9639.1455	18.9034	4.9954	13.321
	42.3362	49.2466	10650.982	14.6881	21.2090	502.1916	21315.979	24.6280	6.6880	17.835
L4	41.5295	46.9284	9216.5336	13.9967	20.2196	455.8222	18445.194	23.4686	6.3452	16.921
	49.7615	57.9503	17355.137	17.2841	24.9238	696.3293	34733.111	28.9807	7.9750	21.267
L5	48.9866	55.4411	15196.923	16.5357	23.8528	637.1126	30413.842	27.7258	7.6040	20.277
	56.9330	66.3564	26056.150	19.7913	28.5115	913.8821	52146.586	33.1845	9.2180	24.581
L6	56.1579	63.6445	22990.273	18.9824	27.3541	840.4705	46010.797	31.8283	8.8170	23.512
	63.8506	74.4650	36822.894	22.2097	31.9722	1151.7142	73694.241	37.2396	10.4170	27.779

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 169.00- 164.25				1	1	1			
L2 164.25- 129.75				1	1	1			
L3 129.75- 96.08				1	1	1			
L4 96.08- 63.25				1	1	1			
L5 63.25- 31.25				1	1	1			
L6 31.25-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Section	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf

LDF4-50A(1/2)	C	Surface Ar (CaAa)	121.00 - 0.00	1	1	0.000 0.000	0.6250		0.15
LDF4-50A(1/2)	C	Surface Ar (CaAa)	121.00 - 0.00	1	1	-0.250 -0.250	0.6250		0.15
LDF5-50A(7/8)	C	Surface Ar (CaAa)	74.00 - 0.00	1	1	0.010 0.010	1.0300		0.33

Description	Section	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
FB-L98B-034-XXX(3/8)	A	Surface Ar (CaAa)	115.00 - 0.00	2	2	0.400	0.0000		0.06
WR-VG82ST-BRDA(5/8)	A	Surface Ar (CaAa)	115.00 - 0.00	4	4	0.400	0.0000		0.31
FB-L98B-034-XXX(3/8)	A	Surface Ar (CaAa)	115.00 - 0.00	1	1	0.395	0.3937		0.06
WR-VG82ST-BRDA(5/8)	A	Surface Ar (CaAa)	115.00 - 0.00	2	1	0.395	0.6450		0.31
2" (Nominal) Conduit	A	Surface Ar (CaAa)	115.00 - 0.00	14	7	0.050	2.3750		0.72

LDF7-50A(1-5/8)	C	Surface Ar (CaAa)	105.00 - 0.00	6	6	-0.250	1.9800		0.82
***						-0.050			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	CAAA	Weight plf
810921-701(7/8)	C	No	Inside Pole	164.00 - 0.00	7	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00
AVA7-50(1-5/8)	C	No	Inside Pole	164.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00
LDF7-50A(1-5/8)	C	No	Inside Pole	164.00 - 0.00	4	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00
MLCH HYBRID 6X12(1-3/8)	C	No	Inside Pole	164.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00
Coax for LC8							
HB114-1-08U4-M6F(1-1/4)	C	No	Inside Pole	155.00 - 0.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00
HB114-21U3M12-XXXF(1-1/4)	C	No	Inside Pole	155.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00
HB158-1-08U8-S8J18(1-5/8)	C	No	Inside Pole	142.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00
LDF7-50A(1-5/8)	C	No	Inside Pole	142.00 - 0.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	CAAA In Face ft ²	CAAA Out Face ft ²	Weight K
L1	169.00-164.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L2	164.25-129.75	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.74
L3	129.75-96.08	A	0.000	0.000	33.420	0.000	0.23

Tower Section	Tower Elevation	Face	A_R	A_F	C_{AA} In Face	C_{AA} Out Face	Weight
<i>n</i>	<i>ft</i>		<i>ft²</i>	<i>ft²</i>	<i>ft²</i>	<i>ft²</i>	<i>K</i>
L4	96.08-63.25	B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	13.712	0.000	1.09
		A	0.000	0.000	57.990	0.000	0.40
L5	63.25-31.25	B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	44.213	0.000	1.19
		A	0.000	0.000	56.524	0.000	0.39
L6	31.25-0.00	B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	45.312	0.000	1.16
		A	0.000	0.000	55.199	0.000	0.38
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	44.250	0.000	1.14

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A_R	A_F	C_{AA} In Face	C_{AA} Out Face	Weight
<i>n</i>	<i>ft</i>		<i>in</i>	<i>ft²</i>	<i>ft²</i>	<i>ft²</i>	<i>ft²</i>	<i>K</i>
L1	169.00-164.25	A	1.764	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L2	164.25-129.75	A	1.740	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.74
L3	129.75-96.08	A	1.696	0.000	0.000	79.151	0.000	1.35
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	37.590	0.000	1.55
L4	96.08-63.25	A	1.638	0.000	0.000	135.650	0.000	2.29
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	93.792	0.000	2.30
L5	63.25-31.25	A	1.554	0.000	0.000	130.086	0.000	2.15
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	99.357	0.000	2.31
L6	31.25-0.00	A	1.392	0.000	0.000	124.050	0.000	1.99
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	94.821	0.000	2.18

Feed Line Center of Pressure

Section	Elevation	CP_x	CP_z	CP_x Ice	CP_z Ice
	<i>ft</i>	<i>in</i>	<i>in</i>	<i>in</i>	<i>in</i>
L1	169.00-164.25	0.0000	0.0000	0.0000	0.0000
L2	164.25-129.75	0.0000	0.0000	0.0000	0.0000
L3	129.75-96.08	-2.5885	-2.9946	-1.6793	-2.6358
L4	96.08-63.25	-2.4576	-1.2514	-1.6569	-1.7754
L5	63.25-31.25	-2.5905	-0.9863	-1.7795	-1.3672
L6	31.25-0.00	-2.7237	-1.0067	-1.9098	-1.4331

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor K_a

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L2	17	LDF4-50A(1/2)	129.75 - 121.00	1.0000	1.0000
L2	18	LDF4-50A(1/2)	129.75 - 121.00	1.0000	1.0000
L2	23	FB-L98B-034-XXX(3/8)	129.75 - 115.00	1.0000	1.0000
L2	24	WR-VG82ST-BRDA(5/8)	129.75 - 115.00	1.0000	1.0000
L2	27	FB-L98B-034-XXX(3/8)	129.75 - 115.00	1.0000	1.0000
L2	28	WR-VG82ST-BRDA(5/8)	129.75 - 115.00	1.0000	1.0000
L2	29	2" (Nominal) Conduit	129.75 - 115.00	1.0000	1.0000
L2	31	LDF7-50A(1-5/8)	129.75 - 105.00	1.0000	1.0000
L3	17	LDF4-50A(1/2)	96.08 - 121.00	1.0000	1.0000
L3	18	LDF4-50A(1/2)	96.08 - 121.00	1.0000	1.0000
L3	20	LDF5-50A(7/8)	96.08 - 74.00	1.0000	1.0000
L3	23	FB-L98B-034-XXX(3/8)	96.08 - 115.00	1.0000	1.0000
L3	24	WR-VG82ST-BRDA(5/8)	96.08 - 115.00	1.0000	1.0000
L3	27	FB-L98B-034-XXX(3/8)	96.08 - 115.00	1.0000	1.0000
L3	28	WR-VG82ST-BRDA(5/8)	96.08 - 115.00	1.0000	1.0000
L3	29	2" (Nominal) Conduit	96.08 - 115.00	1.0000	1.0000
L3	31	LDF7-50A(1-5/8)	96.08 - 105.00	1.0000	1.0000
L4	17	LDF4-50A(1/2)	63.25 - 96.08	1.0000	1.0000
L4	18	LDF4-50A(1/2)	63.25 - 96.08	1.0000	1.0000
L4	20	LDF5-50A(7/8)	63.25 - 74.00	1.0000	1.0000
L4	23	FB-L98B-034-XXX(3/8)	63.25 - 96.08	1.0000	1.0000
L4	24	WR-VG82ST-BRDA(5/8)	63.25 - 96.08	1.0000	1.0000
L4	27	FB-L98B-034-XXX(3/8)	63.25 - 96.08	1.0000	1.0000
L4	28	WR-VG82ST-BRDA(5/8)	63.25 - 96.08	1.0000	1.0000
L4	29	2" (Nominal) Conduit	63.25 - 96.08	1.0000	1.0000
L4	31	LDF7-50A(1-5/8)	63.25 - 96.08	1.0000	1.0000
L5	17	LDF4-50A(1/2)	31.25 - 63.25	1.0000	1.0000
L5	18	LDF4-50A(1/2)	31.25 - 63.25	1.0000	1.0000
L5	20	LDF5-50A(7/8)	31.25 - 63.25	1.0000	1.0000
L5	23	FB-L98B-034-XXX(3/8)	31.25 - 63.25	1.0000	1.0000
L5	24	WR-VG82ST-BRDA(5/8)	31.25 - 63.25	1.0000	1.0000
L5	27	FB-L98B-034-XXX(3/8)	31.25 - 63.25	1.0000	1.0000
L5	28	WR-VG82ST-BRDA(5/8)	31.25 - 63.25	1.0000	1.0000
L5	29	2" (Nominal) Conduit	31.25 - 63.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L5	31	LDF7-50A(1-5/8)	31.25 - 63.25	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAAA Front ft ²	CAAA Side ft ²	Weight K	

AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	164.00	No Ice 6.75 1/2" 7.20 Ice 7.65	6.07 6.87 7.58	0.15 0.21 0.28	
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 6.75 1/2" 7.20 Ice 7.65	6.07 6.87 7.58	0.15 0.21 0.28	
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 6.75 1/2" 7.20 Ice 7.65	6.07 6.87 7.58	0.15 0.21 0.28	
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 20.48 1/2" 21.23 Ice 21.99	11.02 12.55 14.10	0.16 0.30 0.44	
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 20.48 1/2" 21.23 Ice 21.99	11.02 12.55 14.10	0.16 0.30 0.44	
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 20.48 1/2" 21.23 Ice 21.99	11.02 12.55 14.10	0.16 0.30 0.44	
RADIO 4449 B12/B71	A	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 1.65 1/2" 1.81 Ice 1.98	1.30 1.44 1.60	0.08 0.09 0.11	
RADIO 4449 B12/B71	B	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 1.65 1/2" 1.81 Ice 1.98	1.30 1.44 1.60	0.08 0.09 0.11	
RADIO 4449 B12/B71	C	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 1.65 1/2" 1.81 Ice 1.98	1.30 1.44 1.60	0.08 0.09 0.11	
(2) COL45-70	A	From Leg	4.00 0.00 4.00	0.0000	164.00	1" Ice No Ice 1.38 1/2" 2.32 Ice 3.27	1.38 2.32 3.27	0.01 0.02 0.03	
COL45-70	C	From Leg	4.00 0.00 22.00	0.0000	164.00	1" Ice No Ice 1.38 1/2" 2.32 Ice 3.27	1.38 2.32 3.27	0.01 0.02 0.03	
ATMAA1412D-1A20	A	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 1.00 1/2" 1.13 Ice 1.26	0.41 0.50 0.59	0.01 0.02 0.03	
ATMAA1412D-1A20	B	From Leg	4.00 0.00	0.0000	164.00	1" Ice No Ice 1.00 1/2" 1.13	0.41 0.50	0.01 0.02	

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			1.00			1/2" Ice 1.26	0.59	0.03
ATMAA1412D-1A20	C	From Leg	4.00 0.00 1.00	0.0000	164.00	1" Ice No Ice 1/2" Ice 1.26	0.41 0.50 0.59	0.01 0.02 0.03
Platform Mount [LP 403-1]	C	None		0.0000	164.00	1" Ice No Ice 1/2" Ice 29.75	18.85 18.85 24.30 29.75	1.50 1.80 2.09
(2) 2.375" OD x 6' Mount Pipe	B	None		0.0000	164.00	1" Ice No Ice 1/2" Ice 2.29	1.43 1.43 1.92 2.29	0.03 0.04 0.05
2.375" OD x 6' Mount Pipe	C	None		0.0000	164.00	1" Ice No Ice 1/2" Ice 2.29	1.43 1.43 1.92 2.29	0.03 0.04 0.05

APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 7.47	4.96 5.75 6.47	0.08 0.13 0.19
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 7.47	4.96 5.75 6.47	0.08 0.13 0.19
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 7.47	4.96 5.75 6.47	0.08 0.13 0.19
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 9.35	6.95 8.13 9.02	0.08 0.15 0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 9.35	6.95 8.13 9.02	0.08 0.15 0.23
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 9.35	6.95 8.13 9.02	0.08 0.15 0.23
TD-RRH8x20-25	A	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 4.56	1.53 1.71 1.90	0.07 0.10 0.13
TD-RRH8x20-25	B	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 4.56	1.53 1.71 1.90	0.07 0.10 0.13
TD-RRH8x20-25	C	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 4.56	1.53 1.71 1.90	0.07 0.10 0.13
800MHZ RRH	A	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 2.51	1.77 1.95 2.13	0.05 0.07 0.10
800MHZ RRH	B	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice No Ice 1/2" Ice 2.51	1.77 1.95 2.13	0.05 0.07 0.10
800MHZ RRH	C	From Leg	4.00	0.0000	155.00	1" Ice No Ice	1.77	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			1/2"	2.32	1.95	0.07
			0.00			Ice	2.51	2.13	0.10
1900MHz RRH	A	From Leg	4.00	0.0000	155.00	1" Ice			
			0.00			No Ice	2.49	3.26	0.04
			0.00			1/2"	2.70	3.48	0.08
			0.00			Ice	2.91	3.72	0.11
1900MHz RRH	B	From Leg	4.00	0.0000	155.00	1" Ice			
			0.00			No Ice	2.49	3.26	0.04
			0.00			1/2"	2.70	3.48	0.08
			0.00			Ice	2.91	3.72	0.11
1900MHz RRH	C	From Leg	4.00	0.0000	155.00	1" Ice			
			0.00			No Ice	2.49	3.26	0.04
			0.00			1/2"	2.70	3.48	0.08
			0.00			Ice	2.91	3.72	0.11
Platform Mount [LP 305-1]	C	None		0.0000	155.00	1" Ice			
						No Ice	18.01	18.01	1.12
						1/2"	23.33	23.33	1.35
						Ice	28.65	28.65	1.58
2.375" OD x 6' Mount Pipe	A	None		0.0000	155.00	1" Ice			
						No Ice	1.43	1.43	0.03
						1/2"	1.92	1.92	0.04
						Ice	2.29	2.29	0.05
2.375" OD x 6' Mount Pipe	B	None		0.0000	155.00	1" Ice			
						No Ice	1.43	1.43	0.03
						1/2"	1.92	1.92	0.04
						Ice	2.29	2.29	0.05
2.375" OD x 6' Mount Pipe	C	None		0.0000	155.00	1" Ice			
						No Ice	1.43	1.43	0.03
						1/2"	1.92	1.92	0.04
						Ice	2.29	2.29	0.05
						1" Ice			

(2) LPA-80080/6CF w/ Mount Pipe	A	From Leg	4.00	0.0000	142.00	No Ice	4.56	10.26	0.05
			0.00			1/2"	5.11	11.43	0.11
			0.00			Ice	5.61	12.31	0.19
						1" Ice			
(2) LPA-80080/6CF w/ Mount Pipe	B	From Leg	4.00	0.0000	142.00	No Ice	4.56	10.26	0.05
			0.00			1/2"	5.11	11.43	0.11
			0.00			Ice	5.61	12.31	0.19
						1" Ice			
(2) LPA-80080/6CF w/ Mount Pipe	C	From Leg	4.00	0.0000	142.00	No Ice	4.56	10.26	0.05
			0.00			1/2"	5.11	11.43	0.11
			0.00			Ice	5.61	12.31	0.19
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.0000	142.00	No Ice	8.32	7.00	0.07
			0.00			1/2"	8.88	8.19	0.13
			0.00			Ice	9.40	9.08	0.21
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.0000	142.00	No Ice	8.32	7.00	0.07
			0.00			1/2"	8.88	8.19	0.13
			0.00			Ice	9.40	9.08	0.21
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.0000	142.00	No Ice	8.32	7.00	0.07
			0.00			1/2"	8.88	8.19	0.13
			0.00			Ice	9.40	9.08	0.21
						1" Ice			
B4 RRH2X60-4R	A	From Leg	4.00	0.0000	142.00	No Ice	3.36	2.00	0.06
			0.00			1/2"	3.61	2.24	0.08
			0.00			Ice	3.88	2.48	0.10
						1" Ice			
B4 RRH2X60-4R	B	From Leg	4.00	0.0000	142.00	No Ice	3.36	2.00	0.06
			0.00			1/2"	3.61	2.24	0.08
			0.00			Ice	3.88	2.48	0.10
						1" Ice			
B4 RRH2X60-4R	C	From Leg	4.00	0.0000	142.00	No Ice	3.36	2.00	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.00			1/2"	3.61	0.08
			0.00			Ice	3.88	0.10
RRH2x60-700	A	From Leg	4.00	0.0000	142.00	1" Ice		
			0.00			No Ice	3.50	0.06
			0.00			1/2"	3.76	0.08
			0.00			Ice	4.03	0.11
RRH2x60-700	B	From Leg	4.00	0.0000	142.00	1" Ice		
			0.00			No Ice	3.50	0.06
			0.00			1/2"	3.76	0.08
			0.00			Ice	4.03	0.11
RRH2x60-700	C	From Leg	4.00	0.0000	142.00	1" Ice		
			0.00			No Ice	3.50	0.06
			0.00			1/2"	3.76	0.08
			0.00			Ice	4.03	0.11
RRH2X60-AWS	A	From Leg	4.00	0.0000	142.00	1" Ice		
			0.00			No Ice	3.50	0.06
			0.00			1/2"	3.76	0.08
			0.00			Ice	4.03	0.11
RRH2X60-AWS	B	From Leg	4.00	0.0000	142.00	1" Ice		
			0.00			No Ice	3.50	0.06
			0.00			1/2"	3.76	0.08
			0.00			Ice	4.03	0.11
RRH2X60-AWS	C	From Leg	4.00	0.0000	142.00	1" Ice		
			0.00			No Ice	3.50	0.06
			0.00			1/2"	3.76	0.08
			0.00			Ice	4.03	0.11
DB-T1-6Z-8AB-0Z	C	From Leg	4.00	0.0000	142.00	1" Ice		
			0.00			No Ice	4.80	0.04
			0.00			1/2"	5.07	0.08
			0.00			Ice	5.35	0.12
Platform Mount [LP 403-1]	C	None		0.0000	142.00	1" Ice		
						No Ice	18.85	1.50
						1/2"	24.30	1.80
						Ice	29.75	2.09
						1" Ice		

201-4	A	From Leg	1.00	0.0000	121.00	No Ice	1.13	0.00
			0.00			1/2"	2.00	0.01
			4.00			Ice	2.90	0.03
						1" Ice		
Pipe Mount [PM 601-1]	C	None		0.0000	121.00	No Ice	3.00	0.07
						1/2"	3.74	0.08
						Ice	4.48	0.09
						1" Ice		

7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	115.00	No Ice	5.75	0.06
			0.00			1/2"	6.18	0.10
			0.00			Ice	6.61	0.16
						1" Ice		
7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	115.00	No Ice	5.75	0.06
			0.00			1/2"	6.18	0.10
			0.00			Ice	6.61	0.16
						1" Ice		
7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	115.00	No Ice	5.75	0.06
			0.00			1/2"	6.18	0.10
			0.00			Ice	6.61	0.16
						1" Ice		
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00	0.0000	115.00	No Ice	8.26	0.07
			0.00			1/2"	8.82	0.14
			0.00			Ice	9.35	0.21
						1" Ice		
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00	0.0000	115.00	No Ice	8.26	0.07
			0.00			1/2"	8.82	0.14
			0.00			Ice	9.35	0.21
						1" Ice		

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.00	0.0000	115.00	No Ice	8.26	6.30	0.07
			0.00			1/2"	8.82	7.48	0.14
			0.00			Ice	9.35	8.37	0.21
DTMABP7819VG12A	A	From Leg	4.00	0.0000	115.00	No Ice	0.98	0.34	0.02
			0.00			1/2"	1.10	0.42	0.03
			0.00			Ice	1.23	0.51	0.04
DTMABP7819VG12A	B	From Leg	4.00	0.0000	115.00	No Ice	0.98	0.34	0.02
			0.00			1/2"	1.10	0.42	0.03
			0.00			Ice	1.23	0.51	0.04
DTMABP7819VG12A	C	From Leg	4.00	0.0000	115.00	No Ice	0.98	0.34	0.02
			0.00			1/2"	1.10	0.42	0.03
			0.00			Ice	1.23	0.51	0.04
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	115.00	No Ice	0.79	0.79	0.02
			0.00			1/2"	1.27	1.27	0.03
			0.00			Ice	1.45	1.45	0.05
DC6-48-60-18-8F	B	From Leg	4.00	0.0000	115.00	No Ice	0.79	0.79	0.02
			0.00			1/2"	1.27	1.27	0.03
			0.00			Ice	1.45	1.45	0.05
(2) RRUS 11	B	From Leg	4.00	0.0000	115.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			0.00			Ice	3.21	1.49	0.10
RRUS 11	C	From Leg	4.00	0.0000	115.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			0.00			Ice	3.21	1.49	0.10
WCS RRUS-32-B30	A	From Leg	4.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
WCS RRUS-32-B30	B	From Leg	4.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
WCS RRUS-32-B30	C	From Leg	4.00	0.0000	115.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
(2) TPX-070821	A	From Leg	4.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
(2) TPX-070821	B	From Leg	4.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
(2) TPX-070821	C	From Leg	4.00	0.0000	115.00	No Ice	0.47	0.10	0.01
			0.00			1/2"	0.56	0.15	0.01
			0.00			Ice	0.66	0.20	0.02
80010965 w/ Mount Pipe	A	From Leg	4.00	0.0000	115.00	No Ice	14.05	7.63	0.13
			0.00			1/2"	14.69	8.90	0.22
			0.00			Ice	15.30	9.96	0.33
80010965 w/ Mount Pipe	B	From Leg	4.00	0.0000	115.00	No Ice	14.05	7.63	0.13
			0.00			1/2"	14.69	8.90	0.22
			0.00			Ice	15.30	9.96	0.33
80010965 w/ Mount Pipe	C	From Leg	4.00	0.0000	115.00	No Ice	14.05	7.63	0.13
			0.00			1/2"	14.69	8.90	0.22
			0.00			Ice	15.30	9.96	0.33

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
			0.00				1/2"	14.69	8.90	0.22
			0.00				Ice	15.30	9.96	0.33
QS66512-2 w/ Mount Pipe	A	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	8.37	8.46	0.14
			0.00				1/2"	8.93	9.66	0.21
			0.00				Ice	9.46	10.55	0.30
QS66512-2 w/ Mount Pipe	B	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	8.37	8.46	0.14
			0.00				1/2"	8.93	9.66	0.21
			0.00				Ice	9.46	10.55	0.30
QS66512-2 w/ Mount Pipe	C	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	8.37	8.46	0.14
			0.00				1/2"	8.93	9.66	0.21
			0.00				Ice	9.46	10.55	0.30
(3) DBCT108F1V92-1	A	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	0.64	0.60	0.03
			0.00				1/2"	0.74	0.71	0.04
			0.00				Ice	0.85	0.81	0.04
(2) DBCT108F1V92-1	B	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	0.64	0.60	0.03
			0.00				1/2"	0.74	0.71	0.04
			0.00				Ice	0.85	0.81	0.04
DBCT108F1V92-1	C	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	0.64	0.60	0.03
			0.00				1/2"	0.74	0.71	0.04
			0.00				Ice	0.85	0.81	0.04
RRUS 4478 B5	A	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			0.00				Ice	2.19	1.34	0.09
RRUS 4478 B5	B	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			0.00				Ice	2.19	1.34	0.09
RRUS 4478 B5	C	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			0.00				Ice	2.19	1.34	0.09
RRUS 4478 B14	A	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			0.00				Ice	2.19	1.34	0.09
(2) RRUS 4478 B14	C	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			0.00				Ice	2.19	1.34	0.09
RRUS 12 B2	A	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	3.14	1.28	0.05
			0.00				1/2"	3.36	1.43	0.07
			0.00				Ice	3.59	1.60	0.10
RRUS 12 B2	B	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	3.14	1.28	0.05
			0.00				1/2"	3.36	1.43	0.07
			0.00				Ice	3.59	1.60	0.10
RRUS 12 B2	C	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	3.14	1.28	0.05
			0.00				1/2"	3.36	1.43	0.07
			0.00				Ice	3.59	1.60	0.10
DC6-48-60-18-8C	B	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	1.14	1.14	0.03
			0.00				1/2"	1.79	1.79	0.05
			0.00				Ice	2.00	2.00	0.07
RRUS 4426 B66	B	From Leg	4.00	0.0000	115.00		1" Ice			
			0.00				No Ice	1.64	0.73	0.05
								1.80	0.84	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.00			1/2" Ice 1.97	0.97	0.08
(2) RRUS 4426 B66	C	From Leg	4.00 0.00 0.00	0.0000	115.00	No Ice 1" Ice 1/2" Ice 1.64 1.80 1.97	0.73 0.84 0.97	0.05 0.06 0.08
Platform Mount [LP 305-1]	C	None		0.0000	115.00	No Ice 1" Ice 1/2" Ice 18.01 23.33 28.65	18.01 23.33 28.65	1.12 1.35 1.58
Miscellaneous [NA 507-1]	C	None		0.0000	115.00	No Ice 1" Ice 1/2" Ice Ice 4.80 6.70 8.60	4.80 4.80 6.70 8.60	0.25 0.29 0.34
***						1" Ice		
APXV18-206517S-C w/ Mount Pipe	A	From Leg	1.00 0.00 0.00	0.0000	105.00	No Ice 1/2" Ice Ice 5.40 5.96 6.48	4.70 5.86 6.73	0.05 0.10 0.15
APXV18-206517S-C w/ Mount Pipe	B	From Leg	1.00 0.00 0.00	0.0000	105.00	No Ice 1" Ice 1/2" Ice Ice 5.40 5.96 6.48	4.70 4.70 5.86 6.73	0.05 0.10 0.15
APXV18-206517S-C w/ Mount Pipe	C	From Leg	1.00 0.00 0.00	0.0000	105.00	No Ice 1" Ice 1/2" Ice Ice 5.40 5.96 6.48	4.70 4.70 5.86 6.73	0.05 0.10 0.15
Pipe Mount [PM 601-3]	C	None		0.0000	105.00	No Ice 1" Ice 1/2" Ice Ice 4.39 5.48 6.57	4.39 4.39 5.48 6.57	0.20 0.24 0.28
***						1" Ice		
DB810T3E-XT	A	From Leg	4.00 0.00 9.00	0.0000	74.00	No Ice 1/2" Ice Ice 4.53 6.07 7.63	4.53 6.07 7.63	0.05 0.08 0.12
Side Arm Mount [SO 306-1]	C	None		0.0000	74.00	No Ice 1" Ice 1/2" Ice Ice 0.98 1.70 2.42	2.18 3.80 5.42	0.04 0.06 0.08
****						1" Ice		

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation ft	z ft	K _Z	q _Z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
L1 169.00-164.25	166.48	1.409	29.64	8.827	A	0.000	8.827	8.827	100.00	0.000	0.000
					B	0.000	8.827		100.00	0.000	0.000
					C	0.000	8.827		100.00	0.000	0.000
L2 164.25-129.75	145.90	1.37	28.81	82.146	A	0.000	82.146	82.146	100.00	0.000	0.000
					B	0.000	82.146		100.00	0.000	0.000
					C	0.000	82.146		100.00	0.000	0.000
L3 129.75-96.08	112.40	1.297	27.27	106.487	A	0.000	106.487	106.487	100.00	33.420	0.000
				7	B	0.000	106.487		100.00	0.000	0.000

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L4 96.08-63.25	79.35	1.205	25.32	124.878	C	0.000	106.487	124.878	100.00	13.712	0.000
					A	0.000	124.878		100.00	57.990	0.000
					B	0.000	124.878		100.00	0.000	0.000
L5 63.25-31.25	47.14	1.08	22.64	141.226	C	0.000	124.878	141.226	100.00	44.213	0.000
					A	0.000	141.226		100.00	56.524	0.000
					B	0.000	141.226		100.00	0.000	0.000
L6 31.25-0.00	15.65	0.856	18.71	156.261	C	0.000	141.226	156.261	100.00	45.312	0.000
					A	0.000	156.261		100.00	55.199	0.000
					B	0.000	156.261		100.00	0.000	0.000
					C	0.000	156.261		100.00	44.250	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L1 169.00-164.25	166.48	1.409	5.48	1.7635	10.224	A	0.000	10.224	10.224	100.00	0.000	0.000
						B	0.000	10.224		100.00	0.000	0.000
						C	0.000	10.224		100.00	0.000	0.000
L2 164.25-129.75	145.90	1.37	5.33	1.7404	92.286	A	0.000	92.286	92.286	100.00	0.000	0.000
						B	0.000	92.286		100.00	0.000	0.000
						C	0.000	92.286		100.00	0.000	0.000
L3 129.75-96.08	112.40	1.297	5.04	1.6956	116.254	A	0.000	116.254	116.254	100.00	79.151	0.000
						B	0.000	116.254		100.00	0.000	0.000
						C	0.000	116.254		100.00	37.590	0.000
L4 96.08-63.25	79.35	1.205	4.68	1.6376	134.156	A	0.000	134.156	134.156	100.00	135.650	0.000
						B	0.000	134.156		100.00	0.000	0.000
						C	0.000	134.156		100.00	93.792	0.000
L5 63.25-31.25	47.14	1.08	4.19	1.5545	149.960	A	0.000	149.960	149.960	100.00	130.086	0.000
						B	0.000	149.960		100.00	0.000	0.000
						C	0.000	149.960		100.00	99.357	0.000
L6 31.25-0.00	15.65	0.856	3.46	1.3922	164.357	A	0.000	164.357	164.357	100.00	124.050	0.000
						B	0.000	164.357		100.00	0.000	0.000
						C	0.000	164.357		100.00	94.821	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		psf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L1 169.00-164.25	166.48	1.409	11.04	8.827	A	0.000	8.827	8.827	100.00	0.000	0.000
					B	0.000	8.827		100.00	0.000	0.000
					C	0.000	8.827		100.00	0.000	0.000
L2 164.25-129.75	145.90	1.37	10.73	82.146	A	0.000	82.146	82.146	100.00	0.000	0.000
					B	0.000	82.146		100.00	0.000	0.000
					C	0.000	82.146		100.00	0.000	0.000
L3 129.75-96.08	112.40	1.297	10.15	106.487	A	0.000	106.487	106.487	100.00	33.420	0.000
					B	0.000	106.487		100.00	0.000	0.000
					C	0.000	106.487		100.00	13.712	0.000
L4 96.08-63.25	79.35	1.205	9.43	124.878	A	0.000	124.878	124.878	100.00	57.990	0.000
					B	0.000	124.878		100.00	0.000	0.000
					C	0.000	124.878		100.00	44.213	0.000
L5 63.25-31.25	47.14	1.08	8.43	141.226	A	0.000	141.226	141.226	100.00	56.524	0.000
					B	0.000	141.226		100.00	0.000	0.000

Section Elevation ft	z ft	K_z	q_z psf	A_G ft ²	F a c e	A_F ft ²	A_R ft ²	A_{leg} ft ²	Leg %	C_{AA} In Face ft ²	C_{AA} Out Face ft ²
L6 31.25-0.00	15.65	0.856	6.97	156.261	C	0.000	141.226	156.261	100.00	45.312	0.000
					A	0.000	156.261		100.00	55.199	0.000
					B	0.000	156.261		100.00	0.000	0.000
					C	0.000	156.261		100.00	44.250	0.000

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	169 - 164.25	Pole	Max Tension	20	0.00	-0.00	-0.00
			Max. Compression	26	-0.44	0.00	0.00
			Max. Mx	8	-0.24	-0.40	0.00
			Max. My	14	-0.24	0.00	-0.40
			Max. Vy	8	0.22	-0.40	0.00
			Max. Vx	14	0.22	0.00	-0.40
L2	164.25 - 129.75	Pole	Max. Torque	16			0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.30	1.29	0.08
			Max. Mx	20	-12.78	331.56	-0.54
			Max. My	14	-12.80	0.67	-330.73
			Max. Vy	8	17.55	-331.10	0.36
L3	129.75 - 96.08	Pole	Max. Vx	14	17.48	0.67	-330.73
			Max. Torque	4			0.75
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.69	2.04	-0.18
			Max. Mx	20	-25.34	1068.94	-2.84
			Max. My	14	-25.37	3.03	-1063.78
L4	96.08 - 63.25	Pole	Max. Vy	8	28.79	-1067.73	1.86
			Max. Vx	14	28.57	3.03	-1063.78
			Max. Torque	4			0.82
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.61	3.40	2.76
			Max. Mx	20	-35.25	2057.12	-4.22
L5	63.25 - 31.25	Pole	Max. My	2	-35.31	-3.44	2036.12
			Max. Vy	8	33.09	-2055.35	4.74
			Max. Vx	14	32.27	5.52	-2035.89
			Max. Torque	7			1.29
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.95	4.83	4.36
L6	31.25 - 0	Pole	Max. Mx	20	-46.53	3151.83	-5.81
			Max. My	2	-46.58	-5.10	3095.70
			Max. Vy	8	36.84	-3149.41	7.28
			Max. Vx	14	35.41	7.98	-3094.68
			Max. Torque	7			1.29
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-109.15	6.71	6.37
			Max. Mx	20	-61.76	4604.16	-7.60
			Max. My	2	-61.77	-7.00	4485.06
			Max. Vy	8	40.37	-4600.87	10.31
			Max. Vx	14	38.47	10.92	-4482.97
			Max. Torque	7			1.29

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	109.15	-0.00	-0.00
	Max. H _x	21	46.34	40.33	-0.06
	Max. H _z	3	46.34	-0.06	38.44
	Max. M _x	2	4485.06	-0.06	38.43
	Max. M _z	8	4600.87	-40.33	0.06
	Max. Torsion	7	1.29	-34.69	19.96
	Min. Vert	21	46.34	40.33	-0.06
	Min. H _x	8	61.79	-40.33	0.06
	Min. H _z	14	61.79	0.06	-38.44
	Min. M _x	14	-4482.97	0.06	-38.44
	Min. M _z	20	-4604.16	40.33	-0.06
	Min. Torsion	19	-1.29	34.69	-19.96

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	51.49	-0.00	-0.00	-1.11	1.57	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	61.78	0.06	-38.43	-4485.06	-7.00	-0.53
0.9 Dead+1.6 Wind 0 deg - No Ice	46.34	0.06	-38.44	-4438.57	-7.41	-0.52
1.2 Dead+1.6 Wind 30 deg - No Ice	61.79	19.38	-33.33	-3890.11	-2261.15	-1.05
0.9 Dead+1.6 Wind 30 deg - No Ice	46.34	19.38	-33.33	-3849.44	-2238.19	-1.05
1.2 Dead+1.6 Wind 60 deg - No Ice	61.79	34.69	-19.96	-2291.98	-3978.67	-1.28
0.9 Dead+1.6 Wind 60 deg - No Ice	46.34	34.69	-19.96	-2268.06	-3938.21	-1.29
1.2 Dead+1.6 Wind 90 deg - No Ice	61.79	40.33	-0.06	-10.31	-4600.87	-1.18
0.9 Dead+1.6 Wind 90 deg - No Ice	46.34	40.33	-0.06	-9.87	-4553.80	-1.18
1.2 Dead+1.6 Wind 120 deg - No Ice	61.79	33.43	19.17	2233.25	-3899.56	-0.75
0.9 Dead+1.6 Wind 120 deg - No Ice	46.34	33.43	19.17	2210.43	-3859.62	-0.76
1.2 Dead+1.6 Wind 150 deg - No Ice	61.79	19.27	33.26	3878.07	-2245.42	-0.13
0.9 Dead+1.6 Wind 150 deg - No Ice	46.34	19.27	33.26	3838.19	-2222.63	-0.14
1.2 Dead+1.6 Wind 180 deg - No Ice	61.79	-0.06	38.44	4482.97	10.92	0.53
0.9 Dead+1.6 Wind 180 deg - No Ice	46.34	-0.06	38.44	4436.54	10.32	0.52
1.2 Dead+1.6 Wind 210 deg - No Ice	61.79	-19.38	33.33	3887.40	2265.07	1.04
0.9 Dead+1.6 Wind 210 deg - No Ice	46.34	-19.38	33.33	3847.42	2241.10	1.04
1.2 Dead+1.6 Wind 240 deg - No Ice	61.79	-34.69	19.96	2289.27	3982.59	1.28
0.9 Dead+1.6 Wind 240 deg - No Ice	46.34	-34.69	19.96	2266.03	3941.11	1.29
1.2 Dead+1.6 Wind 270 deg - No Ice	61.78	-40.33	0.06	7.60	4604.16	1.18
0.9 Dead+1.6 Wind 270 deg - No Ice	46.34	-40.33	0.06	7.85	4556.71	1.18
1.2 Dead+1.6 Wind 300 deg - No Ice	61.79	-33.43	-19.17	-2235.96	3903.48	0.76
0.9 Dead+1.6 Wind 300 deg - No Ice	46.34	-33.43	-19.17	-2212.45	3862.53	0.76
1.2 Dead+1.6 Wind 330 deg - No Ice	61.79	-19.27	-33.26	-3880.79	2249.35	0.13
0.9 Dead+1.6 Wind 330 deg - No Ice	46.34	-19.27	-33.26	-3840.22	2225.54	0.14
1.2 Dead+1.0 Ice+1.0 Temp	109.15	0.00	0.00	-6.37	6.71	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	109.15	0.01	-7.71	-914.06	5.89	-0.13
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	109.15	3.88	-6.68	-793.09	-449.35	-0.33
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	109.15	7.60	-4.38	-495.91	-842.03	-0.43
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	109.15	9.00	-0.01	-7.89	-985.42	-0.42
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	109.15	6.70	3.85	445.95	-781.09	-0.30
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	109.15	3.86	6.67	778.51	-447.27	-0.10
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	109.15	-0.01	7.71	900.68	8.30	0.13

Load Combination	Vertical	Shear _x	Shear _z	Overtuning Moment, M _x	Overtuning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	109.15	-3.88	6.68	779.71	463.55	0.33
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	109.15	-7.60	4.38	482.53	856.23	0.43
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	109.15	-9.00	0.01	-5.49	999.62	0.42
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	109.15	-6.70	-3.85	-459.33	795.28	0.30
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	109.15	-3.86	-6.67	-791.89	461.46	0.10
Dead+Wind 0 deg - Service	51.49	0.01	-8.95	-1038.54	-0.45	-0.12
Dead+Wind 30 deg - Service	51.49	4.51	-7.76	-900.68	-521.88	-0.24
Dead+Wind 60 deg - Service	51.49	8.07	-4.65	-531.04	-919.24	-0.30
Dead+Wind 90 deg - Service	51.49	9.39	-0.01	-3.20	-1063.29	-0.28
Dead+Wind 120 deg - Service	51.49	7.78	4.46	515.78	-900.88	-0.18
Dead+Wind 150 deg - Service	51.49	4.48	7.74	896.26	-518.24	-0.03
Dead+Wind 180 deg - Service	51.49	-0.01	8.95	1036.29	3.70	0.12
Dead+Wind 210 deg - Service	51.49	-4.51	7.76	898.42	525.13	0.24
Dead+Wind 240 deg - Service	51.49	-8.07	4.65	528.78	922.49	0.30
Dead+Wind 270 deg - Service	51.49	-9.39	0.01	0.94	1066.54	0.28
Dead+Wind 300 deg - Service	51.49	-7.78	-4.46	-518.04	904.13	0.18
Dead+Wind 330 deg - Service	51.49	-4.48	-7.74	-898.52	521.49	0.03

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-51.49	0.00	0.00	51.49	0.00	0.000%
2	0.06	-61.79	-38.44	-0.06	61.78	38.43	0.010%
3	0.06	-46.34	-38.44	-0.06	46.34	38.44	0.009%
4	19.38	-61.79	-33.33	-19.38	61.79	33.33	0.000%
5	19.38	-46.34	-33.33	-19.38	46.34	33.33	0.000%
6	34.69	-61.79	-19.96	-34.69	61.79	19.96	0.000%
7	34.69	-46.34	-19.96	-34.69	46.34	19.96	0.000%
8	40.34	-61.79	-0.06	-40.33	61.79	0.06	0.004%
9	40.34	-46.34	-0.06	-40.33	46.34	0.06	0.008%
10	33.43	-61.79	19.17	-33.43	61.79	-19.17	0.000%
11	33.43	-46.34	19.17	-33.43	46.34	-19.17	0.000%
12	19.27	-61.79	33.26	-19.27	61.79	-33.26	0.000%
13	19.27	-46.34	33.26	-19.27	46.34	-33.26	0.000%
14	-0.06	-61.79	38.44	0.06	61.79	-38.44	0.004%
15	-0.06	-46.34	38.44	0.06	46.34	-38.44	0.009%
16	-19.38	-61.79	33.33	19.38	61.79	-33.33	0.000%
17	-19.38	-46.34	33.33	19.38	46.34	-33.33	0.000%
18	-34.69	-61.79	19.96	34.69	61.79	-19.96	0.000%
19	-34.69	-46.34	19.96	34.69	46.34	-19.96	0.000%
20	-40.34	-61.79	0.06	40.33	61.78	-0.06	0.010%
21	-40.34	-46.34	0.06	40.33	46.34	-0.06	0.008%
22	-33.43	-61.79	-19.17	33.43	61.79	19.17	0.000%
23	-33.43	-46.34	-19.17	33.43	46.34	19.17	0.000%
24	-19.27	-61.79	-33.26	19.27	61.79	33.26	0.000%
25	-19.27	-46.34	-33.26	19.27	46.34	33.26	0.000%
26	0.00	-109.15	0.00	-0.00	109.15	-0.00	0.001%
27	0.01	-109.15	-7.71	-0.01	109.15	7.71	0.000%
28	3.88	-109.15	-6.68	-3.88	109.15	6.68	0.000%
29	7.60	-109.15	-4.38	-7.60	109.15	4.38	0.001%
30	9.00	-109.15	-0.01	-9.00	109.15	0.01	0.001%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
31	6.70	-109.15	3.85	-6.70	109.15	-3.85	0.000%
32	3.86	-109.15	6.67	-3.86	109.15	-6.67	0.000%
33	-0.01	-109.15	7.71	0.01	109.15	-7.71	0.000%
34	-3.88	-109.15	6.68	3.88	109.15	-6.68	0.000%
35	-7.60	-109.15	4.38	7.60	109.15	-4.38	0.001%
36	-9.00	-109.15	0.01	9.00	109.15	-0.01	0.001%
37	-6.70	-109.15	-3.85	6.70	109.15	3.85	0.001%
38	-3.86	-109.15	-6.67	3.86	109.15	6.67	0.001%
39	0.01	-51.49	-8.95	-0.01	51.49	8.95	0.003%
40	4.51	-51.49	-7.76	-4.51	51.49	7.76	0.003%
41	8.07	-51.49	-4.65	-8.07	51.49	4.65	0.003%
42	9.39	-51.49	-0.01	-9.39	51.49	0.01	0.003%
43	7.78	-51.49	4.46	-7.78	51.49	-4.46	0.003%
44	4.48	-51.49	7.74	-4.48	51.49	-7.74	0.003%
45	-0.01	-51.49	8.95	0.01	51.49	-8.95	0.003%
46	-4.51	-51.49	7.76	4.51	51.49	-7.76	0.003%
47	-8.07	-51.49	4.65	8.07	51.49	-4.65	0.003%
48	-9.39	-51.49	0.01	9.39	51.49	-0.01	0.003%
49	-7.78	-51.49	-4.46	7.78	51.49	4.46	0.003%
50	-4.48	-51.49	-7.74	4.48	51.49	7.74	0.003%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	13	0.00014619	0.00012875
3	Yes	13	0.00010000	0.00011865
4	Yes	18	0.00000001	0.00006702
5	Yes	17	0.00000001	0.00012542
6	Yes	18	0.00000001	0.00006980
7	Yes	17	0.00000001	0.00013030
8	Yes	14	0.00006072	0.00007105
9	Yes	13	0.00009986	0.00014401
10	Yes	18	0.00000001	0.00006670
11	Yes	17	0.00000001	0.00012487
12	Yes	18	0.00000001	0.00006679
13	Yes	17	0.00000001	0.00012511
14	Yes	14	0.00006081	0.00006531
15	Yes	13	0.00010000	0.00013485
16	Yes	18	0.00000001	0.00006855
17	Yes	17	0.00000001	0.00012832
18	Yes	18	0.00000001	0.00006838
19	Yes	17	0.00000001	0.00012749
20	Yes	13	0.00014598	0.00013715
21	Yes	13	0.00009985	0.00012508
22	Yes	18	0.00000001	0.00006745
23	Yes	17	0.00000001	0.00012624
24	Yes	18	0.00000001	0.00006719
25	Yes	17	0.00000001	0.00012577
26	Yes	8	0.00000001	0.00000998
27	Yes	15	0.00000001	0.00010711
28	Yes	15	0.00000001	0.00011748
29	Yes	15	0.00000001	0.00012457
30	Yes	15	0.00000001	0.00011185
31	Yes	15	0.00000001	0.00011598
32	Yes	15	0.00000001	0.00011720
33	Yes	15	0.00000001	0.00010585
34	Yes	15	0.00000001	0.00011805
35	Yes	15	0.00000001	0.00012493
36	Yes	15	0.00000001	0.00011369
37	Yes	15	0.00000001	0.00011916
38	Yes	15	0.00000001	0.00011879
39	Yes	13	0.00011884	0.00003640
40	Yes	13	0.00011873	0.00005477
41	Yes	13	0.00011865	0.00006467
42	Yes	13	0.00011875	0.00003711
43	Yes	13	0.00011874	0.00005626
44	Yes	13	0.00011874	0.00005700
45	Yes	13	0.00011885	0.00003645
46	Yes	13	0.00011874	0.00006281
47	Yes	13	0.00011866	0.00005666
48	Yes	13	0.00011875	0.00003714
49	Yes	13	0.00011873	0.00006006
50	Yes	13	0.00011873	0.00005868

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164.25	22.465	48	1.0654	0.0013
L2	166.625 - 129.75	21.935	48	1.0653	0.0013
L3	133.58 - 96.08	14.762	48	0.9785	0.0006
L4	100.75 - 63.25	8.606	48	0.7906	0.0004
L5	68.75 - 31.25	4.057	48	0.5466	0.0003
L6	37.5 - 0	1.236	48	0.2958	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
164.00	AIR 32 B2A/B66AA w/ Mount Pipe	48	21.350	1.0643	0.0012	87593
155.00	APXVTM14-C-120 w/ Mount Pipe	48	19.353	1.0519	0.0011	31584
142.00	(2) LPA-80080/6CF w/ Mount Pipe	48	16.529	1.0134	0.0008	16380
121.00	201-4	48	12.251	0.9158	0.0004	10368
115.00	7770.00 w/ Mount Pipe	48	11.116	0.8817	0.0004	9593
105.00	APXV18-206517S-C w/ Mount Pipe	48	9.325	0.8193	0.0004	8530
74.00	DB810T3E-XT	48	4.696	0.5886	0.0003	7763

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164.25	97.048	20	4.6058	0.0054
L2	166.625 - 129.75	94.759	20	4.6058	0.0054
L3	133.58 - 96.08	63.780	20	4.2303	0.0026
L4	100.75 - 63.25	37.182	20	3.4180	0.0016
L5	68.75 - 31.25	17.525	20	2.3625	0.0012
L6	37.5 - 0	5.340	20	1.2780	0.0005

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
164.00	AIR 32 B2A/B66AA w/ Mount Pipe	20	92.232	4.6013	0.0054	20652
155.00	APXVTM14-C-120 w/ Mount Pipe	20	83.609	4.5475	0.0048	7394
142.00	(2) LPA-80080/6CF w/ Mount Pipe	20	71.411	4.3810	0.0035	3831
121.00	201-4	20	52.930	3.9592	0.0019	2422
115.00	7770.00 w/ Mount Pipe	20	48.025	3.8120	0.0017	2239
105.00	APXV18-206517S-C w/ Mount Pipe	20	40.290	3.5419	0.0016	1990
74.00	DB810T3E-XT	20	20.287	2.5443	0.0013	1802

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	169 - 164.25 (1)	TP26x18x0.25	4.75	0.00	0.0	20.432 6	-0.24	1506.86	0.000

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u φP _n
L2	164.25 - 129.75 (2)	TP34.0625x21.5x0.3125	36.88	0.00	0.0	32.1816	-12.78	2368.37	0.005
L3	129.75 - 96.08 (3)	TP41.75x32.1327x0.375	37.50	0.00	0.0	47.8211	-25.34	3489.81	0.007
L4	96.08 - 63.25 (4)	TP49.0625x39.8023x0.375	37.50	0.00	0.0	56.3337	-35.26	3910.87	0.009
L5	63.25 - 31.25 (5)	TP56.125x46.9543x0.375	37.50	0.00	0.0	64.5372	-46.53	4259.40	0.011
L6	31.25 - 0 (6)	TP62.9375x53.8466x0.375	37.50	0.00	0.0	74.4650	-61.76	4606.06	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio M _{ux} φM _{nx}	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio M _{uy} φM _{ny}
L1	169 - 164.25 (1)	TP26x18x0.25	0.40	796.43	0.001	0.00	796.43	0.000
L2	164.25 - 129.75 (2)	TP34.0625x21.5x0.3125	331.89	1577.36	0.210	0.00	1577.36	0.000
L3	129.75 - 96.08 (3)	TP41.75x32.1327x0.375	1070.20	2878.99	0.372	0.00	2878.99	0.000
L4	96.08 - 63.25 (4)	TP49.0625x39.8023x0.375	2058.03	3806.01	0.541	0.00	3806.01	0.000
L5	63.25 - 31.25 (5)	TP56.125x46.9543x0.375	3151.83	4753.57	0.663	0.00	4753.57	0.000
L6	31.25 - 0 (6)	TP62.9375x53.8466x0.375	4604.16	5936.64	0.776	0.00	5936.64	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio V _u φV _n	Actual T _u kip-ft	φT _n kip-ft	Ratio T _u φT _n
L1	169 - 164.25 (1)	TP26x18x0.25	0.22	753.43	0.000	0.00	1597.13	0.000
L2	164.25 - 129.75 (2)	TP34.0625x21.5x0.3125	17.58	1184.19	0.015	0.61	3163.16	0.000
L3	129.75 - 96.08 (3)	TP41.75x32.1327x0.375	28.80	1744.91	0.017	0.25	5773.14	0.000
L4	96.08 - 63.25 (4)	TP49.0625x39.8023x0.375	33.07	1955.44	0.017	1.28	7630.43	0.000
L5	63.25 - 31.25 (5)	TP56.125x46.9543x0.375	36.84	2129.70	0.017	1.18	9528.75	0.000
L6	31.25 - 0 (6)	TP62.9375x53.8466x0.375	40.36	2303.03	0.018	1.18	11898.58	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P _u φP _n	Ratio M _{ux} φM _{nx}	Ratio M _{uy} φM _{ny}	Ratio V _u φV _n	Ratio T _u φT _n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	169 - 164.25 (1)	0.000	0.001	0.000	0.000	0.000	0.001	1.000	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
L2	164.25 - 129.75 (2)	0.005	0.210	0.000	0.015	0.000	0.216	1.000	4.8.2
L3	129.75 - 96.08 (3)	0.007	0.372	0.000	0.017	0.000	0.379	1.000	4.8.2
L4	96.08 - 63.25 (4)	0.009	0.541	0.000	0.017	0.000	0.550	1.000	4.8.2
L5	63.25 - 31.25 (5)	0.011	0.663	0.000	0.017	0.000	0.674	1.000	4.8.2
L6	31.25 - 0 (6)	0.013	0.776	0.000	0.018	0.000	0.789	1.000	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	169 - 164.25	Pole	TP26x18x0.25	1	-0.24	1506.86	0.1	Pass
L2	164.25 - 129.75	Pole	TP34.0625x21.5x0.3125	2	-12.78	2368.37	21.6	Pass
L3	129.75 - 96.08	Pole	TP41.75x32.1327x0.375	3	-25.34	3489.81	37.9	Pass
L4	96.08 - 63.25	Pole	TP49.0625x39.8023x0.375	4	-35.26	3910.87	55.0	Pass
L5	63.25 - 31.25	Pole	TP56.125x46.9543x0.375	5	-46.53	4259.40	67.4	Pass
L6	31.25 - 0	Pole	TP62.9375x53.8466x0.375	6	-61.76	4606.06	78.9	Pass
Summary								
Pole (L6)							78.9	Pass
RATING =							78.9	Pass

APPENDIX B
BASE LEVEL DRAWING



(PROPOSED-IN CONDUIT)
(1) 3/8" TO 115 FT LEVEL
(2) 5/8" TO 115 FT LEVEL
(INSTALLED-IN CONDUIT)
(2) 3/8" TO 115 FT LEVEL
(4) 5/8" TO 115 FT LEVEL
(INSTALLED)
(12) 1-5/8" TO 115 FT LEVEL

(INSTALLED)
(4) 7/8" TO 164 FT LEVEL

(INSTALLED)
(1) 7/8" TO 74 FT LEVEL
(1) 1/2" TO 121 FT LEVEL

(INSTALLED)
(1) 1/2" TO 121 FT LEVEL

CLIMBING RUNGS
W/ SAFETY CLIMB

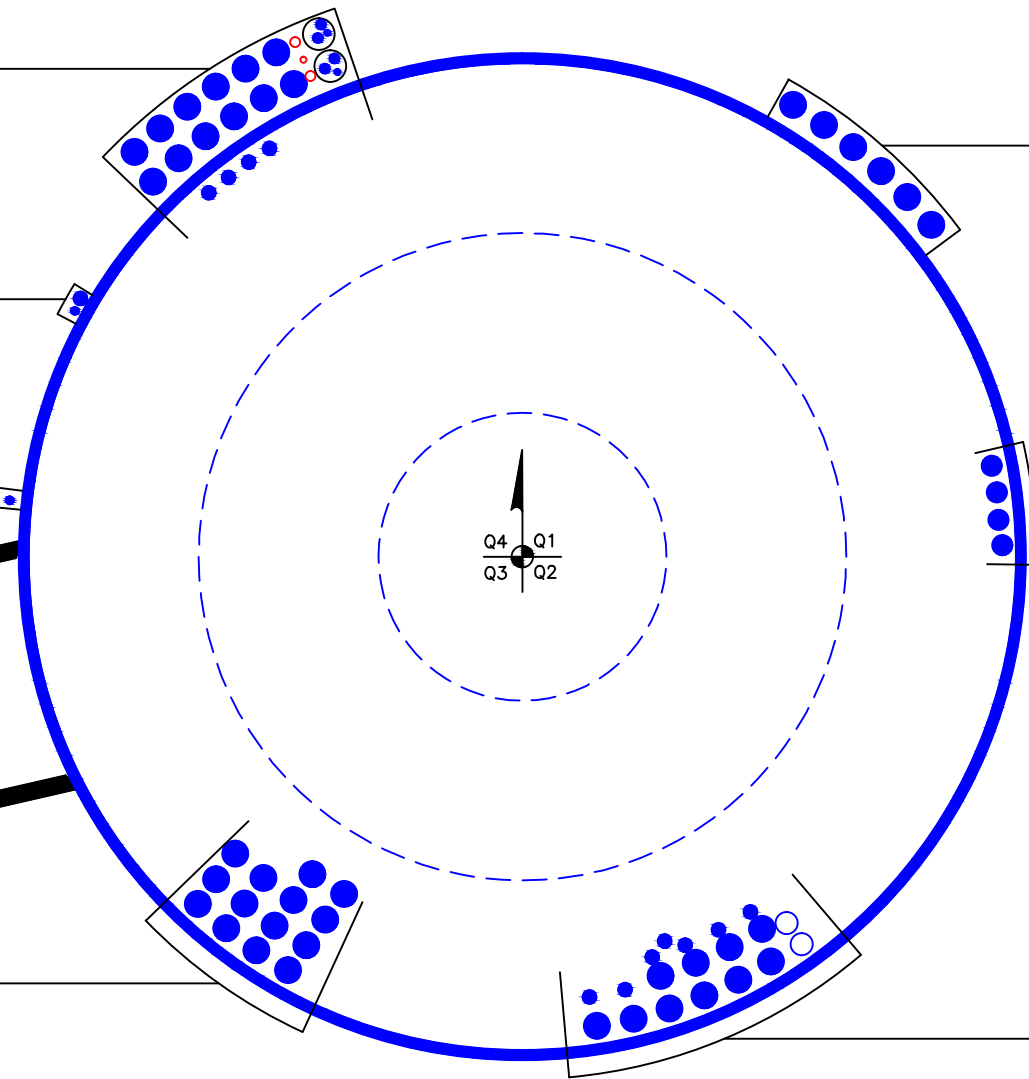
(INSTALLED)
(14) 1-5/8" TO 142 FT LEVEL

(ABANDONED)
(6) 1-5/8" TO 105 FT LEVEL

(INSTALLED)
(4) 1-1/4" TO 155 FT LEVEL

(INSTALLED)
(7) 7/8" TO 164 FT LEVEL

(RESERVED)
(2) 1-3/8" TO 164 FT LEVEL
(INSTALLED)
(10) 1-5/8" TO 164 FT LEVEL



APPENDIX C
ADDITIONAL CALCULATIONS

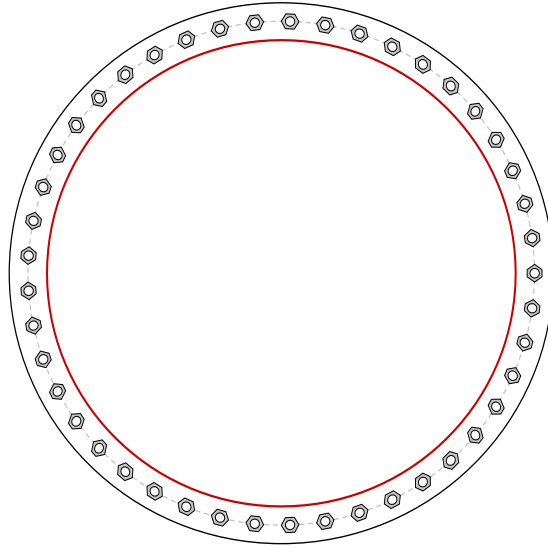
Monopole Base Plate Connection



Site Info	
BU #	826768
Site Name	Plymouth/RT 6
Order #	449240 Rev.0

Analysis Considerations	
TIA-222 Revision	G
I_{ar} (in)	0
Eta Factor, η	0.5

Applied Loads	
Moment (kip-ft)	4604.16
Axial Force (kips)	61.76
Shear Force (kips)	40.36



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
(45) 1-1/4" ϕ bolts (A687; Fy=105 ksi, Fu=150 ksi) on 68" BC
Base Plate Data
73" OD x 1.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)
Stiffener Data
N/A
Pole Data
62.9375" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Anchor Rod Summary		<i>(units of kips, kip-ft)</i>	
$P_u = 73.59$	$\phi P_n = 116.28$		Stress Rating
$V_u = 0.9$	$\phi V_n = n/a$		64.8%
$M_u = n/a$	$\phi M_n = n/a$		Pass
Base Plate Summary			
Max Stress (ksi):	-		
Allowable Stress (ksi):	-		
Stress Ratio:		Rohn/Pirod OK	

Pier and Pad Foundation



BU # : 826768
Site Name: Plymouth/Rt 6
App. Number: 449240 Rev.0

TIA-222 Revision: G
Tower Type: Monopole

Block Foundation?:

Superstructure Analysis Reactions		
Compression, P_{comp} :	62	kips
Base Shear, V_{u_comp} :	40	kips
Moment, M_u :	4604	ft-kips
Tower Height, H :	169	ft
BP Dist. Above Fdn, bp_{dist} :	2.75	in

Foundation Analysis Checks				
	Capacity	Demand	Rating	Check
<i>Lateral (Sliding) (kips)</i>	519.79	40.00	7.7%	Pass
<i>Bearing Pressure (ksf)</i>	4.50	2.50	55.6%	Pass
<i>Overturing (kip*ft)</i>	8801.09	4973.17	56.5%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	6851.58	4864.00	71.0%	Pass
<i>Pier Compression (kip)</i>	28118.83	113.69	0.4%	Pass
<i>Pad Flexure (kip*ft)</i>	3941.07	1656.43	42.0%	Pass
<i>Pad Shear - 1-way (kips)</i>	777.90	251.59	32.3%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.062	32.6%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, dpier :	7.5	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, Sc :	9	
Pier Rebar Quantity, mc :	39	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	11	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

Soil Rating:	56.5%
Structural Rating:	71.0%

Pad Properties		
Depth, D :	8.5	ft
Pad Width, W :	27	ft
Pad Thickness, T :	2.5	ft
Pad Rebar Size, Sp :	9	
Pad Rebar Quantity, mp :	36	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60000	psi
Concrete Compressive Strength, F'c :	4000	psi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	125	pcf
Ultimate Gross Bearing, Qult :	6.000	ksf
Cohesion, Cu :		ksf
Friction Angle, φ :	30	degrees
SPT Blow Count, N_{blows} :	75	
Base Friction, μ :	0.6	
Neglected Depth, N :	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	14	ft

--Toggle between Gross and Net

July 11, 2018



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: Site Number: CT1086 (5C/6C/7C)
 FA Number: 10065737
 PACE Number: MRCTB032220
 PT Number: 2051A0GWGV
 Site Name: Plymouth Town Hill Rd (CT1086)
 Site Address: 171 Town Hill Road
 Terryville, CT 06786

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)
- (3) AM-X-CD-16-65-00T-RET Antennas (72.0"x11.8"x5.9" – Wt. = 49 lbs. /each)
- (3) QS66512-2 Antennas (72.0"x12.0"x9.6" – Wt. = 111 lbs. /each)
- (3) RRUS-11 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs. /each)
- (3) RRUS-12 RRH's (20.4"x18.5"x7.5" – Wt. = 58 lbs. /each)
- (3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) DTMABP7819VG12A TMA's (10.6"x11.0"x3.8" – Wt. = 19 lbs. /each)
- (2) Squid Surge Arrestors (24.0"x9.7" Φ – Wt. = 33 lbs. /each)
- **(3) 800-10965 Antennas (78.7"x20.0"x6.9" – Wt. = 109 lbs. /each)**
- **(3) 4426 B66 RRH's (15.0"x13.2"x7.4" – Wt. = 49 lbs. /each)**
- **(3) 4478 B5 RRH's (16.5"x13.4"x7.7" – Wt. = 60 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(6) DBCT108F1V92-1 Diplexers (10.7"x6.8"x7.1" – Wt. = 14 lbs. /each)**
- **(6) DBC0061F1V51-2 Combiners (8.0"x6.2"x6.5" – Wt. = 19 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mount. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mount on June 27, 2018

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2012 with 2005 Connecticut Supplement with 2016 Amendments, and AT&T Mount Technical Directive – R7.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 100 mph with a max basic wind speed with ice of 40 mph. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 120 mph converted to a nominal wind speed of 93 mph was used for this analysis.
- HDG considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- 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 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 3.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

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

- **Install new handrail kit, SitePro1 P/N HRK12 (or approved equal). Handrail kit is required per AT&T Technical Directive to stabilize existing cantilevered antennas.**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	14	LC2	82%	PASS
Proposed Mount Rating	60	LC2	87%	PASS

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC

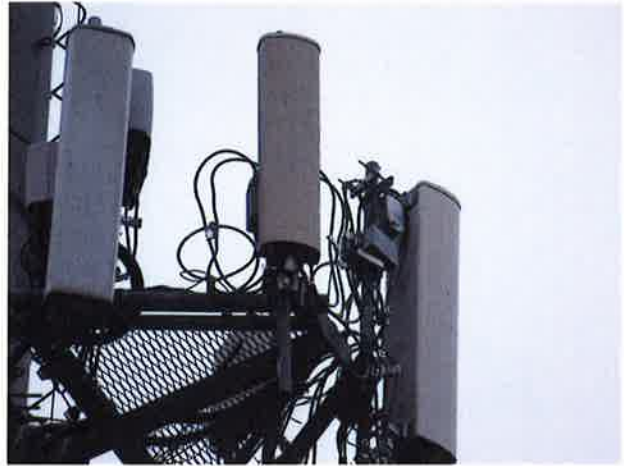


Michael Cabral
Structural Dept. Head



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

Wind & Ice Calculations

Date: 7/11/2018
 Project Name: Plymouth Town Hill Road
 Project Number: CT1086
 Designed By: JP Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

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

$z = 115$ (ft)
 $z_g = 900$ (ft)
 $\alpha = 9.5$

$K_z = 1.303$

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

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_e
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

2.6.6.4 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

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

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

$K_{zt} = \text{\#DIV/0!}$

$K_h = \text{\#DIV/0!}$

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

$K_e =$ (from Table 2-4)

$K_t =$ (from Table 2-5)

$f =$ (from Table 2-5)

$z = 115$

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

$K_{zt} = 1.00$

$K_{iz} = 1.13$ (from Sec. 2.6.8)

Category = 1

2.6.8 Design Ice Thickness

Max Ice Thickness =

$t_i = 1.00$ in

$$t_{iz} = 2.0 * t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} = 2.27$ in

Date: 7/11/2018
 Project Name: Plymouth Town Hill Road
 Project Number: CT1086
 Designed By: JP Checked By: MSC



2.6.7 Gust Effect Factor

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

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

h= 169 Gh= 0.85

2.6.7.2 Guyed Masts Gh= 0.85

2.6.7.3 Pole Structures Gh= 1.1

2.6.9 Appurtenances Gh= 1.0

2.6.7.4 Structures Supported on Other Structures

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

Gh= 1.35 Gh= 1.00

2.6.9.2 Design Wind Force on Appurtenances

State Code Ultimate Design Wind Speed: V_{ult} = 120 mph

Nomial Design Wind Speed, V_{asd} = V_{ult} V(0.6) V_{asd} = 93 mph

V_{asd} per the AT&T Mount Technical Directive and Connecticut State Building Code, Latest Edition.

Per TIA-222-G, V_{min} = 90 mph V_{max} = 100 mph

F= q_z*Gh*(EPA)_A

q_z= 0.00256*K_z*K_{zt}*K_d*V_{max}²*I

q_z= 27.39
 q_{z (ice)}= 5.07
 q_{z (30)}= 2.85

K_z= 1.303
 K_{zt}= 1.0
 K_d= 0.95
 V_{asd}= 93 mph
 V_{max (ice)}= 40 mph
 V₃₀= 30 mph
 I= 1.0

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

Determine Ca:

Table 2-8

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
Round	C < 32 (Subcritical)	0.7	0.8	1.2
	32 ≤ C ≤ 64 (Transitional)	$3.76/(C^{0.485})$	$3.37/(C^{0.415})$	$38.4/(C^{1.0})$
	C > 64 (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 = **2.27 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	151	43	16
AM-X-CD-16-65-00T-RET Antenn	72.0	11.8	5.9	5.90	6.10	1.36	220	60	23
800-10965 Antenna	78.7	20.0	6.9	10.93	3.94	1.26	378	91	39
QS66512-2 Antennas	72.0	12.0	9.6	6.00	6.00	1.36	223	60	23
RRUS-11 RRH	19.7	17.0	7.2	2.33	1.16	1.20	76	22	8
RRUS-11 RRH (Shielded)	19.7	5.2	7.2	0.71	3.79	1.26	24	10	3
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.10	1.20	86	24	9
RRUS-12 RRH (Shielded)	20.4	6.7	7.5	0.95	3.04	1.22	32	12	3
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	55	17	6
4478 B5 RRH	16.5	13.4	7.7	1.54	1.23	1.20	50	16	5
4426 B66 RRH	15.0	13.2	7.4	1.38	1.14	1.20	45	15	5
4426 B66 RRH (Shielded)	15.0	1.2	7.4	0.13	12.50	1.58	5	6	1
RRUS-32 RRH	27.2	12.1	7.5	2.29	2.25	1.20	75	22	8
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.96	1.20	27	10	3
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	31	10	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	7	5	1
3" Pipe	3.5	12.0		0.29	0.29	1.20	10	6	1
2x2 Angle	2.0	12.0		0.17	0.17	2.00	9	8	1
4x4 HSS	4.0	12.0		0.33	0.33	2.00	18	10	2
PL 6x1/2	6.0	12.0		0.50	0.50	2.00	27	12	2

Date: 7/11/2018

Project Name: Plymouth Town Hill Road

Project Number: CT1086

Designed By: JP Checked By: MSC



WIND LOADS

Angle = 30 (deg)

Ice Thickness = 2.27 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)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	151	80	133
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	220	127	197
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	378	160	324
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	223	186	214
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	76	33	65
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	38	33	37
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	86	35	73
RRUS-12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	43	35	41
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	55	34	50
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	50	29	45
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	45	25	40
4426 B66 RRH (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	23	25	23
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	75	49	68
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	27	9	22

WIND LOADS WITH ICE:

7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	41	27	38
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	57	40	53
800-10965 Antenna	83.2	24.5	11.4	14.18	6.61	3.39	7.28	1.24	1.41	89	47	79
QS66512-2 Antennas	76.5	16.5	14.1	8.79	7.51	4.63	5.42	1.29	1.33	58	51	56
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	22	12	20
RRUS-11 RRH (Shielded)	24.2	10.8	11.7	1.81	1.97	2.25	2.07	1.20	1.20	11	12	11
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	24	13	21
RRUS-12 RRH (Shielded)	24.9	11.5	12.0	1.99	2.08	2.16	2.07	1.20	1.20	12	13	12
B14 4478 RRH	22.6	17.9	12.8	2.82	2.02	1.26	1.76	1.20	1.20	17	12	16
4478 B5 RRH	21.0	17.9	12.2	2.62	1.79	1.17	1.72	1.20	1.20	16	11	15
4426 B66 RRH	19.5	17.7	11.9	2.41	1.62	1.10	1.64	1.20	1.20	15	10	13
4426 B66 RRH (Shielded)	19.5	8.9	11.9	1.20	1.62	2.20	1.64	1.20	1.20	7	10	8
RRUS-32 RRH	31.7	16.6	12.0	3.67	2.65	1.91	2.64	1.20	1.21	22	16	21
DTMABP7819VG12A TMA	15.1	15.5	8.3	1.63	0.88	0.97	1.82	1.20	1.20	10	5	9
Surge Arrestor	28.5	14.2	14.2	2.82	2.82	2.00	2.00	1.20	1.20	17	17	17

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	16	8	14
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	23	13	20
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	39	17	34
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	23	19	22
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	8	3	7
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	4	3	4
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	9	4	8
RRUS-12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	4	4	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	5
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	5	3	5
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	5	3	4
4426 B66 RRH (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	2	3	2
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	8	5	7
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	3	1	2

WIND LOADS

Angle = 60 (deg)

Ice Thickness = 2.27 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)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	151	80	98
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	220	127	150
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	375	160	211
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	223	186	195
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	76	33	44
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	57	33	39
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	86	35	48
RRUS-12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	65	35	43
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	55	34	40
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	50	29	34
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	45	25	30
4426 B66 RRH (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	34	25	27
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	75	49	55
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	27	9	14

WIND LOADS WITH ICE:

7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	41	27	31
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	57	40	44
800-10965 Antenna	83.2	24.5	11.4	14.18	6.61	3.39	7.28	1.24	1.41	89	47	58
QS66512-2 Antennas	76.5	16.5	14.1	8.79	7.51	4.63	5.42	1.29	1.33	58	51	52
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	22	12	15
RRUS-11 RRH (Shielded)	24.2	16.1	11.7	2.72	1.97	1.50	2.07	1.20	1.20	17	12	13
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	24	13	16
RRUS-12 RRH (Shielded)	24.9	17.3	12.0	2.99	2.08	1.44	2.07	1.20	1.20	18	13	14
B14 4478 RRH	22.6	17.9	12.8	2.82	2.02	1.26	1.76	1.20	1.20	17	12	13
4478 B5 RRH	21.0	17.9	12.2	2.62	1.79	1.17	1.72	1.20	1.20	16	11	12
4426 B66 RRH	19.5	17.7	11.9	2.41	1.62	1.10	1.64	1.20	1.20	15	10	11
4426 B66 RRH (Shielded)	19.5	13.3	11.9	1.80	1.62	1.47	1.64	1.20	1.20	11	10	10
RRUS-32 RRH	31.7	16.6	12.0	3.67	2.65	1.91	2.64	1.20	1.21	22	16	18
DTMABP7819VG12A TMA	15.1	15.5	8.3	1.63	0.88	0.97	1.82	1.20	1.20	10	5	8
Surge Arrestor	28.5	14.2	14.2	2.82	2.82	2.00	2.00	1.20	1.20	17	17	17

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	16	8	10
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	23	13	16
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	39	17	22
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	23	19	20
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	8	3	5
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	6	3	4
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	9	4	5
RRUS-12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	7	4	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	5	3	4
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	5	3	3
4426 B66 RRH (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	4	3	3
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	8	5	6
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	3	1	1

Date: 7/11/2018

Project Name: Plymouth Town Hill Road

Project Number: CT1086

Designed By: JP Checked By: MSC



WIND LOADS

Angle = 90 (deg)

Ice Thickness = 2.27 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)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	151	80	80
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	220	127	127
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	378	160	160
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	223	186	186
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	76	33	33
RRUS-11 RRH (Shielded)	19.7	5.2	7.2	0.71	0.99	3.79	2.74	1.26	1.21	24	33	33
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	86	35	35
RRUS-12 RRH (Shielded)	20.4	6.7	7.5	0.95	1.06	3.04	2.72	1.22	1.21	32	35	35
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	55	34	34
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	50	29	29
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	45	25	25
4426 B66 RRH (Shielded)	15.0	1.2	7.4	0.13	0.77	12.50	2.03	1.58	1.20	5	25	25
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	75	49	49
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	27	9	9

WIND LOADS WITH ICE:

7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	41	27	27
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	57	40	40
800-10965 Antenna	83.2	24.5	11.4	14.18	6.61	3.39	7.28	1.24	1.41	89	47	47
QS66512-2 Antennas	76.5	16.5	14.1	8.79	7.51	4.63	5.42	1.29	1.33	58	51	51
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	22	12	12
RRUS-11 RRH (Shielded)	24.2	9.7	11.7	1.64	1.97	2.49	2.07	1.20	1.20	10	12	12
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	24	13	13
RRUS-12 RRH (Shielded)	24.9	11.2	12.0	1.94	2.08	2.22	2.07	1.20	1.20	12	13	13
B14 4478 RRH	22.6	17.9	12.8	2.82	2.02	1.26	1.76	1.20	1.20	17	12	12
4478 B5 RRH	21.0	17.9	12.2	2.62	1.79	1.17	1.72	1.20	1.20	16	11	11
4426 B66 RRH	19.5	17.7	11.9	2.41	1.62	1.10	1.64	1.20	1.20	15	10	10
4426 B66 RRH (Shielded)	19.5	5.7	11.9	0.78	1.62	3.41	1.64	1.24	1.20	5	10	10
RRUS-32 RRH	31.7	16.6	12.0	3.67	2.65	1.91	2.64	1.20	1.21	22	16	16
DTMABP7819VG12A TMA	15.1	15.5	8.3	1.63	0.88	0.97	1.82	1.20	1.20	10	5	5
Surge Arrestor	28.5	14.2	14.2	2.82	2.82	2.00	2.00	1.20	1.20	17	17	17

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	16	8	8
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	23	13	13
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	39	17	17
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	23	19	19
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	8	3	3
RRUS-11 RRH (Shielded)	19.7	5.2	7.2	0.71	0.99	3.79	2.74	1.26	1.21	3	3	3
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	9	4	4
RRUS-12 RRH (Shielded)	20.4	6.7	7.5	0.95	1.06	3.04	2.72	1.22	1.21	3	4	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	5	3	3
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	5	3	3
4426 B66 RRH (Shielded)	15.0	1.2	7.4	0.13	0.77	12.50	2.03	1.58	1.20	1	3	3
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	8	5	5
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	3	1	1

Date: 7/11/2018
 Project Name: Plymouth Town Hill Road
 Project Number: CT1086
 Designed By: JP Checked By: MSC



WIND LOADS

Angle = 120 (deg)

Ice Thickness = 2.27 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)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	151	30	98
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	220	127	150
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	378	160	214
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	223	186	195
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	76	33	44
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	57	33	39
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	86	35	48
RRUS-12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	65	35	43
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	55	34	40
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	50	29	34
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	45	25	30
4426 B66 RRH (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	34	25	27
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	75	49	55
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	27	9	14

WIND LOADS WITH ICE:

7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	41	27	31
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	57	40	44
800-10965 Antenna	83.2	24.5	11.4	14.18	6.61	3.39	7.28	1.24	1.41	89	47	58
QS66512-2 Antennas	76.5	16.5	14.1	8.79	7.51	4.63	5.42	1.29	1.33	69	51	52
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	22	12	15
RRUS-11 RRH (Shielded)	24.2	16.1	11.7	2.72	1.97	1.50	2.07	1.20	1.20	17	12	13
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	24	13	16
RRUS-12 RRH (Shielded)	24.9	17.3	12.0	2.99	2.08	1.44	2.07	1.20	1.20	18	13	14
B14 4478 RRH	22.6	17.9	12.8	2.82	2.02	1.26	1.76	1.20	1.20	17	12	13
4478 B5 RRH	21.0	17.9	12.2	2.62	1.79	1.17	1.72	1.20	1.20	16	11	12
4426 B66 RRH	19.5	17.7	11.9	2.41	1.62	1.10	1.64	1.20	1.20	15	10	11
4426 B66 RRH (Shielded)	19.5	13.3	11.9	1.80	1.62	1.47	1.64	1.20	1.20	11	10	10
RRUS-32 RRH	31.7	16.6	12.0	3.67	2.65	1.91	2.64	1.20	1.21	22	16	18
DTMABP7819VG12A TMA	15.1	15.5	8.3	1.63	0.88	0.97	1.82	1.20	1.20	10	5	6
Surge Arrestor	28.5	14.2	14.2	2.82	2.82	2.00	2.00	1.20	1.20	17	17	17

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	16	8	10
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	23	13	16
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	39	17	22
QS66512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	23	19	20
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	8	3	5
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	6	3	4
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	9	4	5
RRUS-12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	7	4	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	5	3	4
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	5	3	3
4426 B66 RRH (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	4	3	3
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	8	5	6
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	3	1	1

Date: 7/11/2018

Project Name: Plymouth Town Hill Road

Project Number: CT1084

Designed By: JP Checked By: MSC



WIND LOADS

Angle = 150 (deg)

Ice Thickness = 2.27 in.

Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	C _a (normal)	C _a (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	151	80	133
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	217	127	197
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	378	160	324
Q566512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	223	186	214
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	76	33	65
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	38	33	37
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	86	35	73
RRUS-12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	43	35	41
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	55	34	50
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	50	29	45
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	45	25	40
4426 B66 RRH (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	23	25	23
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	75	49	68
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	27	9	22

WIND LOADS WITH ICE:

7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	41	27	38
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	9.68	5.54	4.69	7.34	1.30	1.41	57	40	53
800-10965 Antenna	83.2	24.5	11.4	14.18	6.61	3.39	7.28	1.24	1.41	89	47	79
Q566512-2 Antennas	76.5	16.5	14.1	8.79	7.51	4.63	5.42	1.29	1.33	58	51	56
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	22	12	20
RRUS-11 RRH (Shielded)	24.2	10.8	11.7	1.81	1.97	2.25	2.07	1.20	1.20	11	12	11
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	24	13	21
RRUS-12 RRH (Shielded)	24.9	11.5	12.0	1.99	2.08	2.16	2.07	1.20	1.20	12	13	12
B14 4478 RRH	22.6	17.9	12.8	2.82	2.02	1.26	1.76	1.20	1.20	17	12	16
4478 B5 RRH	21.0	17.9	12.2	2.62	1.79	1.17	1.72	1.20	1.20	16	11	15
4426 B66 RRH	19.5	17.7	11.9	2.41	1.62	1.10	1.64	1.20	1.20	15	10	13
4426 B66 RRH (Shielded)	19.5	8.9	11.9	1.20	1.62	2.20	1.64	1.20	1.20	7	10	8
RRUS-32 RRH	31.7	16.6	12.0	3.67	2.65	1.91	2.64	1.20	1.21	22	16	21
DTMABP7819VG12A TMA	15.1	15.5	8.3	1.63	0.88	0.97	1.82	1.20	1.20	10	5	9
Surge Arrestor	28.5	14.2	14.2	2.82	2.82	2.00	2.00	1.20	1.20	17	17	17

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	16	8	14
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	23	13	20
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	39	17	34
Q566512-2 Antennas	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	23	19	22
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	8	3	7
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	4	3	4
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	9	4	8
RRUS-12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	4	4	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	5
4478 B5 RRH	16.5	13.4	7.7	1.54	0.88	1.23	2.14	1.20	1.20	5	3	5
4426 B66 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	5	3	4
4426 B66 RRH (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	2	3	2
RRUS-32 RRH	27.2	12.1	7.5	2.29	1.42	2.25	3.63	1.20	1.25	8	5	7
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	3	1	2

Date: 7/11/2018

Project Name: Plymouth Town Hill Road

Project Number: CT1086

Designed By: JP Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1 in.
Density of ice: 56 pcf

7770 Antenna 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: 70 lbs
Weight of object: 35 lbs

Combined weight of ice and object: 105 lbs

AM-X-CD-16-65-00T-RET Antenna

Weight of ice based on total radial SF area:
Height (in): 72.0
Width (in): 11.8
Depth (in): 5.9
Total weight of ice on object: 99 lbs
Weight of object: 49 lbs

Combined weight of ice and object: 148 lbs

QS66512-2 Antenna

Weight of ice based on total radial SF area:
Height (in): 72.0
Width (in): 12.0
Depth (in): 9.6
Total weight of ice on object: 121 lbs
Weight of object: 111 lbs

Combined weight of ice and object: 232 lbs

800-10965 Antenna

Weight of ice based on total radial SF area:
Height (in): 78.7
Width (in): 20.0
Depth (in): 6.9
Total weight of ice on object: 160 lbs
Weight of object: 109 lbs

Combined weight of ice and object: 269 lbs

RRUS-11 RRH

Weight of ice based on total radial SF area:
Height (in): 19.7
Width (in): 17.0
Depth (in): 7.2
Total weight of ice on object: 45 lbs
Weight of object: 51 lbs

Combined weight of ice and object: 96 lbs

RRUS-12 RRH

Weight of ice based on total radial SF area:
Height (in): 20.4
Width (in): 18.5
Depth (in): 7.5
Total weight of ice on object: 50 lbs
Weight of object: 58 lbs

Combined weight of ice and object: 108 lbs

RRUS-32 RRH

Weight of ice based on total radial SF area:
Height (in): 27.2
Width (in): 12.1
Depth (in): 7.0
Total weight of ice on object: 45 lbs
Weight of object: 60 lbs

Combined weight of ice and object: 105 lbs

4426 B66 RRH

Weight of ice based on total radial SF area:
Height (in): 15.0
Width (in): 13.2
Depth (in): 7.4
Total weight of ice on object: 31 lbs
Weight of object: 49 lbs

Combined weight of ice and object: 80 lbs

Date: 7/11/2018
 Project Name: Plymouth Town Hill Road
 Project Number: CT1086
 Designed By: JP Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1 in.
 Density of ice: 56 pcf

4478 B5 RRH

Weight of ice based on total radial SF area:
 Height (in): 16.5
 Width (in): 13.4
 Depth (in): 7.7
 Total weight of ice on object: 34 lbs
 Weight of object: 60 lbs
 Combined weight of ice and object: 94 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: 38 lbs
 Weight of object: 60 lbs
 Combined weight of ice and object: 98 lbs

DTMABP7819VG12A TMA

Weight of ice based on total radial SF area:
 Height (in): 10.6
 Width (in): 11.0
 Depth (in): 3.8
 Total weight of ice on object: 16 lbs
 Weight of object: 19 lbs
 Combined weight of ice and object: 35 lbs

DBCT108F1V92-1 Diplexer

Weight of ice based on total radial SF area:
 Height (in): 10.7
 Width (in): 6.8
 Depth (in): 7.1
 Total weight of ice on object: 16 lbs
 Weight of object: 14 lbs
 Combined weight of ice and object: 30 lbs

DBC0061F1V51-2 Combiner

Weight of ice based on total radial SF area:
 Height (in): 8.0
 Width (in): 6.2
 Depth (in): 6.5
 Total weight of ice on object: 12 lbs
 Weight of object: 19 lbs
 Combined weight of ice and object: 31 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: 35 lbs
 Weight of object: 33 lbs
 Combined weight of ice and object: 68 lbs

2" pipe

Per foot weight of ice:
 diameter (in): 2.38
 Per foot weight of ice on object: 4 plf

3" Pipe

Per foot weight of ice:
 diameter (in): 3.5
 Per foot weight of ice on object: 5 plf

L 2x2x3/16 Angles

Weight of ice based on total radial SF area:
 Height (in): 2
 Width (in): 2
 Per foot weight of ice on object: 5 plf

HSS 4x4

Weight of ice based on total radial SF area:
 Height (in): 4
 Width (in): 4
 Per foot weight of ice on object: 8 plf

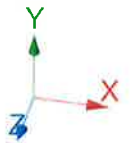
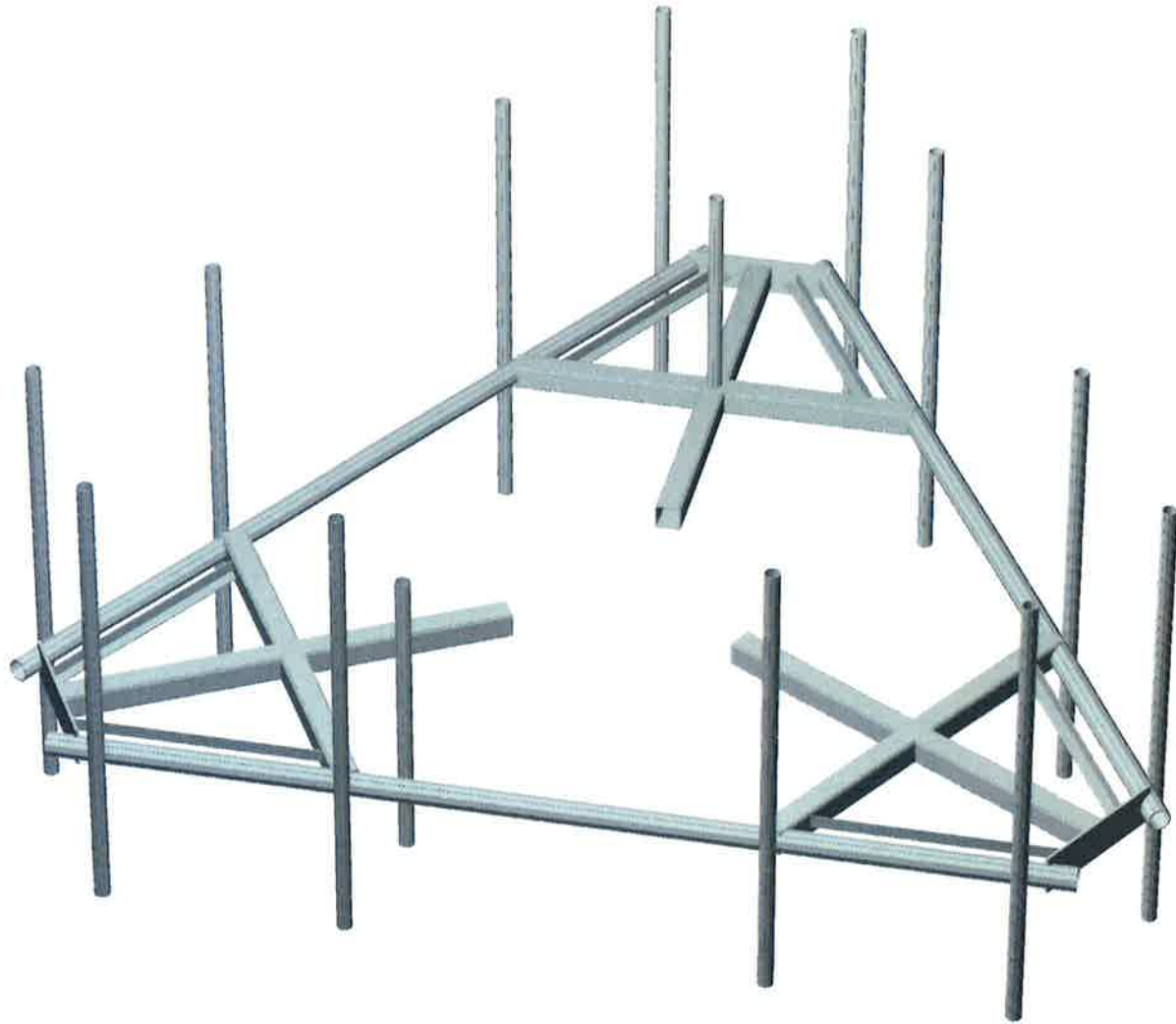
PL 6x1/2

Weight of ice based on total radial SF area:
 Height (in): 6
 Width (in): 0.5
 Per foot weight of ice on object: 7 plf







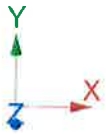
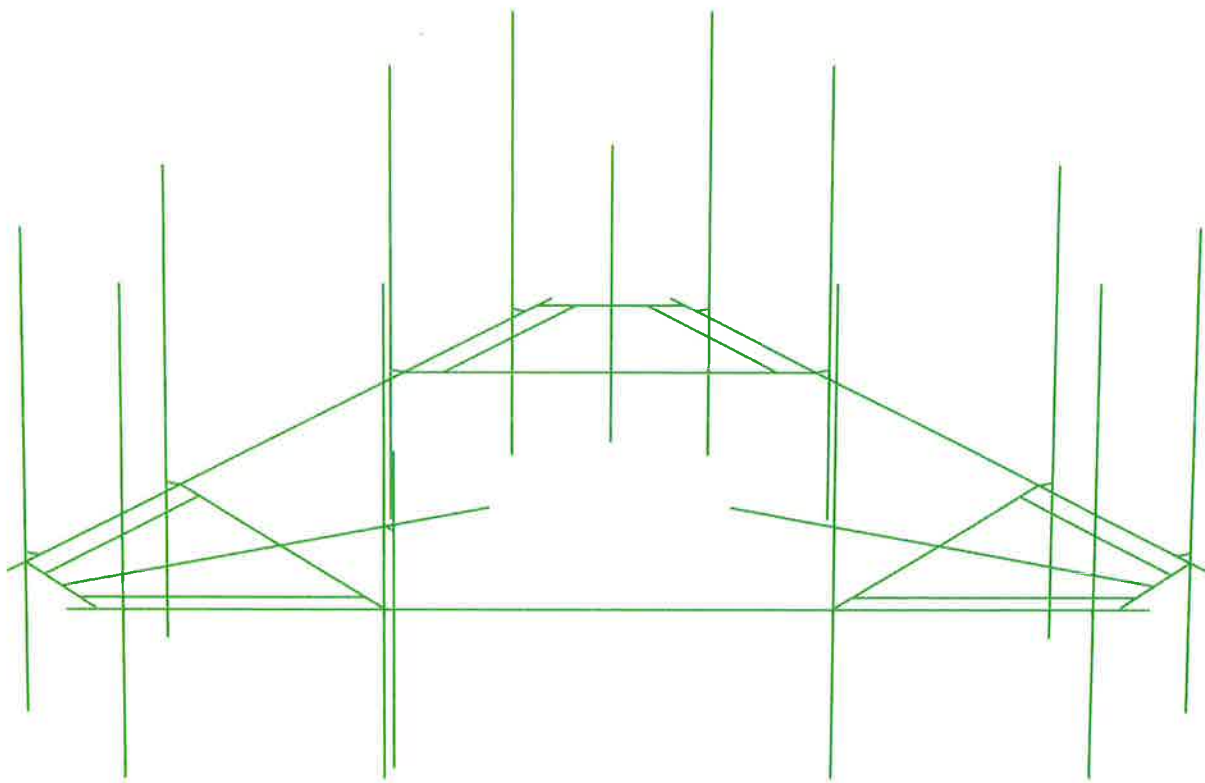
HUDSON
Design Group LLC

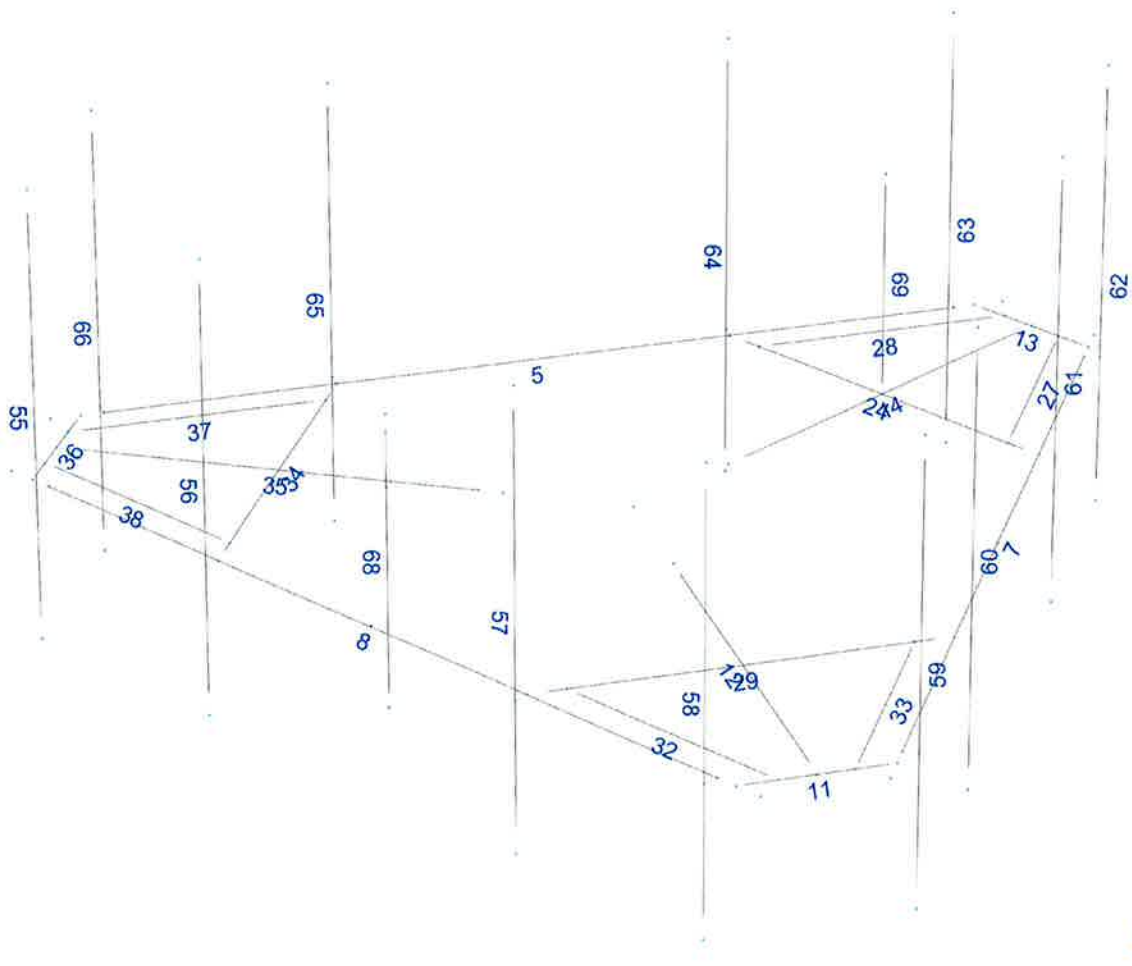
**5C/6C/7C Mount Calculations
(Existing Conditions)**



Design status

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





Load data

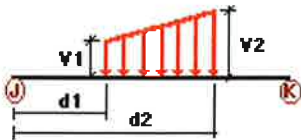
GLOSSARY

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	500 lb Live Load on Antenna 1	No	LL
LLa2	500 lb Live Load on Antenna 2	No	LL
LLa3	500 lb Live Load on Antenna 3	No	LL
LLa4	500 lb Live Load on Antenna 4	No	LL
W180	-W0	Yes	
W210	-W30	Yes	
Wi180	-Wi0	Yes	
Wi210	-Wi30	Yes	
WL180	-WL0	Yes	
WL210	-WL30	Yes	

Distributed force on members

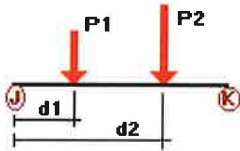


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	12	Y	-0.01	-0.01	0.00	Yes	50.00	Yes
	14	Y	-0.01	-0.01	0.00	Yes	50.00	Yes
	24	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	29	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	33	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	34	Y	-0.01	-0.01	0.00	Yes	100.00	Yes

	35	Y	-0.01	-0.01	0.00	Yes	50.00	Yes
	37	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	38	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
W0	5	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	11	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	12	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	13	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	24	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	27	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	28	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	29	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	32	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	33	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	34	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	35	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	36	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	37	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	38	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	55	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	56	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	57	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	58	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	59	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	60	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	61	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	62	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	63	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	64	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	65	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	66	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	68	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	69	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
W30	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	11	X	-0.027	-0.027	0.00	Yes	100.00	Yes
	12	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	14	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	27	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	28	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	29	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	33	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	34	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	35	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	36	X	-0.027	-0.027	0.00	Yes	100.00	Yes
	37	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	55	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	56	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	57	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	58	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	59	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	60	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	61	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	62	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	63	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	64	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	65	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	66	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	68	X	-0.007	-0.007	0.00	Yes	100.00	Yes

Di	69	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	5	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	7	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	8	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	11	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	12	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	13	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	14	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	24	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	27	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	28	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	29	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	32	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	33	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	34	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	35	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	36	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	37	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	38	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	55	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	56	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	57	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	58	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	59	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	60	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	61	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	62	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	63	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	64	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	65	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	66	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	68	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	69	Y	-0.004	-0.004	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%	
DL	55	y	-0.056	1.00	No	
		y	-0.056	5.00	No	
		y	-0.049	2.00	No	
	56	y	-0.06	4.00	No	
		y	-0.055	1.00	No	
		y	-0.055	5.00	No	
		y	-0.06	2.00	No	
		y	-0.06	4.00	No	
	57	y	-0.028	3.00	No	
		y	-0.025	1.00	No	
		y	-0.025	5.00	No	
			y	-0.051	2.00	No

	y	-0.058	4.00	No
58	y	-0.018	1.00	No
	y	-0.018	5.00	No
	y	-0.019	2.00	No
	y	-0.033	4.00	No
	y	-0.038	3.00	No
59	y	-0.056	1.00	No
	y	-0.056	5.00	No
	y	-0.049	2.00	No
	y	-0.06	4.00	No
60	y	-0.055	1.00	No
	y	-0.055	5.00	No
	y	-0.06	2.00	No
	y	-0.06	4.00	No
	y	-0.028	3.00	No
61	y	-0.025	1.00	No
	y	-0.025	5.00	No
	y	-0.051	2.00	No
	y	-0.058	4.00	No
62	y	-0.018	1.00	No
	y	-0.018	5.00	No
	y	-0.019	2.00	No
	y	-0.033	4.00	No
	y	-0.038	3.00	No
63	y	-0.056	1.00	No
	y	-0.056	5.00	No
	y	-0.049	2.00	No
	y	-0.06	4.00	No
64	y	-0.055	1.00	No
	y	-0.055	5.00	No
	y	-0.06	2.00	No
	y	-0.06	4.00	No
	y	-0.028	3.00	No
65	y	-0.025	1.00	No
	y	-0.025	5.00	No
	y	-0.051	2.00	No
	y	-0.058	4.00	No
66	y	-0.018	1.00	No
	y	-0.018	5.00	No
	y	-0.019	2.00	No
	y	-0.033	4.00	No
	y	-0.038	3.00	No
68	y	-0.033	2.00	No
69	y	-0.033	2.00	No
WO 55	z	-0.112	1.00	No
	z	-0.112	5.00	No
	z	-0.005	2.00	No
56	z	-0.19	1.00	No
	z	-0.19	5.00	No
57	z	-0.11	1.00	No
	z	-0.11	5.00	No
	z	-0.024	2.00	No
	z	-0.032	4.00	No
58	z	-0.076	1.00	No
	z	-0.076	5.00	No
59	z	-0.098	1.00	No
	z	-0.098	5.00	No
	z	-0.027	2.00	No
	z	-0.055	4.00	No
60	z	-0.108	1.00	No

	z	-0.108	5.00	No	
	z	-0.04	2.00	No	
	z	-0.034	4.00	No	
61	z	-0.076	1.00	No	
	z	-0.076	5.00	No	
	z	-0.039	2.00	No	
	z	-0.043	4.00	No	
62	z	-0.049	1.00	No	
	z	-0.049	5.00	No	
	z	-0.014	2.00	No	
	z	-0.031	4.00	No	
63	z	-0.098	1.00	No	
	z	-0.098	5.00	No	
	z	-0.027	2.00	No	
	z	-0.055	4.00	No	
64	z	-0.108	1.00	No	
	z	-0.108	5.00	No	
	z	-0.04	2.00	No	
	z	-0.034	4.00	No	
65	z	-0.076	1.00	No	
	z	-0.076	5.00	No	
	z	-0.039	2.00	No	
	z	-0.043	4.00	No	
66	z	-0.049	1.00	No	
	z	-0.049	5.00	No	
	z	-0.014	2.00	No	
	z	-0.031	4.00	No	
68	z	-0.031	2.00	No	
69	z	-0.031	2.00	No	
W30	55	x	-0.094	1.00	No
		x	-0.094	5.00	No
		x	-0.025	2.00	No
		x	-0.049	4.00	No
56		x	-0.08	1.00	No
		x	-0.08	5.00	No
		x	-0.034	2.00	No
		x	-0.029	4.00	No
57		x	-0.064	1.00	No
		x	-0.064	5.00	No
		x	-0.033	2.00	No
		x	-0.035	4.00	No
58		x	-0.041	1.00	No
		x	-0.041	5.00	No
		x	-0.009	2.00	No
		x	-0.031	4.00	No
59		2	-0.107	1.00	No
		2	-0.107	5.00	No
		2	-0.023	2.00	No
		2	-0.068	4.00	No
60		2	-0.162	1.00	No
		2	-0.162	5.00	No
		2	-0.05	2.00	No
		2	-0.045	4.00	No
61		2	-0.099	1.00	No
		2	-0.099	5.00	No
		2	-0.037	2.00	No
		2	-0.041	4.00	No
62		2	-0.067	1.00	No
		2	-0.067	5.00	No
		2	-0.022	2.00	No

		2	-0.031	4.00	No
63		2	-0.107	1.00	No
		2	-0.107	5.00	No
		2	-0.023	2.00	No
		2	-0.068	4.00	No
64		2	-0.162	1.00	No
		2	-0.162	5.00	No
		2	-0.05	2.00	No
		2	-0.045	4.00	No
65		2	-0.099	1.00	No
		2	-0.099	5.00	No
		2	-0.037	2.00	No
		2	-0.041	4.00	No
66		2	-0.067	1.00	No
		2	-0.067	5.00	No
		2	-0.022	2.00	No
		2	-0.031	4.00	No
68		x	-0.031	2.00	No
69		x	-0.031	2.00	No
Di	55	y	-0.061	1.00	No
		y	-0.061	5.00	No
		y	-0.031	2.00	No
		y	-0.045	4.00	No
56		y	-0.08	1.00	No
		y	-0.08	5.00	No
		y	-0.038	2.00	No
		y	-0.034	4.00	No
		y	-0.032	3.00	No
57		y	-0.05	1.00	No
		y	-0.05	5.00	No
		y	-0.045	2.00	No
		y	-0.05	4.00	No
58		y	-0.035	1.00	No
		y	-0.035	5.00	No
		y	-0.016	2.00	No
		y	-0.035	4.00	No
		y	-0.024	3.00	No
59		y	-0.061	1.00	No
		y	-0.061	5.00	No
		y	-0.031	2.00	No
		y	-0.045	4.00	No
60		y	-0.08	1.00	No
		y	-0.08	5.00	No
		y	-0.038	2.00	No
		y	-0.034	4.00	No
		y	-0.032	3.00	No
61		y	-0.05	1.00	No
		y	-0.05	5.00	No
		y	-0.045	2.00	No
		y	-0.05	4.00	No
62		y	-0.035	1.00	No
		y	-0.035	5.00	No
		y	-0.016	2.00	No
		y	-0.035	4.00	No
		y	-0.024	3.00	No
63		y	-0.061	1.00	No
		y	-0.061	5.00	No
		y	-0.031	2.00	No
		y	-0.045	4.00	No
64		y	-0.08	1.00	No

	y	-0.08	5.00	No	
	y	-0.038	2.00	No	
	y	-0.034	4.00	No	
	y	-0.032	3.00	No	
65	y	-0.05	1.00	No	
	y	-0.05	5.00	No	
	y	-0.045	2.00	No	
	y	-0.05	4.00	No	
66	y	-0.035	1.00	No	
	y	-0.035	5.00	No	
	y	-0.016	2.00	No	
	y	-0.035	4.00	No	
	y	-0.024	3.00	No	
68	y	-0.035	2.00	No	
69	y	-0.035	2.00	No	
W10	55	z	-0.031	1.00	No
		z	-0.031	5.00	No
		z	-0.006	2.00	No
		z	-0.022	4.00	No
56	z	-0.046	1.00	No	
	z	-0.046	5.00	No	
	z	-0.017	2.00	No	
	z	-0.016	4.00	No	
57	z	-0.03	1.00	No	
	z	-0.03	5.00	No	
	z	-0.01	2.00	No	
	z	-0.012	4.00	No	
58	z	-0.022	1.00	No	
	z	-0.022	5.00	No	
	z	-0.01	2.00	No	
59	z	-0.027	1.00	No	
	z	-0.027	5.00	No	
	z	-0.011	2.00	No	
	z	-0.018	4.00	No	
60	z	-0.029	1.00	No	
	z	-0.029	5.00	No	
	z	-0.013	2.00	No	
	z	-0.012	4.00	No	
61	z	-0.023	1.00	No	
	z	-0.023	5.00	No	
	z	-0.015	2.00	No	
	z	-0.016	4.00	No	
62	z	-0.016	1.00	No	
	z	-0.016	5.00	No	
	z	-0.006	2.00	No	
	z	-0.01	4.00	No	
63	z	-0.027	1.00	No	
	z	-0.027	5.00	No	
	z	-0.011	2.00	No	
	z	-0.018	4.00	No	
64	z	-0.029	1.00	No	
	z	-0.029	5.00	No	
	z	-0.013	2.00	No	
	z	-0.012	4.00	No	
65	z	-0.023	1.00	No	
	z	-0.023	5.00	No	
	z	-0.015	2.00	No	
	z	-0.016	4.00	No	
66	z	-0.016	1.00	No	
	z	-0.016	5.00	No	

		z	-0.006	2.00	No
		z	-0.01	4.00	No
68		z	-0.01	2.00	No
69		z	-0.01	2.00	No
Wi30	55	x	-0.026	1.00	No
		x	-0.026	5.00	No
		x	-0.01	2.00	No
		x	-0.016	4.00	No
56		x	-0.024	1.00	No
		x	-0.024	5.00	No
		x	-0.012	2.00	No
		x	-0.011	4.00	No
57		x	-0.02	1.00	No
		x	-0.02	5.00	No
		x	-0.012	2.00	No
		x	-0.013	4.00	No
58		x	-0.014	1.00	No
		x	-0.014	5.00	No
		x	-0.005	2.00	No
		x	-0.01	4.00	No
59		2	-0.028	1.00	No
		2	-0.028	5.00	No
		2	-0.013	2.00	No
		2	-0.021	4.00	No
60		2	-0.04	1.00	No
		2	-0.04	5.00	No
		2	-0.016	2.00	No
		2	-0.015	4.00	No
61		2	-0.027	1.00	No
		2	-0.027	5.00	No
		2	-0.02	2.00	No
		2	-0.021	4.00	No
62		2	-0.019	1.00	No
		2	-0.019	5.00	No
		2	-0.009	2.00	No
		2	-0.01	4.00	No
63		2	-0.028	1.00	No
		2	-0.028	5.00	No
		2	-0.013	2.00	No
		2	-0.021	4.00	No
64		2	-0.04	1.00	No
		2	-0.04	5.00	No
		2	-0.016	2.00	No
		2	-0.015	4.00	No
65		2	-0.027	1.00	No
		2	-0.027	5.00	No
		2	-0.02	2.00	No
		2	-0.021	4.00	No
66		2	-0.019	1.00	No
		2	-0.019	5.00	No
		2	-0.009	2.00	No
		2	-0.01	4.00	No
68		x	-0.01	2.00	No
69		x	-0.01	2.00	No
WLO	55	z	-0.012	1.00	No
		z	-0.012	5.00	No
		z	-0.001	2.00	No
56		z	-0.02	1.00	No
		z	-0.02	5.00	No
57		z	-0.012	1.00	No

	z	-0.012	5.00	No
	z	-0.003	2.00	No
	z	-0.004	4.00	No
58	z	-0.008	1.00	No
	z	-0.008	5.00	No
59	z	-0.011	1.00	No
	z	-0.011	5.00	No
	z	-0.003	2.00	No
	z	-0.006	4.00	No
60	z	-0.012	1.00	No
	z	-0.012	5.00	No
	z	-0.005	2.00	No
	z	-0.004	4.00	No
61	z	-0.008	1.00	No
	z	-0.008	5.00	No
	z	-0.005	2.00	No
	z	-0.005	4.00	No
62	z	-0.006	1.00	No
	z	-0.006	5.00	No
	z	-0.002	2.00	No
	z	-0.003	4.00	No
63	z	-0.011	1.00	No
	z	-0.011	5.00	No
	z	-0.003	2.00	No
	z	-0.006	4.00	No
64	z	-0.012	1.00	No
	z	-0.012	5.00	No
	z	-0.005	2.00	No
	z	-0.004	4.00	No
65	z	-0.008	1.00	No
	z	-0.008	5.00	No
	z	-0.005	2.00	No
	z	-0.005	4.00	No
66	z	-0.006	1.00	No
	z	-0.006	5.00	No
	z	-0.002	2.00	No
	z	-0.003	4.00	No
68	z	-0.003	2.00	No
69	z	-0.003	2.00	No
WL30 55	x	-0.01	1.00	No
	x	-0.01	5.00	No
	x	-0.003	2.00	No
	x	-0.006	4.00	No
56	x	-0.009	1.00	No
	x	-0.009	5.00	No
	x	-0.004	2.00	No
	x	-0.004	4.00	No
57	x	-0.007	1.00	No
	x	-0.007	5.00	No
	x	-0.004	2.00	No
	x	-0.004	4.00	No
58	x	-0.005	1.00	No
	x	-0.005	5.00	No
	x	-0.001	2.00	No
	x	-0.003	4.00	No
59	2	-0.012	1.00	No
	2	-0.012	5.00	No
	2	-0.003	2.00	No
	2	-0.008	4.00	No
60	2	-0.017	1.00	No

	2	-0.017	5.00	No	
	2	-0.006	2.00	No	
	2	-0.005	4.00	No	
61	2	-0.011	1.00	No	
	2	-0.011	5.00	No	
	2	-0.004	2.00	No	
	2	-0.005	4.00	No	
62	2	-0.007	1.00	No	
	2	-0.007	5.00	No	
	2	-0.003	2.00	No	
	2	-0.003	4.00	No	
63	2	-0.012	1.00	No	
	2	-0.012	5.00	No	
	2	-0.003	2.00	No	
	2	-0.008	4.00	No	
64	2	-0.017	1.00	No	
	2	-0.017	5.00	No	
	2	-0.006	2.00	No	
	2	-0.005	4.00	No	
65	2	-0.011	1.00	No	
	2	-0.011	5.00	No	
	2	-0.004	2.00	No	
	2	-0.005	4.00	No	
66	2	-0.007	1.00	No	
	2	-0.007	5.00	No	
	2	-0.003	2.00	No	
	2	-0.003	4.00	No	
68	x	-0.003	2.00	No	
69	x	-0.003	2.00	No	
LL1	8	y	-0.25	6.25	No
LL2	8	y	-0.25	0.00	No
LLa1	58	y	-0.50	3.00	No
LLa2	57	y	-0.50	3.00	No
LLa3	56	y	-0.50	3.00	No
LLa4	55	y	-0.50	3.00	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	500 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load on Antenna 4	No	0.00	0.00	0.00
W180	-W0	Yes	0.00	0.00	0.00

W210	-W30	Yes	0.00	0.00	0.00
Wi180	-Wi0	Yes	0.00	0.00	0.00
Wi210	-Wi30	Yes	0.00	0.00	0.00
WL180	-WL0	Yes	0.00	0.00	0.00
WL210	-WL30	Yes	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
LLa4	0.00	0.00	0.00
W180	0.00	0.00	0.00
W210	0.00	0.00	0.00
Wi180	0.00	0.00	0.00
Wi210	0.00	0.00	0.00
WL180	0.00	0.00	0.00
WL210	0.00	0.00	0.00

Steel Code Check

Report: Summary - For all selected load conditions
Load conditions to be included in design :

LC1=1.2DL+1.6W0
 LC2=1.2DL+1.6W30
 LC3=1.2DL-1.6W0
 LC4=1.2DL-1.6W30
 LC5=0.9DL+1.6W0
 LC6=0.9DL+1.6W30
 LC7=0.9DL-1.6W0
 LC8=0.9DL-1.6W30
 LC9=1.2DL+Di+Wi0
 LC10=1.2DL+Di+Wi30
 LC11=1.2DL+Di-Wi0
 LC12=1.2DL+Di-Wi30
 LC13=1.2DL
 LC14=0.9DL
 LC15=1.2DL+1.6LL1
 LC16=1.2DL+1.6LL2
 LC17=1.2DL+WL0+LLa1
 LC18=1.2DL+WL30+LLa1
 LC19=1.2DL-WL0+LLa1
 LC20=1.2DL-WL30+LLa1
 LC21=1.2DL+WL0+LLa2
 LC22=1.2DL+WL30+LLa2
 LC23=1.2DL-WL0+LLa2
 LC24=1.2DL-WL30+LLa2
 LC25=1.2DL+WL0+LLa3
 LC26=1.2DL+WL30+LLa3
 LC27=1.2DL-WL0+LLa3
 LC28=1.2DL-WL30+LLa3
 LC29=1.2DL+WL0+LLa4
 LC30=1.2DL+WL30+LLa4
 LC31=1.2DL-WL0+LLa4
 LC32=1.2DL-WL30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	12	LC1 at 100.00%	0.54	OK	
			LC10 at 100.00%	0.73	OK	
			LC11 at 100.00%	0.79	OK	Eq. H1-1b
			LC12 at 100.00%	0.79	OK	
			LC13 at 100.00%	0.43	OK	
			LC14 at 100.00%	0.33	OK	
			LC15 at 100.00%	0.48	OK	
			LC16 at 100.00%	0.43	OK	
			LC17 at 100.00%	0.65	OK	
			LC18 at 100.00%	0.64	OK	
			LC19 at 100.00%	0.66	OK	
			LC2 at 100.00%	0.35	OK	
			LC20 at 100.00%	0.66	OK	
			LC21 at 100.00%	0.56	OK	
			LC22 at 100.00%	0.55	OK	
			LC23 at 100.00%	0.57	OK	
			LC24 at 100.00%	0.57	OK	

	LC25 at 100.00%	0.45	OK	
	LC26 at 100.00%	0.44	OK	
	LC27 at 100.00%	0.47	OK	
	LC28 at 100.00%	0.47	OK	
	LC29 at 100.00%	0.43	OK	
	LC3 at 100.00%	0.73	OK	
	LC30 at 100.00%	0.42	OK	
	LC31 at 100.00%	0.44	OK	
	LC32 at 100.00%	0.44	OK	
	LC4 at 100.00%	0.69	OK	
	LC5 at 100.00%	0.44	OK	
	LC6 at 100.00%	0.25	OK	
	LC7 at 100.00%	0.62	OK	
	LC8 at 100.00%	0.58	OK	
	LC9 at 100.00%	0.76	OK	
<hr/>				
14	LC1 at 100.00%	0.67	OK	
	LC10 at 100.00%	0.82	OK	
	LC11 at 100.00%	0.75	OK	
	LC12 at 100.00%	0.82	OK	Eq. H1-1b
	LC13 at 100.00%	0.45	OK	
	LC14 at 100.00%	0.33	OK	
	LC15 at 100.00%	0.43	OK	
	LC16 at 100.00%	0.43	OK	
	LC17 at 100.00%	0.44	OK	
	LC18 at 100.00%	0.44	OK	
	LC19 at 100.00%	0.42	OK	
	LC2 at 100.00%	0.74	OK	
	LC20 at 100.00%	0.44	OK	
	LC21 at 100.00%	0.44	OK	
	LC22 at 100.00%	0.44	OK	
	LC23 at 100.00%	0.41	OK	
	LC24 at 100.00%	0.44	OK	
	LC25 at 100.00%	0.44	OK	
	LC26 at 100.00%	0.44	OK	
	LC27 at 100.00%	0.41	OK	
	LC28 at 100.00%	0.44	OK	
	LC29 at 100.00%	0.44	OK	
	LC3 at 100.00%	0.28	OK	
	LC30 at 100.00%	0.44	OK	
	LC31 at 100.00%	0.42	OK	
	LC32 at 100.00%	0.44	OK	
	LC4 at 100.00%	0.74	OK	
	LC5 at 100.00%	0.56	OK	
	LC6 at 100.00%	0.63	OK	
	LC7 at 100.00%	0.16	OK	
	LC8 at 100.00%	0.63	OK	
	LC9 at 100.00%	0.81	OK	
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24	LC1 at 50.00%	0.32	OK	Eq. H1-1b
	LC10 at 50.00%	0.25	OK	
	LC11 at 50.00%	0.24	OK	
	LC12 at 50.00%	0.25	OK	
	LC13 at 50.00%	0.13	OK	
	LC14 at 50.00%	0.10	OK	
	LC15 at 50.00%	0.11	OK	
	LC16 at 50.00%	0.13	OK	
	LC17 at 50.00%	0.13	OK	
	LC18 at 50.00%	0.13	OK	
	LC19 at 50.00%	0.13	OK	
	LC2 at 50.00%	0.25	OK	
	LC20 at 50.00%	0.13	OK	
	LC21 at 50.00%	0.12	OK	
	LC22 at 50.00%	0.12	OK	

	LC23 at 50.00%	0.12	OK	
	LC24 at 50.00%	0.12	OK	
	LC25 at 48.44%	0.12	OK	
	LC26 at 50.00%	0.11	OK	
	LC27 at 50.00%	0.11	OK	
	LC28 at 48.44%	0.11	OK	
	LC29 at 50.00%	0.13	OK	
	LC3 at 50.00%	0.21	OK	
	LC30 at 50.00%	0.13	OK	
	LC31 at 50.00%	0.12	OK	
	LC32 at 50.00%	0.12	OK	
	LC4 at 48.44%	0.23	OK	
	LC5 at 50.00%	0.29	OK	
	LC6 at 50.00%	0.22	OK	
	LC7 at 50.00%	0.18	OK	
	LC8 at 48.44%	0.19	OK	
	LC9 at 50.00%	0.26	OK	
<hr/>				
29	LC1 at 48.44%	0.22	OK	
	LC10 at 50.00%	0.25	OK	
	LC11 at 48.44%	0.25	OK	
	LC12 at 50.00%	0.27	OK	
	LC13 at 50.00%	0.13	OK	
	LC14 at 50.00%	0.10	OK	
	LC15 at 48.44%	0.18	OK	
	LC16 at 50.00%	0.14	OK	
	LC17 at 50.00%	0.16	OK	
	LC18 at 50.00%	0.17	OK	
	LC19 at 50.00%	0.17	OK	
	LC2 at 50.00%	0.23	OK	
	LC20 at 50.00%	0.18	OK	
	LC21 at 48.44%	0.20	OK	
	LC22 at 48.44%	0.20	OK	
	LC23 at 48.44%	0.20	OK	
	LC24 at 48.44%	0.20	OK	
	LC25 at 48.44%	0.17	OK	
	LC26 at 48.44%	0.16	OK	
	LC27 at 48.44%	0.17	OK	
	LC28 at 48.44%	0.17	OK	
	LC29 at 48.44%	0.15	OK	
	LC3 at 48.44%	0.30	OK	Eq. H1-1b
	LC30 at 50.00%	0.14	OK	
	LC31 at 48.44%	0.15	OK	
	LC32 at 50.00%	0.15	OK	
	LC4 at 50.00%	0.37	OK	Eq. H1-1b
	LC5 at 48.44%	0.19	OK	
	LC6 at 50.00%	0.20	OK	
	LC7 at 48.44%	0.27	OK	
	LC8 at 50.00%	0.33	OK	
	LC9 at 48.44%	0.24	OK	
<hr/>				
34	LC1 at 50.00%	0.23	OK	
	LC10 at 48.44%	0.26	OK	
	LC11 at 50.00%	0.26	OK	
	LC12 at 50.00%	0.24	OK	
	LC13 at 50.00%	0.13	OK	
	LC14 at 50.00%	0.10	OK	
	LC15 at 50.00%	0.18	OK	
	LC16 at 48.44%	0.15	OK	
	LC17 at 50.00%	0.15	OK	
	LC18 at 50.00%	0.15	OK	
	LC19 at 50.00%	0.15	OK	
	LC2 at 48.44%	0.34	OK	Eq. H1-1b
	LC20 at 50.00%	0.15	OK	

LC21 at 50.00%	0.17	OK
LC22 at 50.00%	0.17	OK
LC23 at 50.00%	0.18	OK
LC24 at 50.00%	0.17	OK
LC25 at 50.00%	0.21	OK
LC26 at 50.00%	0.21	OK
LC27 at 50.00%	0.21	OK
LC28 at 50.00%	0.20	OK
LC29 at 50.00%	0.17	OK
LC3 at 50.00%	0.33	OK
LC30 at 50.00%	0.17	OK
LC31 at 50.00%	0.17	OK
LC32 at 50.00%	0.16	OK
LC4 at 48.44%	0.20	OK
LC5 at 50.00%	0.20	OK
LC6 at 48.44%	0.31	OK
LC7 at 50.00%	0.30	OK
LC8 at 48.44%	0.17	OK
LC9 at 50.00%	0.25	OK

Eq. H1-1b

35

LC1 at 100.00%	0.56	OK
LC10 at 100.00%	0.80	OK
LC11 at 100.00%	0.81	OK
LC12 at 100.00%	0.75	OK
LC13 at 100.00%	0.44	OK
LC14 at 100.00%	0.33	OK
LC15 at 100.00%	0.48	OK
LC16 at 100.00%	0.63	OK
LC17 at 100.00%	0.44	OK
LC18 at 100.00%	0.45	OK
LC19 at 100.00%	0.45	OK
LC2 at 100.00%	0.66	OK
LC20 at 100.00%	0.43	OK
LC21 at 100.00%	0.46	OK
LC22 at 100.00%	0.47	OK
LC23 at 100.00%	0.47	OK
LC24 at 100.00%	0.45	OK
LC25 at 100.00%	0.57	OK
LC26 at 100.00%	0.57	OK
LC27 at 100.00%	0.58	OK
LC28 at 100.00%	0.55	OK
LC29 at 100.00%	0.66	OK
LC3 at 100.00%	0.74	OK
LC30 at 100.00%	0.67	OK
LC31 at 100.00%	0.67	OK
LC32 at 100.00%	0.65	OK
LC4 at 100.00%	0.35	OK
LC5 at 100.00%	0.45	OK
LC6 at 100.00%	0.55	OK
LC7 at 100.00%	0.63	OK
LC8 at 100.00%	0.24	OK
LC9 at 100.00%	0.78	OK

Eq. H1-1b

L 2X2X3_16

27

LC1 at 100.00%	0.38	OK
LC10 at 0.00%	0.27	OK
LC11 at 0.00%	0.26	OK
LC12 at 0.00%	0.24	OK
LC13 at 0.00%	0.16	OK
LC14 at 0.00%	0.12	OK
LC15 at 0.00%	0.15	OK
LC16 at 0.00%	0.15	OK
LC17 at 0.00%	0.15	OK
LC18 at 0.00%	0.16	OK
LC19 at 0.00%	0.16	OK

Sec. F1

	LC2 at 0.00%	0.29	OK	
	LC20 at 0.00%	0.15	OK	
	LC21 at 0.00%	0.14	OK	
	LC22 at 0.00%	0.15	OK	
	LC23 at 0.00%	0.15	OK	
	LC24 at 0.00%	0.14	OK	
	LC25 at 0.00%	0.14	OK	
	LC26 at 0.00%	0.15	OK	
	LC27 at 0.00%	0.15	OK	
	LC28 at 0.00%	0.14	OK	
	LC29 at 0.00%	0.15	OK	
	LC3 at 100.00%	0.35	OK	Eq. H2-1
	LC30 at 0.00%	0.15	OK	
	LC31 at 0.00%	0.15	OK	
	LC32 at 0.00%	0.14	OK	
	LC4 at 0.00%	0.22	OK	
	LC5 at 100.00%	0.38	OK	Eq. H2-1
	LC6 at 0.00%	0.27	OK	
	LC7 at 100.00%	0.35	OK	
	LC8 at 0.00%	0.23	OK	
	LC9 at 0.00%	0.25	OK	
<hr/>				
28	LC1 at 0.00%	0.42	OK	
	LC10 at 100.00%	0.21	OK	
	LC11 at 100.00%	0.24	OK	
	LC12 at 100.00%	0.24	OK	
	LC13 at 100.00%	0.14	OK	
	LC14 at 100.00%	0.10	OK	
	LC15 at 100.00%	0.13	OK	
	LC16 at 100.00%	0.14	OK	
	LC17 at 100.00%	0.13	OK	
	LC18 at 100.00%	0.13	OK	
	LC19 at 100.00%	0.13	OK	
	LC2 at 100.00%	0.25	OK	
	LC20 at 100.00%	0.14	OK	
	LC21 at 100.00%	0.12	OK	
	LC22 at 100.00%	0.12	OK	
	LC23 at 100.00%	0.13	OK	
	LC24 at 100.00%	0.13	OK	
	LC25 at 100.00%	0.13	OK	
	LC26 at 100.00%	0.12	OK	
	LC27 at 100.00%	0.13	OK	
	LC28 at 100.00%	0.14	OK	
	LC29 at 100.00%	0.13	OK	
	LC3 at 0.00%	0.39	OK	Eq. H2-1
	LC30 at 100.00%	0.13	OK	
	LC31 at 100.00%	0.14	OK	
	LC32 at 100.00%	0.14	OK	
	LC4 at 100.00%	0.29	OK	
	LC5 at 0.00%	0.42	OK	Eq. H2-1
	LC6 at 100.00%	0.25	OK	
	LC7 at 0.00%	0.39	OK	
	LC8 at 100.00%	0.27	OK	
	LC9 at 100.00%	0.22	OK	
<hr/>				
32	LC1 at 0.00%	0.37	OK	Sec. F1
	LC10 at 0.00%	0.25	OK	
	LC11 at 0.00%	0.24	OK	
	LC12 at 0.00%	0.25	OK	
	LC13 at 0.00%	0.15	OK	
	LC14 at 0.00%	0.12	OK	
	LC15 at 0.00%	0.17	OK	
	LC16 at 0.00%	0.16	OK	
	LC17 at 0.00%	0.22	OK	

LC18 at 0.00%	0.21	OK
LC19 at 0.00%	0.21	OK
LC2 at 100.00%	0.20	OK
LC20 at 0.00%	0.21	OK
LC21 at 0.00%	0.14	OK
LC22 at 0.00%	0.14	OK
LC23 at 0.00%	0.13	OK
LC24 at 0.00%	0.14	OK
LC25 at 0.00%	0.18	OK
LC26 at 0.00%	0.17	OK
LC27 at 0.00%	0.17	OK
LC28 at 0.00%	0.17	OK
LC29 at 0.00%	0.17	OK
LC3 at 100.00%	0.36	OK
LC30 at 0.00%	0.16	OK
LC31 at 0.00%	0.16	OK
LC32 at 0.00%	0.16	OK
LC4 at 0.00%	0.23	OK
LC5 at 0.00%	0.35	OK
LC6 at 100.00%	0.20	OK
LC7 at 100.00%	0.37	OK
LC8 at 100.00%	0.21	OK
LC9 at 0.00%	0.27	OK

Eq. H2-1

33

LC1 at 100.00%	0.09	OK
LC10 at 100.00%	0.24	OK
LC11 at 100.00%	0.23	OK
LC12 at 100.00%	0.22	OK
LC13 at 100.00%	0.14	OK
LC14 at 100.00%	0.10	OK
LC15 at 100.00%	0.15	OK
LC16 at 100.00%	0.14	OK
LC17 at 100.00%	0.21	OK
LC18 at 100.00%	0.22	OK
LC19 at 100.00%	0.21	OK
LC2 at 0.00%	0.44	OK
LC20 at 100.00%	0.20	OK
LC21 at 100.00%	0.17	OK
LC22 at 100.00%	0.18	OK
LC23 at 100.00%	0.18	OK
LC24 at 100.00%	0.17	OK
LC25 at 100.00%	0.15	OK
LC26 at 100.00%	0.16	OK
LC27 at 100.00%	0.15	OK
LC28 at 100.00%	0.14	OK
LC29 at 100.00%	0.14	OK
LC3 at 100.00%	0.19	OK
LC30 at 100.00%	0.15	OK
LC31 at 100.00%	0.14	OK
LC32 at 100.00%	0.13	OK
LC4 at 0.00%	0.48	OK
LC5 at 100.00%	0.06	OK
LC6 at 0.00%	0.43	OK
LC7 at 100.00%	0.15	OK
LC8 at 0.00%	0.48	OK
LC9 at 100.00%	0.22	OK

Eq. H2-1

Eq. H2-1

37

LC1 at 0.00%	0.11	OK
LC10 at 0.00%	0.24	OK
LC11 at 0.00%	0.26	OK
LC12 at 0.00%	0.27	OK
LC13 at 0.00%	0.15	OK
LC14 at 0.00%	0.12	OK
LC15 at 0.00%	0.17	OK

Sec. F1

LC16 at 0.00%	0.22	OK	
LC17 at 0.00%	0.16	OK	
LC18 at 0.00%	0.15	OK	
LC19 at 0.00%	0.16	OK	
LC2 at 100.00%	0.43	OK	
LC20 at 0.00%	0.16	OK	
LC21 at 0.00%	0.16	OK	
LC22 at 0.00%	0.16	OK	
LC23 at 0.00%	0.17	OK	
LC24 at 0.00%	0.17	OK	
LC25 at 0.00%	0.19	OK	
LC26 at 0.00%	0.19	OK	
LC27 at 0.00%	0.20	OK	
LC28 at 0.00%	0.20	OK	
LC29 at 0.00%	0.23	OK	
LC3 at 0.00%	0.20	OK	
LC30 at 0.00%	0.22	OK	
LC31 at 0.00%	0.23	OK	
LC32 at 0.00%	0.23	OK	
LC4 at 100.00%	0.40	OK	Eq. H2-1
LC5 at 0.00%	0.07	OK	
LC6 at 100.00%	0.43	OK	Eq. H2-1
LC7 at 0.00%	0.16	OK	
LC8 at 100.00%	0.39	OK	
LC9 at 0.00%	0.25	OK	

38	LC1 at 100.00%	0.37	OK	Sec. F1
	LC10 at 100.00%	0.23	OK	
	LC11 at 100.00%	0.21	OK	
	LC12 at 100.00%	0.23	OK	
	LC13 at 100.00%	0.14	OK	
	LC14 at 100.00%	0.10	OK	
	LC15 at 100.00%	0.15	OK	
	LC16 at 100.00%	0.20	OK	
	LC17 at 100.00%	0.15	OK	
	LC18 at 100.00%	0.15	OK	
	LC19 at 100.00%	0.14	OK	
	LC2 at 0.00%	0.22	OK	
	LC20 at 100.00%	0.15	OK	
	LC21 at 100.00%	0.16	OK	
	LC22 at 100.00%	0.15	OK	
	LC23 at 100.00%	0.15	OK	
	LC24 at 100.00%	0.15	OK	
	LC25 at 100.00%	0.13	OK	
	LC26 at 100.00%	0.12	OK	
	LC27 at 100.00%	0.12	OK	
	LC28 at 100.00%	0.12	OK	
	LC29 at 100.00%	0.20	OK	
	LC3 at 0.00%	0.38	OK	
	LC30 at 100.00%	0.19	OK	
	LC31 at 100.00%	0.19	OK	
	LC32 at 100.00%	0.19	OK	
	LC4 at 0.00%	0.22	OK	
	LC5 at 0.00%	0.35	OK	
	LC6 at 0.00%	0.23	OK	
	LC7 at 0.00%	0.38	OK	Eq. H2-1
	LC8 at 0.00%	0.22	OK	
	LC9 at 100.00%	0.24	OK	

PIPE 2x0.154

55	LC1 at 65.63%	0.51	OK	Eq. H1-1b
	LC10 at 65.63%	0.09	OK	
	LC11 at 65.63%	0.09	OK	
	LC12 at 65.63%	0.09	OK	
	LC13 at 65.63%	0.01	OK	

LC14 at 65.63%	0.01	OK
LC15 at 65.63%	0.01	OK
LC16 at 65.63%	0.01	OK
LC17 at 65.63%	0.04	OK
LC18 at 65.63%	0.03	OK
LC19 at 65.63%	0.04	OK
LC2 at 65.63%	0.49	OK
LC20 at 65.63%	0.03	OK
LC21 at 65.63%	0.04	OK
LC22 at 65.63%	0.03	OK
LC23 at 65.63%	0.04	OK
LC24 at 65.63%	0.03	OK
LC25 at 65.63%	0.04	OK
LC26 at 65.63%	0.03	OK
LC27 at 65.63%	0.04	OK
LC28 at 65.63%	0.03	OK
LC29 at 65.63%	0.05	OK
LC3 at 65.63%	0.51	OK
LC30 at 65.63%	0.05	OK
LC31 at 65.63%	0.05	OK
LC32 at 65.63%	0.05	OK
LC4 at 65.63%	0.49	OK
LC5 at 65.63%	0.51	OK
LC6 at 65.63%	0.49	OK
LC7 at 65.63%	0.51	OK
LC8 at 65.63%	0.49	OK
LC9 at 65.63%	0.09	OK

56

LC1 at 65.63%	0.79	OK
LC10 at 65.63%	0.09	OK
LC11 at 65.63%	0.15	OK
LC12 at 65.63%	0.09	OK
LC13 at 65.63%	0.01	OK
LC14 at 65.63%	0.01	OK
LC15 at 65.63%	0.01	OK
LC16 at 65.63%	0.01	OK
LC17 at 65.63%	0.05	OK
LC18 at 65.63%	0.03	OK
LC19 at 65.63%	0.05	OK
LC2 at 65.63%	0.46	OK
LC20 at 65.63%	0.03	OK
LC21 at 65.63%	0.05	OK
LC22 at 65.63%	0.03	OK
LC23 at 65.63%	0.05	OK
LC24 at 65.63%	0.03	OK
LC25 at 65.63%	0.07	OK
LC26 at 65.63%	0.05	OK
LC27 at 65.63%	0.07	OK
LC28 at 65.63%	0.05	OK
LC29 at 65.63%	0.05	OK
LC3 at 65.63%	0.79	OK
LC30 at 65.63%	0.03	OK
LC31 at 65.63%	0.05	OK
LC32 at 65.63%	0.03	OK
LC4 at 65.63%	0.46	OK
LC5 at 65.63%	0.79	OK
LC6 at 65.63%	0.46	OK
LC7 at 65.63%	0.79	OK
LC8 at 65.63%	0.46	OK
LC9 at 65.63%	0.15	OK

Eq. H1-1b

57

LC1 at 65.63%	0.55	OK
LC10 at 65.63%	0.07	OK
LC11 at 65.63%	0.09	OK

	LC12 at 65.63%	0.07	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.04	OK	
	LC18 at 65.63%	0.03	OK	
	LC19 at 65.63%	0.04	OK	
	LC2 at 65.63%	0.40	OK	
	LC20 at 65.63%	0.03	OK	
	LC21 at 65.63%	0.06	OK	
	LC22 at 65.63%	0.04	OK	
	LC23 at 65.63%	0.06	OK	
	LC24 at 65.63%	0.04	OK	
	LC25 at 65.63%	0.04	OK	
	LC26 at 65.63%	0.03	OK	
	LC27 at 65.63%	0.04	OK	
	LC28 at 65.63%	0.03	OK	
	LC29 at 65.63%	0.04	OK	
	LC3 at 65.63%	0.55	OK	Eq. H1-1b
	LC30 at 65.63%	0.03	OK	
	LC31 at 65.63%	0.04	OK	
	LC32 at 65.63%	0.03	OK	
	LC4 at 65.63%	0.40	OK	
	LC5 at 65.63%	0.55	OK	
	LC6 at 65.63%	0.40	OK	
	LC7 at 65.63%	0.55	OK	
	LC8 at 65.63%	0.40	OK	
	LC9 at 65.63%	0.09	OK	
<hr/>				
58	LC1 at 65.63%	0.36	OK	
	LC10 at 65.63%	0.05	OK	
	LC11 at 65.63%	0.07	OK	
	LC12 at 65.63%	0.05	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.04	OK	Sec. E1
	LC18 at 65.63%	0.04	OK	
	LC19 at 65.63%	0.04	OK	
	LC2 at 65.63%	0.25	OK	
	LC20 at 65.63%	0.04	OK	
	LC21 at 65.63%	0.02	OK	
	LC22 at 65.63%	0.02	OK	
	LC23 at 65.63%	0.02	OK	
	LC24 at 65.63%	0.02	OK	
	LC25 at 65.63%	0.02	OK	
	LC26 at 65.63%	0.02	OK	
	LC27 at 65.63%	0.02	OK	
	LC28 at 65.63%	0.02	OK	
	LC29 at 65.63%	0.02	OK	
	LC3 at 65.63%	0.36	OK	Eq. H1-1b
	LC30 at 65.63%	0.02	OK	
	LC31 at 65.63%	0.02	OK	
	LC32 at 65.63%	0.02	OK	
	LC4 at 65.63%	0.25	OK	
	LC5 at 65.63%	0.36	OK	
	LC6 at 65.63%	0.25	OK	
	LC7 at 65.63%	0.36	OK	
	LC8 at 65.63%	0.25	OK	
	LC9 at 65.63%	0.07	OK	
<hr/>				
59	LC1 at 65.63%	0.51	OK	

LC10 at 65.63%	0.10	OK
LC11 at 65.63%	0.09	OK
LC12 at 65.63%	0.10	OK
LC13 at 65.63%	0.01	OK
LC14 at 65.63%	0.01	OK
LC15 at 65.63%	0.01	OK
LC16 at 65.63%	0.01	OK
LC17 at 65.63%	0.04	OK
LC18 at 65.63%	0.04	OK
LC19 at 65.63%	0.04	OK
LC2 at 65.63%	0.54	OK
LC20 at 65.63%	0.04	OK
LC21 at 65.63%	0.04	OK
LC22 at 65.63%	0.04	OK
LC23 at 65.63%	0.04	OK
LC24 at 65.63%	0.04	OK
LC25 at 65.63%	0.04	OK
LC26 at 65.63%	0.04	OK
LC27 at 65.63%	0.04	OK
LC28 at 65.63%	0.04	OK
LC29 at 65.63%	0.04	OK
LC3 at 65.63%	0.51	OK
LC30 at 65.63%	0.04	OK
LC31 at 65.63%	0.04	OK
LC32 at 65.63%	0.04	OK
LC4 at 65.63%	0.54	OK
LC5 at 65.63%	0.51	OK
LC6 at 65.63%	0.53	OK
LC7 at 65.63%	0.51	OK
LC8 at 65.63%	0.53	OK
LC9 at 65.63%	0.09	OK

Eq. H1-1b

60

LC1 at 65.63%	0.58	OK
LC10 at 65.63%	0.13	OK
LC11 at 65.63%	0.10	OK
LC12 at 65.63%	0.13	OK
LC13 at 65.63%	0.01	OK
LC14 at 65.63%	0.01	OK
LC15 at 65.63%	0.01	OK
LC16 at 65.63%	0.01	OK
LC17 at 65.63%	0.04	OK
LC18 at 65.63%	0.06	OK
LC19 at 65.63%	0.04	OK
LC2 at 65.63%	0.81	OK
LC20 at 65.63%	0.06	OK
LC21 at 65.63%	0.04	OK
LC22 at 65.63%	0.06	OK
LC23 at 65.63%	0.04	OK
LC24 at 65.63%	0.06	OK
LC25 at 65.63%	0.04	OK
LC26 at 65.63%	0.06	OK
LC27 at 65.63%	0.04	OK
LC28 at 65.63%	0.06	OK
LC29 at 65.63%	0.04	OK
LC3 at 65.63%	0.58	OK
LC30 at 65.63%	0.06	OK
LC31 at 65.63%	0.04	OK
LC32 at 65.63%	0.06	OK
LC4 at 65.63%	0.81	OK
LC5 at 65.63%	0.58	OK
LC6 at 65.63%	0.81	OK
LC7 at 65.63%	0.58	OK
LC8 at 65.63%	0.81	OK
LC9 at 65.63%	0.10	OK

Eq. H1-1b

61	LC1 at 65.63%	0.46	OK	Eq. H1-1b
	LC10 at 65.63%	0.10	OK	
	LC11 at 65.63%	0.09	OK	
	LC12 at 65.63%	0.10	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.03	OK	
	LC18 at 65.63%	0.04	OK	
	LC19 at 65.63%	0.03	OK	
	LC2 at 65.63%	0.54	OK	
	LC20 at 65.63%	0.04	OK	
	LC21 at 65.63%	0.03	OK	
	LC22 at 65.63%	0.04	OK	
	LC23 at 65.63%	0.03	OK	
	LC24 at 65.63%	0.04	OK	
	LC25 at 65.63%	0.03	OK	
	LC26 at 65.63%	0.04	OK	
	LC27 at 65.63%	0.03	OK	
	LC28 at 65.63%	0.04	OK	
	LC29 at 65.63%	0.03	OK	
	LC3 at 65.63%	0.46	OK	
	LC30 at 65.63%	0.04	OK	
	LC31 at 65.63%	0.03	OK	
	LC32 at 65.63%	0.04	OK	
	LC4 at 65.63%	0.54	OK	
	LC5 at 65.63%	0.46	OK	
	LC6 at 65.63%	0.54	OK	
	LC7 at 65.63%	0.46	OK	
	LC8 at 65.63%	0.54	OK	
	LC9 at 65.63%	0.09	OK	

62	LC1 at 65.63%	0.29	OK	Eq. H1-1b
	LC10 at 65.63%	0.07	OK	
	LC11 at 65.63%	0.05	OK	
	LC12 at 65.63%	0.07	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.02	OK	
	LC18 at 65.63%	0.03	OK	
	LC19 at 65.63%	0.02	OK	
	LC2 at 65.63%	0.38	OK	
	LC20 at 65.63%	0.03	OK	
	LC21 at 65.63%	0.02	OK	
	LC22 at 65.63%	0.03	OK	
	LC23 at 65.63%	0.02	OK	
	LC24 at 65.63%	0.03	OK	
	LC25 at 65.63%	0.02	OK	
	LC26 at 65.63%	0.03	OK	
	LC27 at 65.63%	0.02	OK	
	LC28 at 65.63%	0.03	OK	
	LC29 at 65.63%	0.02	OK	
	LC3 at 65.63%	0.29	OK	
	LC30 at 65.63%	0.03	OK	
	LC31 at 65.63%	0.02	OK	
	LC32 at 65.63%	0.03	OK	
	LC4 at 65.63%	0.38	OK	
	LC5 at 65.63%	0.29	OK	
	LC6 at 65.63%	0.38	OK	
	LC7 at 65.63%	0.29	OK	

	LC8 at 65.63%	0.38	OK	
	LC9 at 65.63%	0.05	OK	
63	LC1 at 65.63%	0.51	OK	
	LC10 at 65.63%	0.10	OK	
	LC11 at 65.63%	0.09	OK	
	LC12 at 65.63%	0.10	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.04	OK	
	LC18 at 65.63%	0.04	OK	
	LC19 at 65.63%	0.04	OK	
	LC2 at 65.63%	0.54	OK	Eq. H1-1b
	LC20 at 65.63%	0.04	OK	
	LC21 at 65.63%	0.04	OK	
	LC22 at 65.63%	0.04	OK	
	LC23 at 65.63%	0.04	OK	
	LC24 at 65.63%	0.04	OK	
	LC25 at 65.63%	0.04	OK	
	LC26 at 65.63%	0.04	OK	
	LC27 at 65.63%	0.04	OK	
	LC28 at 65.63%	0.04	OK	
	LC29 at 65.63%	0.04	OK	
	LC3 at 65.63%	0.51	OK	
	LC30 at 65.63%	0.04	OK	
	LC31 at 65.63%	0.04	OK	
	LC32 at 65.63%	0.04	OK	
	LC4 at 65.63%	0.54	OK	
	LC5 at 65.63%	0.51	OK	
	LC6 at 65.63%	0.53	OK	
	LC7 at 65.63%	0.51	OK	
	LC8 at 65.63%	0.53	OK	
	LC9 at 65.63%	0.09	OK	
64	LC1 at 65.63%	0.58	OK	
	LC10 at 65.63%	0.13	OK	
	LC11 at 65.63%	0.10	OK	
	LC12 at 65.63%	0.13	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.04	OK	
	LC18 at 65.63%	0.06	OK	
	LC19 at 65.63%	0.04	OK	
	LC2 at 65.63%	0.81	OK	Eq. H1-1b
	LC20 at 65.63%	0.06	OK	
	LC21 at 65.63%	0.04	OK	
	LC22 at 65.63%	0.06	OK	
	LC23 at 65.63%	0.04	OK	
	LC24 at 65.63%	0.06	OK	
	LC25 at 65.63%	0.04	OK	
	LC26 at 65.63%	0.06	OK	
	LC27 at 65.63%	0.04	OK	
	LC28 at 65.63%	0.06	OK	
	LC29 at 65.63%	0.04	OK	
	LC3 at 65.63%	0.58	OK	
	LC30 at 65.63%	0.06	OK	
	LC31 at 65.63%	0.04	OK	
	LC32 at 65.63%	0.06	OK	
	LC4 at 65.63%	0.81	OK	
	LC5 at 65.63%	0.58	OK	

	LC6 at 65.63%	0.81	OK	
	LC7 at 65.63%	0.58	OK	
	LC8 at 65.63%	0.81	OK	
	LC9 at 65.63%	0.10	OK	
65	LC1 at 65.63%	0.46	OK	
	LC10 at 65.63%	0.10	OK	
	LC11 at 65.63%	0.09	OK	
	LC12 at 65.63%	0.10	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.03	OK	
	LC18 at 65.63%	0.04	OK	
	LC19 at 65.63%	0.03	OK	
	LC2 at 65.63%	0.54	OK	Eq. H1-1b
	LC20 at 65.63%	0.04	OK	
	LC21 at 65.63%	0.03	OK	
	LC22 at 65.63%	0.04	OK	
	LC23 at 65.63%	0.03	OK	
	LC24 at 65.63%	0.04	OK	
	LC25 at 65.63%	0.03	OK	
	LC26 at 65.63%	0.04	OK	
	LC27 at 65.63%	0.03	OK	
	LC28 at 65.63%	0.04	OK	
	LC29 at 65.63%	0.03	OK	
	LC3 at 65.63%	0.46	OK	
	LC30 at 65.63%	0.04	OK	
	LC31 at 65.63%	0.03	OK	
	LC32 at 65.63%	0.04	OK	
	LC4 at 65.63%	0.54	OK	
	LC5 at 65.63%	0.46	OK	
	LC6 at 65.63%	0.54	OK	
	LC7 at 65.63%	0.46	OK	
	LC8 at 65.63%	0.54	OK	
	LC9 at 65.63%	0.09	OK	
66	LC1 at 65.63%	0.29	OK	
	LC10 at 65.63%	0.07	OK	
	LC11 at 65.63%	0.05	OK	
	LC12 at 65.63%	0.07	OK	
	LC13 at 65.63%	0.01	OK	
	LC14 at 65.63%	0.01	OK	
	LC15 at 65.63%	0.01	OK	
	LC16 at 65.63%	0.01	OK	
	LC17 at 65.63%	0.02	OK	
	LC18 at 65.63%	0.03	OK	
	LC19 at 65.63%	0.02	OK	
	LC2 at 65.63%	0.38	OK	Eq. H1-1b
	LC20 at 65.63%	0.03	OK	
	LC21 at 65.63%	0.02	OK	
	LC22 at 65.63%	0.03	OK	
	LC23 at 65.63%	0.02	OK	
	LC24 at 65.63%	0.03	OK	
	LC25 at 65.63%	0.02	OK	
	LC26 at 65.63%	0.03	OK	
	LC27 at 65.63%	0.02	OK	
	LC28 at 65.63%	0.03	OK	
	LC29 at 65.63%	0.02	OK	
	LC3 at 65.63%	0.29	OK	
	LC30 at 65.63%	0.03	OK	
	LC31 at 65.63%	0.02	OK	
	LC32 at 65.63%	0.03	OK	

	LC4 at 65.63%	0.38	OK	
	LC5 at 65.63%	0.29	OK	
	LC6 at 65.63%	0.38	OK	
	LC7 at 65.63%	0.29	OK	
	LC8 at 65.63%	0.38	OK	
	LC9 at 65.63%	0.05	OK	
68	LC1 at 25.00%	0.08	OK	Eq. H1-1b
	LC10 at 25.00%	0.01	OK	
	LC11 at 25.00%	0.01	OK	
	LC12 at 25.00%	0.01	OK	
	LC13 at 25.00%	0.00	OK	
	LC14 at 25.00%	0.00	OK	
	LC15 at 25.00%	0.00	OK	
	LC16 at 25.00%	0.00	OK	
	LC17 at 25.00%	0.00	OK	
	LC18 at 25.00%	0.00	OK	
	LC19 at 25.00%	0.00	OK	
	LC2 at 25.00%	0.08	OK	
	LC20 at 25.00%	0.00	OK	
	LC21 at 25.00%	0.00	OK	
	LC22 at 25.00%	0.00	OK	
	LC23 at 25.00%	0.00	OK	
	LC24 at 25.00%	0.00	OK	
	LC25 at 25.00%	0.00	OK	
	LC26 at 25.00%	0.00	OK	
	LC27 at 25.00%	0.00	OK	
	LC28 at 25.00%	0.00	OK	
	LC29 at 25.00%	0.00	OK	
	LC3 at 25.00%	0.08	OK	
	LC30 at 25.00%	0.00	OK	
	LC31 at 25.00%	0.00	OK	
	LC32 at 25.00%	0.00	OK	
	LC4 at 25.00%	0.08	OK	
	LC5 at 25.00%	0.08	OK	
	LC6 at 25.00%	0.08	OK	
	LC7 at 25.00%	0.08	OK	
	LC8 at 25.00%	0.08	OK	
	LC9 at 25.00%	0.01	OK	
69	LC1 at 0.00%	0.12	OK	
	LC10 at 0.00%	0.02	OK	
	LC11 at 0.00%	0.02	OK	
	LC12 at 0.00%	0.02	OK	
	LC13 at 0.00%	0.00	OK	
	LC14 at 0.00%	0.00	OK	
	LC15 at 0.00%	0.00	OK	
	LC16 at 0.00%	0.00	OK	
	LC17 at 0.00%	0.01	OK	
	LC18 at 0.00%	0.01	OK	
	LC19 at 0.00%	0.01	OK	
	LC2 at 0.00%	0.12	OK	
	LC20 at 0.00%	0.01	OK	
	LC21 at 0.00%	0.01	OK	
	LC22 at 0.00%	0.01	OK	
	LC23 at 0.00%	0.01	OK	
	LC24 at 0.00%	0.01	OK	
	LC25 at 0.00%	0.01	OK	
	LC26 at 0.00%	0.01	OK	
	LC27 at 0.00%	0.01	OK	
	LC28 at 0.00%	0.01	OK	
	LC29 at 0.00%	0.01	OK	
	LC3 at 0.00%	0.12	OK	Eq. H1-1b
	LC30 at 0.00%	0.01	OK	

		LC31 at 0.00%	0.01	OK	
		LC32 at 0.00%	0.01	OK	
		LC4 at 0.00%	0.12	OK	
		LC5 at 0.00%	0.12	OK	
		LC6 at 0.00%	0.12	OK	
		LC7 at 0.00%	0.12	OK	
		LC8 at 0.00%	0.12	OK	
		LC9 at 0.00%	0.02	OK	
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PIPE 3x0.216	5	LC1 at 29.86%	0.41	OK	Eq. H1-1b
		LC10 at 70.14%	0.39	OK	
		LC11 at 70.14%	0.39	OK	
		LC12 at 70.14%	0.36	OK	
		LC13 at 70.14%	0.21	OK	
		LC14 at 70.14%	0.16	OK	
		LC15 at 70.14%	0.26	OK	
		LC16 at 70.14%	0.30	OK	
		LC17 at 70.14%	0.21	OK	
		LC18 at 70.14%	0.23	OK	
		LC19 at 70.14%	0.23	OK	
		LC2 at 70.14%	0.45	OK	Eq. H1-1b
		LC20 at 70.14%	0.22	OK	
		LC21 at 70.14%	0.24	OK	
		LC22 at 70.14%	0.26	OK	
		LC23 at 70.14%	0.26	OK	
		LC24 at 70.14%	0.24	OK	
		LC25 at 70.14%	0.30	OK	
		LC26 at 70.14%	0.32	OK	
		LC27 at 70.14%	0.31	OK	
		LC28 at 70.14%	0.30	OK	
		LC29 at 70.14%	0.32	OK	
		LC3 at 70.14%	0.40	OK	
		LC30 at 70.14%	0.34	OK	
		LC31 at 70.14%	0.34	OK	
		LC32 at 70.14%	0.32	OK	
		LC4 at 29.86%	0.34	OK	
		LC5 at 29.86%	0.37	OK	
		LC6 at 70.14%	0.40	OK	
		LC7 at 70.14%	0.35	OK	
		LC8 at 29.86%	0.30	OK	
		LC9 at 70.14%	0.34	OK	
<hr/>					
	7	LC1 at 70.00%	0.46	OK	Eq. H1-1b
		LC10 at 70.00%	0.39	OK	
		LC11 at 70.00%	0.34	OK	
		LC12 at 70.00%	0.35	OK	
		LC13 at 70.00%	0.21	OK	
		LC14 at 70.00%	0.16	OK	
		LC15 at 30.00%	0.20	OK	
		LC16 at 70.00%	0.20	OK	
		LC17 at 30.00%	0.26	OK	
		LC18 at 30.00%	0.27	OK	
		LC19 at 30.00%	0.28	OK	
		LC2 at 70.00%	0.39	OK	
		LC20 at 30.00%	0.28	OK	
		LC21 at 30.00%	0.24	OK	
		LC22 at 30.00%	0.25	OK	
		LC23 at 30.00%	0.26	OK	
		LC24 at 30.00%	0.26	OK	
		LC25 at 70.00%	0.20	OK	
		LC26 at 70.00%	0.19	OK	
		LC27 at 30.00%	0.20	OK	
		LC28 at 30.00%	0.20	OK	
		LC29 at 70.00%	0.21	OK	

LC3 at 30.00%	0.36	OK	
LC30 at 70.00%	0.20	OK	
LC31 at 70.00%	0.19	OK	
LC32 at 70.00%	0.19	OK	
LC4 at 30.00%	0.41	OK	Eq. H1-1b
LC5 at 70.00%	0.41	OK	
LC6 at 70.00%	0.34	OK	
LC7 at 30.00%	0.32	OK	
LC8 at 30.00%	0.37	OK	
LC9 at 70.00%	0.40	OK	

8	LC1 at 70.83%	0.26	OK	
	LC10 at 70.14%	0.33	OK	
	LC11 at 70.14%	0.36	OK	Eq. H1-1b
	LC12 at 70.14%	0.39	OK	
	LC13 at 70.14%	0.21	OK	
	LC14 at 70.14%	0.16	OK	
	LC15 at 70.14%	0.24	OK	
	LC16 at 70.14%	0.24	OK	
	LC17 at 70.14%	0.26	OK	
	LC18 at 70.14%	0.25	OK	
	LC19 at 70.14%	0.27	OK	
	LC2 at 29.86%	0.35	OK	Eq. H1-1b
	LC20 at 70.14%	0.28	OK	
	LC21 at 29.86%	0.20	OK	
	LC22 at 29.86%	0.21	OK	
	LC23 at 29.86%	0.21	OK	
	LC24 at 29.86%	0.19	OK	
	LC25 at 70.14%	0.26	OK	
	LC26 at 70.14%	0.25	OK	
	LC27 at 70.14%	0.26	OK	
	LC28 at 70.14%	0.27	OK	
	LC29 at 70.14%	0.25	OK	
	LC3 at 70.14%	0.26	OK	
	LC30 at 70.14%	0.24	OK	
	LC31 at 70.14%	0.25	OK	
	LC32 at 70.14%	0.26	OK	
	LC4 at 70.14%	0.41	OK	Eq. H1-1b
	LC5 at 70.83%	0.22	OK	
	LC6 at 29.86%	0.31	OK	
	LC7 at 70.83%	0.23	OK	
	LC8 at 70.14%	0.36	OK	
	LC9 at 70.14%	0.36	OK	

PL 6x1/2

11	LC1 at 50.00%	0.37	OK	
	LC10 at 48.44%	0.11	OK	
	LC11 at 50.00%	0.11	OK	
	LC12 at 48.44%	0.13	OK	
	LC13 at 48.44%	0.04	OK	
	LC14 at 48.44%	0.03	OK	
	LC15 at 48.44%	0.04	OK	
	LC16 at 48.44%	0.04	OK	
	LC17 at 50.00%	0.08	OK	
	LC18 at 50.00%	0.07	OK	
	LC19 at 50.00%	0.08	OK	
	LC2 at 48.44%	0.45	OK	
	LC20 at 50.00%	0.08	OK	
	LC21 at 50.00%	0.06	OK	
	LC22 at 48.44%	0.06	OK	
	LC23 at 50.00%	0.06	OK	
	LC24 at 48.44%	0.07	OK	
	LC25 at 50.00%	0.05	OK	
	LC26 at 48.44%	0.06	OK	
	LC27 at 50.00%	0.05	OK	

LC28 at 48.44%	0.06	OK	
LC29 at 50.00%	0.05	OK	
LC3 at 50.00%	0.43	OK	Eq. H1-1b
LC30 at 48.44%	0.06	OK	
LC31 at 50.00%	0.05	OK	
LC32 at 48.44%	0.06	OK	
LC4 at 48.44%	0.53	OK	Eq. H1-1b
LC5 at 50.00%	0.38	OK	
LC6 at 48.44%	0.46	OK	
LC7 at 50.00%	0.43	OK	
LC8 at 48.44%	0.52	OK	
LC9 at 50.00%	0.09	OK	

13	LC1 at 48.44%	0.47	OK	Eq. H1-1b
	LC10 at 48.44%	0.10	OK	
	LC11 at 48.44%	0.11	OK	
	LC12 at 48.44%	0.09	OK	
	LC13 at 48.44%	0.04	OK	
	LC14 at 48.44%	0.03	OK	
	LC15 at 48.44%	0.03	OK	
	LC16 at 48.44%	0.04	OK	
	LC17 at 48.44%	0.06	OK	
	LC18 at 48.44%	0.05	OK	
	LC19 at 48.44%	0.05	OK	
	LC2 at 48.44%	0.27	OK	
	LC20 at 48.44%	0.04	OK	
	LC21 at 48.44%	0.05	OK	
	LC22 at 48.44%	0.05	OK	
	LC23 at 48.44%	0.05	OK	
	LC24 at 48.44%	0.04	OK	
	LC25 at 48.44%	0.05	OK	
	LC26 at 48.44%	0.05	OK	
	LC27 at 48.44%	0.05	OK	
	LC28 at 48.44%	0.04	OK	
	LC29 at 48.44%	0.05	OK	
	LC3 at 50.00%	0.39	OK	
	LC30 at 48.44%	0.05	OK	
	LC31 at 48.44%	0.05	OK	
	LC32 at 48.44%	0.04	OK	
	LC4 at 50.00%	0.24	OK	
	LC5 at 48.44%	0.46	OK	
	LC6 at 48.44%	0.26	OK	
	LC7 at 50.00%	0.40	OK	
	LC8 at 50.00%	0.24	OK	
	LC9 at 48.44%	0.12	OK	

36	LC1 at 50.00%	0.40	OK	
	LC10 at 48.44%	0.11	OK	
	LC11 at 50.00%	0.13	OK	
	LC12 at 48.44%	0.10	OK	
	LC13 at 50.00%	0.04	OK	
	LC14 at 50.00%	0.03	OK	
	LC15 at 50.00%	0.04	OK	
	LC16 at 50.00%	0.06	OK	
	LC17 at 50.00%	0.06	OK	
	LC18 at 50.00%	0.05	OK	
	LC19 at 50.00%	0.06	OK	
	LC2 at 48.44%	0.47	OK	Eq. H1-1b
	LC20 at 50.00%	0.05	OK	
	LC21 at 50.00%	0.06	OK	
	LC22 at 50.00%	0.05	OK	
	LC23 at 50.00%	0.06	OK	
	LC24 at 50.00%	0.05	OK	
	LC25 at 50.00%	0.07	OK	

LC26 at 50.00%	0.06	OK
LC27 at 50.00%	0.07	OK
LC28 at 50.00%	0.06	OK
LC29 at 50.00%	0.09	OK
LC3 at 50.00%	0.47	OK
LC30 at 50.00%	0.09	OK
LC31 at 50.00%	0.09	OK
LC32 at 50.00%	0.08	OK
LC4 at 48.44%	0.41	OK
LC5 at 50.00%	0.41	OK
LC6 at 48.44%	0.47	OK
LC7 at 50.00%	0.47	OK
LC8 at 48.44%	0.42	OK
LC9 at 50.00%	0.11	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
2	0.00	0.00	-1.666	0
11	-7.0215	0.00	3.163	0
12	-0.7715	0.00	-7.6623	0
15	7.0215	0.00	3.163	0
16	0.7715	0.00	-7.6623	0
17	-6.25	0.00	4.4993	0
18	6.25	0.00	4.4993	0
46	0.00	0.00	-7.3375	0
49	-0.959	0.00	-7.3375	0
52	0.959	0.00	-7.3375	0
56	3.8965	0.00	-2.2497	0
68	0.00	0.00	4.4756	0
79	2.1114	0.00	-4.4756	0
80	0.459	0.00	-7.3375	0
81	-2.1114	0.00	-4.4756	0
82	-0.459	0.00	-7.3375	0
85	6.3545	0.00	3.6688	0
86	1.4428	0.00	0.833	0
87	5.875	0.00	4.4993	0
88	6.834	0.00	2.8382	0
89	2.8203	0.00	4.0663	0

90	6.125	0.00	4.0663	0
91	4.9317	0.00	0.4093	0
92	6.584	0.00	3.2713	0
95	-6.3545	0.00	3.6688	0
96	-1.4428	0.00	0.833	0
97	-6.834	0.00	2.8382	0
98	-5.875	0.00	4.4993	0
99	-4.9317	0.00	0.4093	0
100	-6.584	0.00	3.2713	0
101	-2.8203	0.00	4.0663	0
102	-6.125	0.00	4.0663	0
135	-5.583	4.00	4.6993	0
136	-2.583	4.00	4.6993	0
137	2.583	4.00	4.6993	0
138	5.583	4.00	4.6993	0
139	6.8612	4.00	2.4854	0
140	5.3612	4.00	-0.1127	0
141	2.7782	4.00	-4.5866	0
142	1.2782	4.00	-7.1847	0
143	-1.2782	4.00	-7.1847	0
144	-2.7782	4.00	-4.5866	0
145	-5.3612	4.00	-0.1127	0
146	-6.8612	4.00	2.4854	0
147	-5.583	-2.00	4.6993	0
148	-2.583	-2.00	4.6993	0
149	2.583	-2.00	4.6993	0
150	5.583	-2.00	4.6993	0
151	6.8612	-2.00	2.4854	0
152	5.3612	-2.00	-0.1127	0
153	2.7782	-2.00	-4.5866	0
154	1.2782	-2.00	-7.1847	0
155	-1.2782	-2.00	-7.1847	0
156	-2.7782	-2.00	-4.5866	0
157	-5.3612	-2.00	-0.1127	0
158	-6.8612	-2.00	2.4854	0
161	-2.5594	1.00	1.7086	0
162	-2.5594	-3.00	1.7086	0
163	0.00	0.00	-4.4756	0
164	0.00	3.00	-4.4756	0
93	-5.1817	0.00	-0.0237	0
67	-2.6114	0.00	-4.4756	0
66	2.6114	0.00	-4.4756	0
84	5.1817	0.00	-0.0237	0
83	2.5703	0.00	4.4993	0
94	-2.5703	0.00	4.4993	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
2	1	1	1	1	1	1
86	1	1	1	1	1	1
96	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
5	12	11		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
7	15	16		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
8	17	18		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
11	88	87		PL 6x1/2	A36	0.00	0.00	0.00
12	85	86		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
13	49	52		PL 6x1/2	A36	0.00	0.00	0.00
14	46	2		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
24	66	67		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
27	79	80		L 2X2X3_16	A36	0.00	0.00	0.00
28	82	81		L 2X2X3_16	A36	0.00	0.00	0.00
29	83	84		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
32	89	90		L 2X2X3_16	A36	0.00	0.00	0.00
33	92	91		L 2X2X3_16	A36	0.00	0.00	0.00
34	93	94		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
35	95	96		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
36	97	98		PL 6x1/2	A36	0.00	0.00	0.00
37	99	100		L 2X2X3_16	A36	0.00	0.00	0.00
38	102	101		L 2X2X3_16	A36	0.00	0.00	0.00
55	135	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
56	136	148		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	137	149		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
58	138	150		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
59	139	151		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
60	140	152		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
61	141	153		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
62	142	154		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
63	143	155		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
64	144	156		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
65	145	157		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
66	146	158		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
68	161	162		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
69	163	164		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

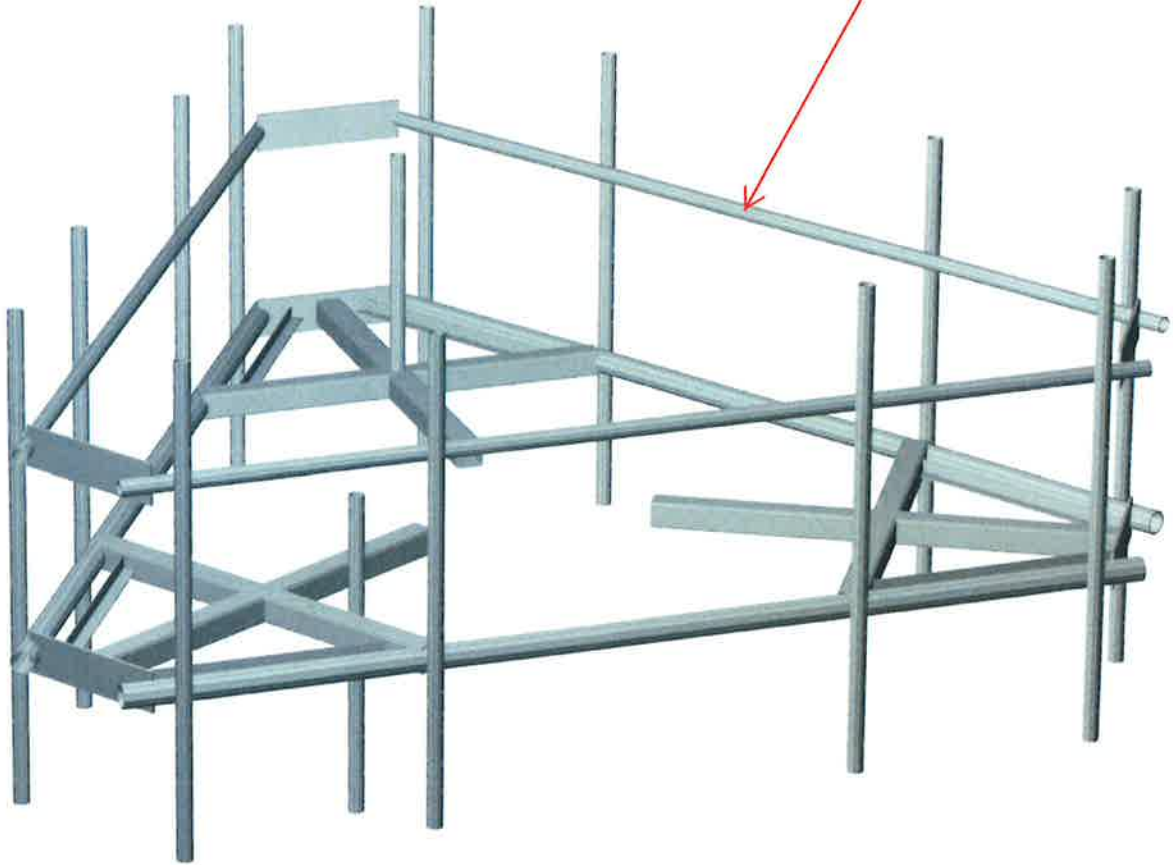
Member	Rotation [Deg]	Axis23	NX	NY	NZ
27	270.00	0	0.00	0.00	0.00
28	270.00	0	0.00	0.00	0.00
32	270.00	0	0.00	0.00	0.00
33	270.00	0	0.00	0.00	0.00
37	270.00	0	0.00	0.00	0.00
38	270.00	0	0.00	0.00	0.00







HUDSON
Design Group LLC

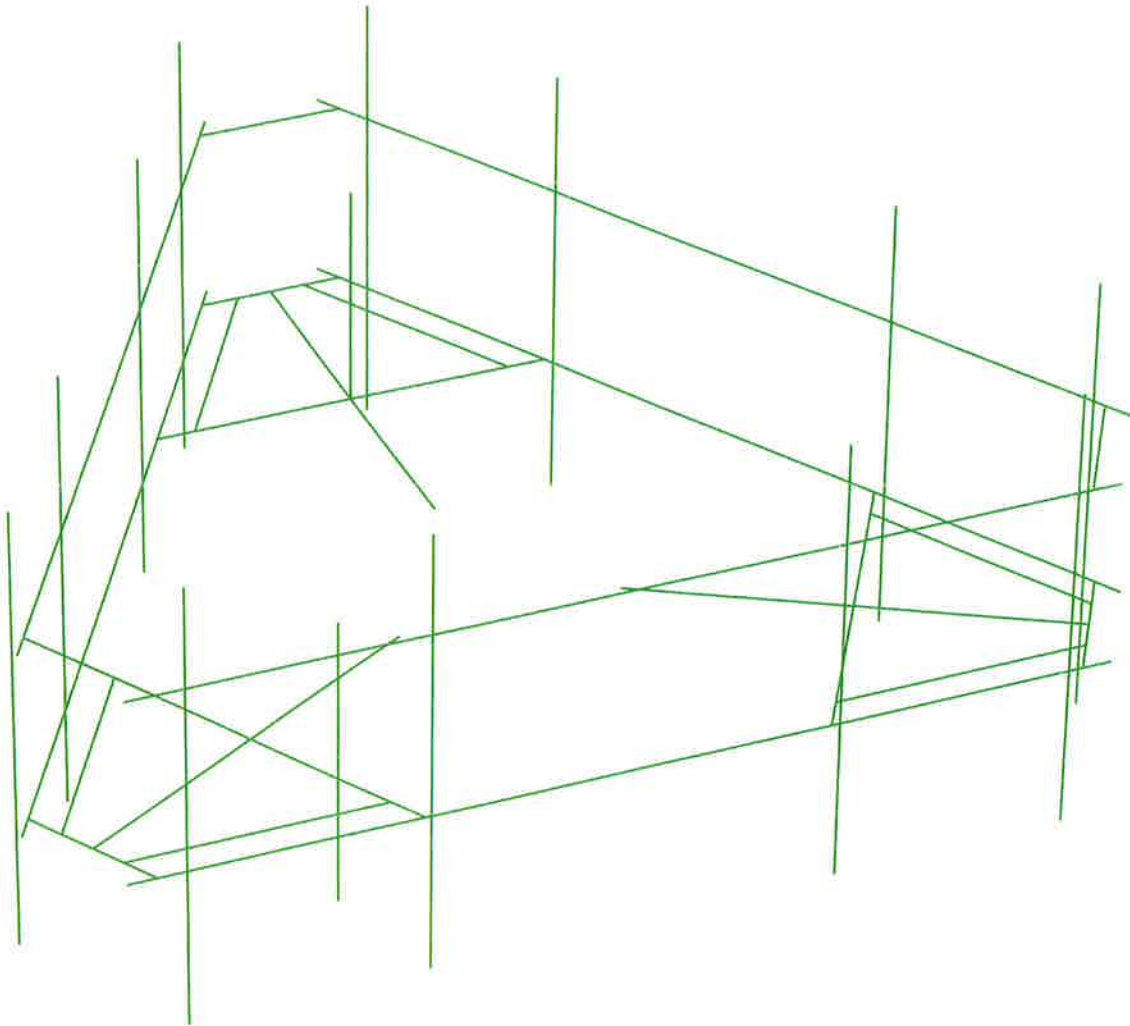
**5C/6C/7C Mount Calculations
(Proposed Conditions)**

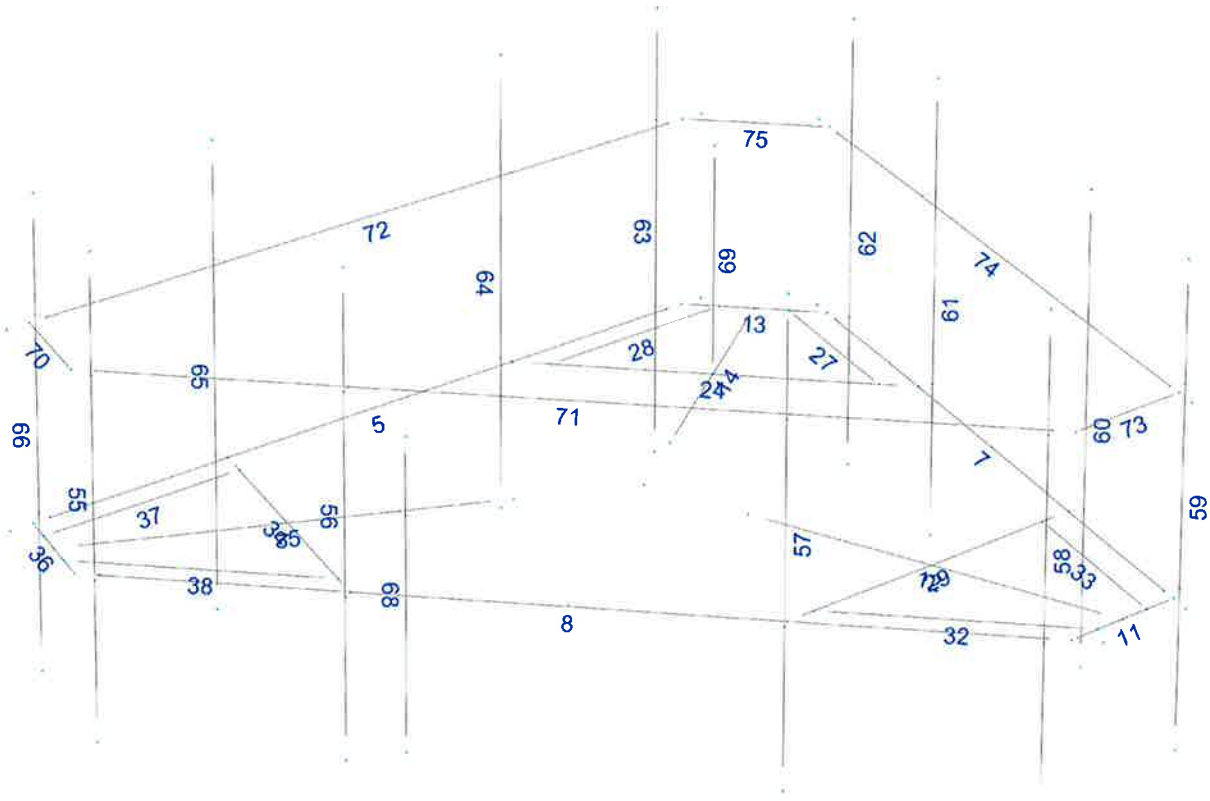
Install new handrail kit, SitePro1
P/N HRK12 (or approved equal).
Handrail kit is required per AT&T
Technical Directive to stabilize
existing cantilevered antennas.



Design status

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





Load data

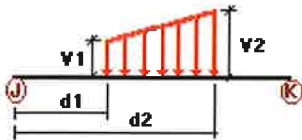
GLOSSARY

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	500 lb Live Load on Antenna 1	No	LL
LLa2	500 lb Live Load on Antenna 2	No	LL
LLa3	500 lb Live Load on Antenna 3	No	LL
LLa4	500 lb Live Load on Antenna 4	No	LL
W180	-W0	Yes	
W210	-W30	Yes	
Wi180	-Wi0	Yes	
Wi210	-Wi30	Yes	
WL180	-WL0	Yes	
WL210	-WL30	Yes	

Distributed force on members

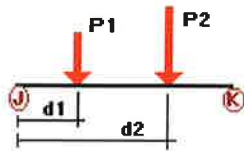


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	12	Y	-0.01	-0.01	0.00	Yes	50.00	Yes
	14	Y	-0.01	-0.01	0.00	Yes	50.00	Yes
	24	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	28	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	29	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	32	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	33	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	34	Y	-0.01	-0.01	0.00	Yes	100.00	Yes

	35	Y	-0.01	-0.01	0.00	Yes	50.00	Yes
	37	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	38	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
WO	5	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	11	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	12	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	13	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	24	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	27	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	28	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	29	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	32	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	33	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	34	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	35	Z	-0.018	-0.018	0.00	Yes	100.00	Yes
	36	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	37	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	38	Z	-0.009	-0.009	0.00	Yes	100.00	Yes
	55	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	56	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	57	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	58	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	59	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	60	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	61	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	62	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	63	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	64	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	65	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	66	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	68	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	69	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	70	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	71	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	72	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	73	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	74	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
W30	75	Z	-0.027	-0.027	0.00	Yes	100.00	Yes
	5	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	11	X	-0.027	-0.027	0.00	Yes	100.00	Yes
	12	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	14	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	27	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	28	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	29	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	33	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	34	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	35	X	-0.018	-0.018	0.00	Yes	100.00	Yes
	36	X	-0.027	-0.027	0.00	Yes	100.00	Yes
	37	X	-0.009	-0.009	0.00	Yes	100.00	Yes
	55	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	56	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	57	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	58	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	59	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	60	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	61	X	-0.007	-0.007	0.00	Yes	100.00	Yes

	62	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	63	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	64	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	65	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	66	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	68	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	69	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	70	X	-0.027	-0.027	0.00	Yes	100.00	Yes
	72	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	73	X	-0.027	-0.027	0.00	Yes	100.00	Yes
	74	X	-0.007	-0.007	0.00	Yes	100.00	Yes
Di	5	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	7	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	8	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	11	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	12	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	13	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	14	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	24	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	27	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	28	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	29	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	32	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	33	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	34	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	35	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	36	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	37	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	38	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	55	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	56	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	57	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	58	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	59	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	60	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	61	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	62	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	63	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	64	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	65	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	66	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	68	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	69	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	70	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	71	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	72	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	73	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	74	Y	-0.005	-0.005	0.00	Yes	100.00	Yes
	75	Y	-0.007	-0.007	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	55	y	-0.056	1.00	No
		y	-0.056	5.00	No
		y	-0.049	2.00	No
		y	-0.06	4.00	No
	56	y	-0.055	1.00	No
		y	-0.055	5.00	No
		y	-0.06	2.00	No
		y	-0.06	4.00	No
	57	y	-0.028	3.00	No
		y	-0.025	1.00	No
		y	-0.025	5.00	No
		y	-0.051	2.00	No
	58	y	-0.058	4.00	No
		y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.019	2.00	No
	59	y	-0.033	4.00	No
		y	-0.038	3.00	No
		y	-0.056	1.00	No
		y	-0.056	5.00	No
	60	y	-0.049	2.00	No
		y	-0.06	4.00	No
		y	-0.055	1.00	No
		y	-0.055	5.00	No
	61	y	-0.06	2.00	No
		y	-0.06	4.00	No
		y	-0.028	3.00	No
		y	-0.025	1.00	No
	62	y	-0.025	5.00	No
		y	-0.051	2.00	No
		y	-0.058	4.00	No
		y	-0.018	1.00	No
	63	y	-0.018	5.00	No
		y	-0.019	2.00	No
		y	-0.033	4.00	No
		y	-0.038	3.00	No
	64	y	-0.056	1.00	No
		y	-0.056	5.00	No
		y	-0.049	2.00	No
		y	-0.06	4.00	No
	65	y	-0.055	1.00	No
		y	-0.055	5.00	No
		y	-0.06	2.00	No
		y	-0.06	4.00	No
	66	y	-0.028	3.00	No
		y	-0.025	1.00	No
		y	-0.025	5.00	No
		y	-0.051	2.00	No
67	y	-0.058	4.00	No	
	y	-0.018	1.00	No	
	y	-0.018	5.00	No	
	y	-0.019	2.00	No	
68	y	-0.033	4.00	No	
	y	-0.038	3.00	No	
	y	-0.056	1.00	No	
	y	-0.056	5.00	No	

	68	y	-0.033	2.00	No
	69	y	-0.033	2.00	No
W0	55	z	-0.112	1.00	No
		z	-0.112	5.00	No
	56	z	-0.005	2.00	No
		z	-0.19	1.00	No
	57	z	-0.19	5.00	No
		z	-0.11	1.00	No
		z	-0.11	5.00	No
		z	-0.024	2.00	No
	58	z	-0.032	4.00	No
		z	-0.076	1.00	No
	59	z	-0.076	5.00	No
		z	-0.098	1.00	No
60	z	-0.098	5.00	No	
		-0.027	2.00	No	
	z	-0.055	4.00	No	
		-0.108	1.00	No	
	z	-0.108	5.00	No	
		-0.04	2.00	No	
	61	z	-0.034	4.00	No
		z	-0.076	1.00	No
		z	-0.076	5.00	No
		z	-0.039	2.00	No
	62	z	-0.043	4.00	No
		z	-0.049	1.00	No
	z	-0.049	5.00	No	
	z	-0.014	2.00	No	
63	z	-0.031	4.00	No	
	z	-0.098	1.00	No	
	z	-0.098	5.00	No	
	z	-0.027	2.00	No	
64	z	-0.055	4.00	No	
	z	-0.108	1.00	No	
	z	-0.108	5.00	No	
	z	-0.04	2.00	No	
65	z	-0.034	4.00	No	
	z	-0.076	1.00	No	
	z	-0.076	5.00	No	
	z	-0.039	2.00	No	
66	z	-0.043	4.00	No	
	z	-0.049	1.00	No	
	z	-0.049	5.00	No	
	z	-0.014	2.00	No	
68	z	-0.031	4.00	No	
	z	-0.031	2.00	No	
W30	55	x	-0.094	1.00	No
		x	-0.094	5.00	No
		x	-0.025	2.00	No
		x	-0.049	4.00	No
	56	x	-0.08	1.00	No
		x	-0.08	5.00	No
		x	-0.034	2.00	No
		x	-0.029	4.00	No
	57	x	-0.064	1.00	No
		x	-0.064	5.00	No
		x	-0.033	2.00	No
		x	-0.035	4.00	No
58	x	-0.041	1.00	No	

	x	-0.041	5.00	No
	x	-0.009	2.00	No
	x	-0.031	4.00	No
59	2	-0.107	1.00	No
	2	-0.107	5.00	No
	2	-0.023	2.00	No
	2	-0.068	4.00	No
60	2	-0.162	1.00	No
	2	-0.162	5.00	No
	2	-0.05	2.00	No
	2	-0.045	4.00	No
61	2	-0.099	1.00	No
	2	-0.099	5.00	No
	2	-0.037	2.00	No
	2	-0.041	4.00	No
62	2	-0.067	1.00	No
	2	-0.067	5.00	No
	2	-0.022	2.00	No
	2	-0.031	4.00	No
63	2	-0.107	1.00	No
	2	-0.107	5.00	No
	2	-0.023	2.00	No
	2	-0.068	4.00	No
64	2	-0.162	1.00	No
	2	-0.162	5.00	No
	2	-0.05	2.00	No
	2	-0.045	4.00	No
65	2	-0.099	1.00	No
	2	-0.099	5.00	No
	2	-0.037	2.00	No
	2	-0.041	4.00	No
66	2	-0.067	1.00	No
	2	-0.067	5.00	No
	2	-0.022	2.00	No
	2	-0.031	4.00	No
68	x	-0.031	2.00	No
69	x	-0.031	2.00	No
Di 55	y	-0.061	1.00	No
	y	-0.061	5.00	No
	y	-0.031	2.00	No
	y	-0.045	4.00	No
56	y	-0.08	1.00	No
	y	-0.08	5.00	No
	y	-0.038	2.00	No
	y	-0.034	4.00	No
	y	-0.032	3.00	No
57	y	-0.05	1.00	No
	y	-0.05	5.00	No
	y	-0.045	2.00	No
	y	-0.05	4.00	No
58	y	-0.035	1.00	No
	y	-0.035	5.00	No
	y	-0.016	2.00	No
	y	-0.035	4.00	No
	y	-0.024	3.00	No
59	y	-0.061	1.00	No
	y	-0.061	5.00	No
	y	-0.031	2.00	No
	y	-0.045	4.00	No
60	y	-0.08	1.00	No

	y	-0.08	5.00	No
	y	-0.038	2.00	No
	y	-0.034	4.00	No
	y	-0.032	3.00	No
61	y	-0.05	1.00	No
	y	-0.05	5.00	No
	y	-0.045	2.00	No
	y	-0.05	4.00	No
62	y	-0.035	1.00	No
	y	-0.035	5.00	No
	y	-0.016	2.00	No
	y	-0.035	4.00	No
	y	-0.024	3.00	No
63	y	-0.061	1.00	No
	y	-0.061	5.00	No
	y	-0.031	2.00	No
	y	-0.045	4.00	No
64	y	-0.08	1.00	No
	y	-0.08	5.00	No
	y	-0.038	2.00	No
	y	-0.034	4.00	No
	y	-0.032	3.00	No
65	y	-0.05	1.00	No
	y	-0.05	5.00	No
	y	-0.045	2.00	No
	y	-0.05	4.00	No
66	y	-0.035	1.00	No
	y	-0.035	5.00	No
	y	-0.016	2.00	No
	y	-0.035	4.00	No
	y	-0.024	3.00	No
68	y	-0.035	2.00	No
69	y	-0.035	2.00	No
WiO 55	z	-0.031	1.00	No
	z	-0.031	5.00	No
	z	-0.006	2.00	No
	z	-0.022	4.00	No
56	z	-0.046	1.00	No
	z	-0.046	5.00	No
	z	-0.017	2.00	No
	z	-0.016	4.00	No
57	z	-0.03	1.00	No
	z	-0.03	5.00	No
	z	-0.01	2.00	No
	z	-0.012	4.00	No
58	z	-0.022	1.00	No
	z	-0.022	5.00	No
	z	-0.01	2.00	No
59	z	-0.027	1.00	No
	z	-0.027	5.00	No
	z	-0.011	2.00	No
	z	-0.018	4.00	No
60	z	-0.029	1.00	No
	z	-0.029	5.00	No
	z	-0.013	2.00	No
	z	-0.012	4.00	No
61	z	-0.023	1.00	No
	z	-0.023	5.00	No
	z	-0.015	2.00	No
	z	-0.016	4.00	No

62	z	-0.016	1.00	No
	z	-0.016	5.00	No
	z	-0.006	2.00	No
	z	-0.01	4.00	No
63	z	-0.027	1.00	No
	z	-0.027	5.00	No
	z	-0.011	2.00	No
	z	-0.018	4.00	No
64	z	-0.029	1.00	No
	z	-0.029	5.00	No
	z	-0.013	2.00	No
	z	-0.012	4.00	No
65	z	-0.023	1.00	No
	z	-0.023	5.00	No
	z	-0.015	2.00	No
	z	-0.016	4.00	No
66	z	-0.016	1.00	No
	z	-0.016	5.00	No
	z	-0.006	2.00	No
	z	-0.01	4.00	No
68	z	-0.01	2.00	No
69	z	-0.01	2.00	No
Wi30 55	x	-0.026	1.00	No
	x	-0.026	5.00	No
	x	-0.01	2.00	No
	x	-0.016	4.00	No
56	x	-0.024	1.00	No
	x	-0.024	5.00	No
	x	-0.012	2.00	No
	x	-0.011	4.00	No
57	x	-0.02	1.00	No
	x	-0.02	5.00	No
	x	-0.012	2.00	No
	x	-0.013	4.00	No
58	x	-0.014	1.00	No
	x	-0.014	5.00	No
	x	-0.005	2.00	No
	x	-0.01	4.00	No
59	2	-0.028	1.00	No
	2	-0.028	5.00	No
	2	-0.013	2.00	No
	2	-0.021	4.00	No
60	2	-0.04	1.00	No
	2	-0.04	5.00	No
	2	-0.016	2.00	No
	2	-0.015	4.00	No
61	2	-0.027	1.00	No
	2	-0.027	5.00	No
	2	-0.02	2.00	No
	2	-0.021	4.00	No
62	2	-0.019	1.00	No
	2	-0.019	5.00	No
	2	-0.009	2.00	No
	2	-0.01	4.00	No
63	2	-0.028	1.00	No
	2	-0.028	5.00	No
	2	-0.013	2.00	No
	2	-0.021	4.00	No
64	2	-0.04	1.00	No
	2	-0.04	5.00	No

		2	-0.016	2.00	No
		2	-0.015	4.00	No
	65	2	-0.027	1.00	No
		2	-0.027	5.00	No
		2	-0.02	2.00	No
		2	-0.021	4.00	No
	66	2	-0.019	1.00	No
		2	-0.019	5.00	No
		2	-0.009	2.00	No
		2	-0.01	4.00	No
	68	x	-0.01	2.00	No
	69	x	-0.01	2.00	No
WLO	55	z	-0.012	1.00	No
		z	-0.012	5.00	No
		z	-0.001	2.00	No
	56	z	-0.02	1.00	No
		z	-0.02	5.00	No
	57	z	-0.012	1.00	No
		z	-0.012	5.00	No
		z	-0.003	2.00	No
		z	-0.004	4.00	No
	58	z	-0.008	1.00	No
		z	-0.008	5.00	No
	59	z	-0.011	1.00	No
		z	-0.011	5.00	No
		z	-0.003	2.00	No
		z	-0.006	4.00	No
	60	z	-0.012	1.00	No
		z	-0.012	5.00	No
		z	-0.005	2.00	No
		z	-0.004	4.00	No
	61	z	-0.008	1.00	No
		z	-0.008	5.00	No
		z	-0.005	2.00	No
		z	-0.005	4.00	No
	62	z	-0.006	1.00	No
		z	-0.006	5.00	No
		z	-0.002	2.00	No
		z	-0.003	4.00	No
	63	z	-0.011	1.00	No
		z	-0.011	5.00	No
		z	-0.003	2.00	No
		z	-0.006	4.00	No
	64	z	-0.012	1.00	No
		z	-0.012	5.00	No
		z	-0.005	2.00	No
		z	-0.004	4.00	No
	65	z	-0.008	1.00	No
		z	-0.008	5.00	No
		z	-0.005	2.00	No
		z	-0.005	4.00	No
	66	z	-0.006	1.00	No
		z	-0.006	5.00	No
		z	-0.002	2.00	No
		z	-0.003	4.00	No
	68	z	-0.003	2.00	No
	69	z	-0.003	2.00	No
WL30	55	x	-0.01	1.00	No
		x	-0.01	5.00	No
		x	-0.003	2.00	No

		x	-0.006	4.00	No
56		x	-0.009	1.00	No
		x	-0.009	5.00	No
		x	-0.004	2.00	No
		x	-0.004	4.00	No
57		x	-0.007	1.00	No
		x	-0.007	5.00	No
		x	-0.004	2.00	No
		x	-0.004	4.00	No
58		x	-0.005	1.00	No
		x	-0.005	5.00	No
		x	-0.001	2.00	No
		x	-0.003	4.00	No
59		2	-0.012	1.00	No
		2	-0.012	5.00	No
		2	-0.003	2.00	No
		2	-0.008	4.00	No
60		2	-0.017	1.00	No
		2	-0.017	5.00	No
		2	-0.006	2.00	No
		2	-0.005	4.00	No
61		2	-0.011	1.00	No
		2	-0.011	5.00	No
		2	-0.004	2.00	No
		2	-0.005	4.00	No
62		2	-0.007	1.00	No
		2	-0.007	5.00	No
		2	-0.003	2.00	No
		2	-0.003	4.00	No
63		2	-0.012	1.00	No
		2	-0.012	5.00	No
		2	-0.003	2.00	No
		2	-0.008	4.00	No
64		2	-0.017	1.00	No
		2	-0.017	5.00	No
		2	-0.006	2.00	No
		2	-0.005	4.00	No
65		2	-0.011	1.00	No
		2	-0.011	5.00	No
		2	-0.004	2.00	No
		2	-0.005	4.00	No
66		2	-0.007	1.00	No
		2	-0.007	5.00	No
		2	-0.003	2.00	No
		2	-0.003	4.00	No
68		x	-0.003	2.00	No
69		x	-0.003	2.00	No
LL1	8	y	-0.25	6.25	No
	71	y	-0.25	6.25	No
LL2	8	y	-0.25	0.00	No
	71	y	-0.25	0.00	No
LLa1	58	y	-0.50	3.00	No
LLa2	57	y	-0.50	3.00	No
LLa3	56	y	-0.50	3.00	No
LLa4	55	y	-0.50	3.00	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	-1.00	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	500 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load on Antenna 4	No	0.00	0.00	0.00
W180	-W0	Yes	0.00	0.00	0.00
W210	-W30	Yes	0.00	0.00	0.00
Wi180	-Wi0	Yes	0.00	0.00	0.00
Wi210	-Wi30	Yes	0.00	0.00	0.00
WL180	-WL0	Yes	0.00	0.00	0.00
WL210	-WL30	Yes	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
LLa4	0.00	0.00	0.00
W180	0.00	0.00	0.00
W210	0.00	0.00	0.00
Wi180	0.00	0.00	0.00
Wi210	0.00	0.00	0.00
WL180	0.00	0.00	0.00
WL210	0.00	0.00	0.00

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

- LC1=1.2DL+1.6W0
- LC2=1.2DL+1.6W30
- LC3=1.2DL-1.6W0
- LC4=1.2DL-1.6W30
- LC5=0.9DL+1.6W0
- LC6=0.9DL+1.6W30
- LC7=0.9DL-1.6W0
- LC8=0.9DL-1.6W30
- LC9=1.2DL+Di+Wf0
- LC10=1.2DL+Di+Wf30
- LC11=1.2DL+Di-Wf0
- LC12=1.2DL+Di-Wf30
- LC13=1.2DL
- LC14=0.9DL
- LC15=1.2DL+1.6LL1
- LC16=1.2DL+1.6LL2
- LC17=1.2DL+WL0+LLa1
- LC18=1.2DL+WL30+LLa1
- LC19=1.2DL-WL0+LLa1
- LC20=1.2DL-WL30+LLa1
- LC21=1.2DL+WL0+LLa2
- LC22=1.2DL+WL30+LLa2
- LC23=1.2DL-WL0+LLa2
- LC24=1.2DL-WL30+LLa2
- LC25=1.2DL+WL0+LLa3
- LC26=1.2DL+WL30+LLa3
- LC27=1.2DL-WL0+LLa3
- LC28=1.2DL-WL30+LLa3
- LC29=1.2DL+WL0+LLa4
- LC30=1.2DL+WL30+LLa4
- LC31=1.2DL-WL0+LLa4
- LC32=1.2DL-WL30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	<i>HSS_SQR 4X4X1_4</i>	12	LC1 at 100.00%	0.47	OK	
			LC10 at 100.00%	0.63	OK	
			LC11 at 100.00%	0.68	OK	
			LC12 at 100.00%	0.68	OK	
			LC13 at 100.00%	0.37	OK	
			LC14 at 100.00%	0.28	OK	
			LC15 at 100.00%	0.47	OK	
			LC16 at 100.00%	0.34	OK	
			LC17 at 100.00%	0.56	OK	
			LC18 at 100.00%	0.55	OK	
			LC19 at 100.00%	0.57	OK	
			LC2 at 100.00%	0.41	OK	
			LC20 at 100.00%	0.57	OK	
			LC21 at 100.00%	0.49	OK	
			LC22 at 100.00%	0.48	OK	
			LC23 at 100.00%	0.50	OK	
			LC24 at 100.00%	0.50	OK	

	LC25 at 100.00%	0.40	OK	
	LC26 at 100.00%	0.39	OK	
	LC27 at 100.00%	0.41	OK	
	LC28 at 100.00%	0.41	OK	
	LC29 at 100.00%	0.36	OK	
	LC3 at 100.00%	0.71	OK	Eq. H1-1b
	LC30 at 100.00%	0.35	OK	
	LC31 at 100.00%	0.37	OK	
	LC32 at 100.00%	0.37	OK	
	LC4 at 100.00%	0.52	OK	
	LC5 at 100.00%	0.38	OK	
	LC6 at 100.00%	0.32	OK	
	LC7 at 100.00%	0.62	OK	
	LC8 at 100.00%	0.42	OK	
	LC9 at 100.00%	0.65	OK	
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14	LC1 at 100.00%	0.66	OK	
	LC10 at 100.00%	0.71	OK	
	LC11 at 100.00%	0.64	OK	
	LC12 at 100.00%	0.71	OK	
	LC13 at 100.00%	0.38	OK	
	LC14 at 100.00%	0.29	OK	
	LC15 at 100.00%	0.33	OK	
	LC16 at 100.00%	0.33	OK	
	LC17 at 100.00%	0.36	OK	
	LC18 at 100.00%	0.36	OK	
	LC19 at 100.00%	0.34	OK	
	LC2 at 100.00%	0.84	OK	Eq. H1-1b
	LC20 at 100.00%	0.36	OK	
	LC21 at 100.00%	0.36	OK	
	LC22 at 100.00%	0.36	OK	
	LC23 at 100.00%	0.34	OK	
	LC24 at 100.00%	0.36	OK	
	LC25 at 100.00%	0.36	OK	
	LC26 at 100.00%	0.36	OK	
	LC27 at 100.00%	0.34	OK	
	LC28 at 100.00%	0.36	OK	
	LC29 at 100.00%	0.36	OK	
	LC3 at 100.00%	0.16	OK	
	LC30 at 100.00%	0.36	OK	
	LC31 at 100.00%	0.34	OK	
	LC32 at 100.00%	0.36	OK	
	LC4 at 100.00%	0.54	OK	
	LC5 at 100.00%	0.56	OK	
	LC6 at 100.00%	0.74	OK	
	LC7 at 53.13%	0.10	OK	
	LC8 at 100.00%	0.45	OK	
	LC9 at 100.00%	0.70	OK	
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24	LC1 at 50.00%	0.38	OK	Eq. H1-1b
	LC10 at 50.00%	0.30	OK	
	LC11 at 50.00%	0.30	OK	
	LC12 at 50.00%	0.31	OK	
	LC13 at 50.00%	0.16	OK	
	LC14 at 50.00%	0.12	OK	
	LC15 at 50.00%	0.14	OK	
	LC16 at 50.00%	0.16	OK	
	LC17 at 48.44%	0.16	OK	
	LC18 at 48.44%	0.15	OK	
	LC19 at 50.00%	0.16	OK	
	LC2 at 50.00%	0.34	OK	
	LC20 at 50.00%	0.16	OK	
	LC21 at 50.00%	0.15	OK	
	LC22 at 50.00%	0.15	OK	

LC23 at 50.00%	0.15	OK
LC24 at 50.00%	0.15	OK
LC25 at 50.00%	0.15	OK
LC26 at 50.00%	0.15	OK
LC27 at 50.00%	0.15	OK
LC28 at 50.00%	0.15	OK
LC29 at 50.00%	0.16	OK
LC3 at 50.00%	0.23	OK
LC30 at 50.00%	0.16	OK
LC31 at 50.00%	0.16	OK
LC32 at 50.00%	0.16	OK
LC4 at 48.44%	0.21	OK
LC5 at 50.00%	0.34	OK
LC6 at 50.00%	0.30	OK
LC7 at 50.00%	0.19	OK
LC8 at 48.44%	0.17	OK
LC9 at 50.00%	0.31	OK

29

LC1 at 48.44%	0.25	OK
LC10 at 50.00%	0.30	OK
LC11 at 50.00%	0.30	OK
LC12 at 50.00%	0.32	OK
LC13 at 50.00%	0.16	OK
LC14 at 50.00%	0.12	OK
LC15 at 48.44%	0.24	OK
LC16 at 48.44%	0.17	OK
LC17 at 50.00%	0.21	OK
LC18 at 50.00%	0.21	OK
LC19 at 50.00%	0.21	OK
LC2 at 50.00%	0.32	OK
LC20 at 50.00%	0.22	OK
LC21 at 48.44%	0.23	OK
LC22 at 48.44%	0.22	OK
LC23 at 48.44%	0.23	OK
LC24 at 48.44%	0.22	OK
LC25 at 48.44%	0.19	OK
LC26 at 48.44%	0.19	OK
LC27 at 48.44%	0.19	OK
LC28 at 48.44%	0.19	OK
LC29 at 48.44%	0.17	OK
LC3 at 48.44%	0.35	OK
LC30 at 50.00%	0.17	OK
LC31 at 48.44%	0.18	OK
LC32 at 48.44%	0.17	OK
LC4 at 50.00%	0.35	OK
LC5 at 48.44%	0.21	OK
LC6 at 50.00%	0.28	OK
LC7 at 48.44%	0.31	OK
LC8 at 50.00%	0.31	OK
LC9 at 50.00%	0.29	OK

Eq. H1-1b

Eq. H1-1b

34

LC1 at 50.00%	0.27	OK
LC10 at 48.44%	0.30	OK
LC11 at 50.00%	0.31	OK
LC12 at 50.00%	0.29	OK
LC13 at 50.00%	0.16	OK
LC14 at 50.00%	0.12	OK
LC15 at 50.00%	0.25	OK
LC16 at 50.00%	0.24	OK
LC17 at 50.00%	0.18	OK
LC18 at 50.00%	0.18	OK
LC19 at 50.00%	0.18	OK
LC2 at 48.44%	0.44	OK
LC20 at 50.00%	0.18	OK

Eq. H1-1b

LC21 at 50.00%	0.20	OK
LC22 at 50.00%	0.20	OK
LC23 at 50.00%	0.20	OK
LC24 at 50.00%	0.20	OK
LC25 at 50.00%	0.24	OK
LC26 at 50.00%	0.23	OK
LC27 at 50.00%	0.23	OK
LC28 at 50.00%	0.23	OK
LC29 at 50.00%	0.22	OK
LC3 at 50.00%	0.37	OK
LC30 at 50.00%	0.21	OK
LC31 at 50.00%	0.21	OK
LC32 at 50.00%	0.21	OK
LC4 at 48.44%	0.17	OK
LC5 at 50.00%	0.23	OK
LC6 at 48.44%	0.40	OK
LC7 at 50.00%	0.33	OK
LC8 at 48.44%	0.17	OK
LC9 at 50.00%	0.30	OK

Eq. H1-1b

35

LC1 at 100.00%	0.49	OK
LC10 at 100.00%	0.69	OK
LC11 at 100.00%	0.70	OK
LC12 at 100.00%	0.64	OK
LC13 at 100.00%	0.38	OK
LC14 at 100.00%	0.28	OK
LC15 at 100.00%	0.48	OK
LC16 at 100.00%	0.70	OK
LC17 at 100.00%	0.37	OK
LC18 at 100.00%	0.38	OK
LC19 at 100.00%	0.38	OK
LC2 at 100.00%	0.78	OK
LC20 at 100.00%	0.36	OK
LC21 at 100.00%	0.40	OK
LC22 at 100.00%	0.41	OK
LC23 at 100.00%	0.41	OK
LC24 at 100.00%	0.39	OK
LC25 at 100.00%	0.50	OK
LC26 at 100.00%	0.50	OK
LC27 at 100.00%	0.51	OK
LC28 at 100.00%	0.48	OK
LC29 at 100.00%	0.57	OK
LC3 at 100.00%	0.72	OK
LC30 at 100.00%	0.57	OK
LC31 at 100.00%	0.58	OK
LC32 at 100.00%	0.56	OK
LC4 at 52.08%	0.15	OK
LC5 at 100.00%	0.39	OK
LC6 at 100.00%	0.69	OK
LC7 at 100.00%	0.63	OK
LC8 at 52.08%	0.15	OK
LC9 at 100.00%	0.67	OK

Eq. H1-1b

Eq. H1-1b

L 2X2X3_16

27

LC1 at 100.00%	0.43	OK
LC10 at 0.00%	0.20	OK
LC11 at 0.00%	0.19	OK
LC12 at 0.00%	0.17	OK
LC13 at 0.00%	0.11	OK
LC14 at 0.00%	0.09	OK
LC15 at 0.00%	0.10	OK
LC16 at 0.00%	0.10	OK
LC17 at 0.00%	0.11	OK
LC18 at 0.00%	0.11	OK
LC19 at 0.00%	0.11	OK

	LC2 at 0.00%	0.28	OK	
	LC20 at 0.00%	0.10	OK	
	LC21 at 0.00%	0.11	OK	
	LC22 at 0.00%	0.11	OK	
	LC23 at 0.00%	0.11	OK	
	LC24 at 0.00%	0.10	OK	
	LC25 at 0.00%	0.10	OK	
	LC26 at 0.00%	0.11	OK	
	LC27 at 0.00%	0.11	OK	
	LC28 at 0.00%	0.10	OK	
	LC29 at 0.00%	0.10	OK	
	LC3 at 100.00%	0.40	OK	Eq. H2-1
	LC30 at 0.00%	0.11	OK	
	LC31 at 0.00%	0.11	OK	
	LC32 at 0.00%	0.10	OK	
	LC4 at 0.00%	0.24	OK	
	LC5 at 100.00%	0.43	OK	Eq. H2-1
	LC6 at 0.00%	0.27	OK	
	LC7 at 100.00%	0.39	OK	
	LC8 at 0.00%	0.24	OK	
	LC9 at 0.00%	0.19	OK	
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28	LC1 at 0.00%	0.45	OK	
	LC10 at 100.00%	0.16	OK	
	LC11 at 100.00%	0.18	OK	
	LC12 at 100.00%	0.19	OK	Sec. F1
	LC13 at 100.00%	0.11	OK	
	LC14 at 100.00%	0.08	OK	
	LC15 at 100.00%	0.09	OK	
	LC16 at 100.00%	0.10	OK	
	LC17 at 100.00%	0.10	OK	
	LC18 at 100.00%	0.09	OK	
	LC19 at 100.00%	0.10	OK	
	LC2 at 100.00%	0.25	OK	
	LC20 at 100.00%	0.10	OK	
	LC21 at 100.00%	0.09	OK	
	LC22 at 100.00%	0.09	OK	
	LC23 at 100.00%	0.10	OK	
	LC24 at 100.00%	0.10	OK	
	LC25 at 100.00%	0.10	OK	
	LC26 at 100.00%	0.09	OK	
	LC27 at 100.00%	0.10	OK	
	LC28 at 100.00%	0.10	OK	
	LC29 at 100.00%	0.10	OK	
	LC3 at 0.00%	0.43	OK	Eq. H2-1
	LC30 at 100.00%	0.09	OK	
	LC31 at 100.00%	0.10	OK	
	LC32 at 100.00%	0.11	OK	
	LC4 at 100.00%	0.26	OK	
	LC5 at 0.00%	0.46	OK	Eq. H2-1
	LC6 at 100.00%	0.25	OK	
	LC7 at 0.00%	0.43	OK	
	LC8 at 100.00%	0.24	OK	
	LC9 at 100.00%	0.17	OK	
<hr/>				
32	LC1 at 100.00%	0.37	OK	Eq. H2-1
	LC10 at 0.00%	0.18	OK	
	LC11 at 0.00%	0.18	OK	
	LC12 at 0.00%	0.19	OK	
	LC13 at 0.00%	0.11	OK	
	LC14 at 0.00%	0.09	OK	
	LC15 at 0.00%	0.13	OK	
	LC16 at 0.00%	0.11	OK	
	LC17 at 0.00%	0.17	OK	

LC18 at 0.00%	0.16	OK	
LC19 at 0.00%	0.16	OK	
LC2 at 100.00%	0.24	OK	
LC20 at 0.00%	0.16	OK	
LC21 at 0.00%	0.11	OK	
LC22 at 0.00%	0.11	OK	
LC23 at 0.00%	0.10	OK	
LC24 at 0.00%	0.11	OK	
LC25 at 0.00%	0.13	OK	
LC26 at 0.00%	0.13	OK	
LC27 at 0.00%	0.12	OK	
LC28 at 0.00%	0.13	OK	
LC29 at 0.00%	0.12	OK	
LC3 at 0.00%	0.39	OK	
LC30 at 0.00%	0.12	OK	
LC31 at 0.00%	0.11	OK	
LC32 at 0.00%	0.12	OK	
LC4 at 100.00%	0.24	OK	
LC5 at 100.00%	0.36	OK	
LC6 at 100.00%	0.23	OK	
LC7 at 0.00%	0.40	OK	Eq. H2-1
LC8 at 100.00%	0.24	OK	
LC9 at 0.00%	0.20	OK	

33

LC1 at 100.00%	0.06	OK	
LC10 at 100.00%	0.19	OK	
LC11 at 100.00%	0.18	OK	
LC12 at 100.00%	0.17	OK	
LC13 at 100.00%	0.11	OK	
LC14 at 100.00%	0.08	OK	
LC15 at 100.00%	0.13	OK	
LC16 at 100.00%	0.10	OK	
LC17 at 100.00%	0.16	OK	
LC18 at 100.00%	0.16	OK	
LC19 at 100.00%	0.16	OK	
LC2 at 0.00%	0.47	OK	Eq. H2-1
LC20 at 100.00%	0.15	OK	
LC21 at 100.00%	0.13	OK	
LC22 at 100.00%	0.14	OK	
LC23 at 100.00%	0.14	OK	
LC24 at 100.00%	0.13	OK	
LC25 at 100.00%	0.11	OK	
LC26 at 100.00%	0.12	OK	
LC27 at 100.00%	0.12	OK	
LC28 at 100.00%	0.11	OK	
LC29 at 100.00%	0.10	OK	
LC3 at 100.00%	0.16	OK	
LC30 at 100.00%	0.11	OK	
LC31 at 100.00%	0.11	OK	
LC32 at 100.00%	0.10	OK	
LC4 at 0.00%	0.49	OK	
LC5 at 0.00%	0.05	OK	
LC6 at 0.00%	0.46	OK	
LC7 at 100.00%	0.14	OK	
LC8 at 0.00%	0.50	OK	Eq. H2-1
LC9 at 100.00%	0.17	OK	

37

LC1 at 0.00%	0.07	OK	
LC10 at 0.00%	0.19	OK	
LC11 at 0.00%	0.19	OK	
LC12 at 0.00%	0.20	OK	
LC13 at 0.00%	0.11	OK	
LC14 at 0.00%	0.09	OK	
LC15 at 0.00%	0.14	OK	

LC16 at 0.00%	0.20	OK	Sec. F1
LC17 at 0.00%	0.11	OK	
LC18 at 0.00%	0.11	OK	
LC19 at 0.00%	0.12	OK	
LC2 at 100.00%	0.45	OK	
LC20 at 0.00%	0.12	OK	
LC21 at 0.00%	0.12	OK	
LC22 at 0.00%	0.12	OK	
LC23 at 0.00%	0.13	OK	
LC24 at 0.00%	0.13	OK	
LC25 at 0.00%	0.14	OK	
LC26 at 0.00%	0.14	OK	
LC27 at 0.00%	0.14	OK	
LC28 at 0.00%	0.15	OK	
LC29 at 0.00%	0.16	OK	
LC3 at 0.00%	0.17	OK	
LC30 at 0.00%	0.16	OK	
LC31 at 0.00%	0.17	OK	
LC32 at 0.00%	0.17	OK	
LC4 at 100.00%	0.42	OK	Eq. H2-1
LC5 at 100.00%	0.05	OK	
LC6 at 100.00%	0.45	OK	Eq. H2-1
LC7 at 0.00%	0.14	OK	
LC8 at 100.00%	0.41	OK	
LC9 at 0.00%	0.18	OK	

38

LC1 at 0.00%	0.39	OK	Eq. H2-1
LC10 at 100.00%	0.17	OK	
LC11 at 100.00%	0.16	OK	
LC12 at 100.00%	0.17	OK	
LC13 at 100.00%	0.10	OK	
LC14 at 100.00%	0.08	OK	
LC15 at 100.00%	0.12	OK	
LC16 at 100.00%	0.19	OK	
LC17 at 100.00%	0.11	OK	
LC18 at 100.00%	0.10	OK	
LC19 at 100.00%	0.10	OK	
LC2 at 0.00%	0.23	OK	
LC20 at 100.00%	0.11	OK	
LC21 at 100.00%	0.12	OK	
LC22 at 100.00%	0.11	OK	
LC23 at 100.00%	0.11	OK	
LC24 at 100.00%	0.12	OK	
LC25 at 100.00%	0.10	OK	
LC26 at 100.00%	0.09	OK	
LC27 at 100.00%	0.09	OK	
LC28 at 100.00%	0.09	OK	
LC29 at 100.00%	0.15	OK	
LC3 at 100.00%	0.41	OK	
LC30 at 100.00%	0.15	OK	
LC31 at 100.00%	0.14	OK	
LC32 at 100.00%	0.15	OK	
LC4 at 0.00%	0.25	OK	
LC5 at 0.00%	0.38	OK	
LC6 at 0.00%	0.24	OK	
LC7 at 100.00%	0.41	OK	Eq. H2-1
LC8 at 0.00%	0.24	OK	
LC9 at 100.00%	0.18	OK	

PIPE 2x0.154

55

LC1 at 64.58%	0.54	OK	Eq. H1-1b
LC10 at 64.58%	0.43	OK	
LC11 at 64.58%	0.42	OK	
LC12 at 64.58%	0.49	OK	
LC13 at 64.58%	0.26	OK	

LC14 at 64.58%	0.20	OK
LC15 at 64.58%	0.24	OK
LC16 at 64.58%	0.49	OK
LC17 at 64.58%	0.31	OK
LC18 at 64.58%	0.28	OK
LC19 at 64.58%	0.28	OK
LC2 at 64.58%	0.19	OK
LC20 at 64.58%	0.31	OK
LC21 at 64.58%	0.27	OK
LC22 at 64.58%	0.25	OK
LC23 at 64.58%	0.24	OK
LC24 at 64.58%	0.27	OK
LC25 at 64.58%	0.28	OK
LC26 at 64.58%	0.25	OK
LC27 at 64.58%	0.25	OK
LC28 at 64.58%	0.27	OK
LC29 at 64.58%	0.41	OK
LC3 at 64.58%	0.36	OK
LC30 at 64.58%	0.38	OK
LC31 at 64.58%	0.38	OK
LC32 at 64.58%	0.41	OK
LC4 at 64.58%	0.39	OK
LC5 at 64.58%	0.47	OK
LC6 at 64.58%	0.20	OK
LC7 at 64.58%	0.35	OK
LC8 at 64.58%	0.32	OK
LC9 at 64.58%	0.50	OK

56	LC1 at 64.58%	0.80	OK	Eq. H1-1b
	LC10 at 64.58%	0.33	OK	
	LC11 at 25.00%	0.29	OK	
	LC12 at 64.58%	0.42	OK	
	LC13 at 64.58%	0.21	OK	
	LC14 at 64.58%	0.16	OK	
	LC15 at 64.58%	0.19	OK	
	LC16 at 64.58%	0.29	OK	
	LC17 at 64.58%	0.27	OK	
	LC18 at 64.58%	0.22	OK	
	LC19 at 64.58%	0.19	OK	
	LC2 at 64.58%	0.27	OK	
	LC20 at 64.58%	0.25	OK	
	LC21 at 64.58%	0.21	OK	
	LC22 at 64.58%	0.17	OK	
	LC23 at 64.58%	0.14	OK	
	LC24 at 64.58%	0.20	OK	
	LC25 at 64.58%	0.29	OK	
	LC26 at 64.58%	0.25	OK	
	LC27 at 64.58%	0.23	OK	
	LC28 at 64.58%	0.28	OK	
	LC29 at 64.58%	0.30	OK	
	LC3 at 64.58%	0.68	OK	
	LC30 at 64.58%	0.25	OK	
	LC31 at 64.58%	0.24	OK	
	LC32 at 64.58%	0.29	OK	
	LC4 at 64.58%	0.44	OK	
	LC5 at 64.58%	0.75	OK	
	LC6 at 64.58%	0.29	OK	
	LC7 at 64.58%	0.66	OK	
	LC8 at 64.58%	0.39	OK	
	LC9 at 64.58%	0.46	OK	

57	LC1 at 64.58%	0.67	OK	Eq. H1-1b
	LC10 at 64.58%	0.37	OK	
	LC11 at 64.58%	0.27	OK	

LC12 at 64.58%	0.30	OK
LC13 at 64.58%	0.19	OK
LC14 at 64.58%	0.13	OK
LC15 at 64.58%	0.16	OK
LC16 at 64.58%	0.24	OK
LC17 at 64.58%	0.27	OK
LC18 at 64.58%	0.26	OK
LC19 at 64.58%	0.22	OK
LC2 at 64.58%	0.53	OK
LC20 at 64.58%	0.23	OK
LC21 at 64.58%	0.26	OK
LC22 at 64.58%	0.25	OK
LC23 at 64.58%	0.21	OK
LC24 at 64.58%	0.22	OK
LC25 at 64.58%	0.18	OK
LC26 at 64.58%	0.17	OK
LC27 at 64.58%	0.12	OK
LC28 at 64.58%	0.14	OK
LC29 at 64.58%	0.23	OK
LC3 at 64.58%	0.59	OK
LC30 at 64.58%	0.21	OK
LC31 at 64.58%	0.17	OK
LC32 at 64.58%	0.19	OK
LC4 at 64.58%	0.33	OK
LC5 at 64.58%	0.63	OK
LC6 at 64.58%	0.47	OK
LC7 at 64.58%	0.57	OK
LC8 at 64.58%	0.34	OK
LC9 at 64.58%	0.40	OK

58

LC1 at 64.58%	0.47	OK
LC10 at 64.58%	0.46	OK
LC11 at 64.58%	0.41	OK
LC12 at 64.58%	0.42	OK
LC13 at 64.58%	0.25	OK
LC14 at 64.58%	0.19	OK
LC15 at 64.58%	0.23	OK
LC16 at 64.58%	0.32	OK
LC17 at 64.58%	0.39	OK
LC18 at 64.58%	0.39	OK
LC19 at 64.58%	0.37	OK
LC2 at 64.58%	0.51	OK
LC20 at 64.58%	0.37	OK
LC21 at 64.58%	0.26	OK
LC22 at 64.58%	0.26	OK
LC23 at 64.58%	0.24	OK
LC24 at 64.58%	0.24	OK
LC25 at 64.58%	0.26	OK
LC26 at 64.58%	0.25	OK
LC27 at 64.58%	0.24	OK
LC28 at 64.58%	0.24	OK
LC29 at 64.58%	0.29	OK
LC3 at 64.58%	0.36	OK
LC30 at 64.58%	0.29	OK
LC31 at 64.58%	0.27	OK
LC32 at 64.58%	0.28	OK
LC4 at 64.58%	0.19	OK
LC5 at 64.58%	0.41	OK
LC6 at 64.58%	0.44	OK
LC7 at 64.58%	0.34	OK
LC8 at 64.58%	0.20	OK
LC9 at 64.58%	0.47	OK

Eq. H1-1b

59

LC1 at 64.58%	0.52	OK
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LC10 at 64.58%	0.46	OK	
LC11 at 64.58%	0.38	OK	
LC12 at 64.58%	0.38	OK	
LC13 at 64.58%	0.24	OK	
LC14 at 64.58%	0.18	OK	
LC15 at 64.58%	0.28	OK	
LC16 at 64.58%	0.22	OK	
LC17 at 64.58%	0.35	OK	
LC18 at 64.58%	0.36	OK	
LC19 at 64.58%	0.33	OK	
LC2 at 64.58%	0.60	OK	Eq. H1-1b
LC20 at 64.58%	0.33	OK	
LC21 at 64.58%	0.31	OK	
LC22 at 64.58%	0.31	OK	
LC23 at 64.58%	0.29	OK	
LC24 at 64.58%	0.29	OK	
LC25 at 64.58%	0.26	OK	
LC26 at 64.58%	0.26	OK	
LC27 at 64.58%	0.23	OK	
LC28 at 64.58%	0.23	OK	
LC29 at 64.58%	0.24	OK	
LC3 at 64.58%	0.39	OK	
LC30 at 64.58%	0.25	OK	
LC31 at 64.58%	0.22	OK	
LC32 at 64.58%	0.22	OK	
LC4 at 64.58%	0.21	OK	
LC5 at 64.58%	0.46	OK	
LC6 at 64.58%	0.54	OK	
LC7 at 64.58%	0.37	OK	
LC8 at 64.58%	0.22	OK	
LC9 at 64.58%	0.46	OK	

60	LC1 at 64.58%	0.68	OK	
	LC10 at 64.58%	0.52	OK	
	LC11 at 64.58%	0.39	OK	
	LC12 at 64.58%	0.37	OK	
	LC13 at 64.58%	0.26	OK	
	LC14 at 64.58%	0.19	OK	
	LC15 at 64.58%	0.27	OK	
	LC16 at 64.58%	0.23	OK	
	LC17 at 64.58%	0.34	OK	
	LC18 at 64.58%	0.34	OK	
	LC19 at 64.58%	0.30	OK	
	LC2 at 64.58%	0.87	OK	Eq. H1-1b
	LC20 at 64.58%	0.29	OK	
	LC21 at 64.58%	0.31	OK	
	LC22 at 64.58%	0.32	OK	
	LC23 at 64.58%	0.27	OK	
	LC24 at 64.58%	0.26	OK	
	LC25 at 64.58%	0.27	OK	
	LC26 at 64.58%	0.28	OK	
	LC27 at 64.58%	0.23	OK	
	LC28 at 64.58%	0.22	OK	
	LC29 at 64.58%	0.26	OK	
	LC3 at 64.58%	0.58	OK	
	LC30 at 64.58%	0.27	OK	
	LC31 at 64.58%	0.22	OK	
	LC32 at 64.58%	0.21	OK	
	LC4 at 64.58%	0.62	OK	
	LC5 at 64.58%	0.62	OK	
	LC6 at 64.58%	0.81	OK	
	LC7 at 64.58%	0.57	OK	
	LC8 at 64.58%	0.63	OK	
	LC9 at 64.58%	0.50	OK	

61	LC1 at 64.58%	0.22	OK	Eq. H1-1b
	LC10 at 64.58%	0.33	OK	
	LC11 at 25.00%	0.33	OK	
	LC12 at 64.58%	0.34	OK	
	LC13 at 25.00%	0.17	OK	
	LC14 at 25.00%	0.13	OK	
	LC15 at 25.00%	0.22	OK	
	LC16 at 25.00%	0.15	OK	
	LC17 at 25.00%	0.24	OK	
	LC18 at 25.00%	0.24	OK	
	LC19 at 25.00%	0.26	OK	
	LC2 at 64.58%	0.75	OK	
	LC20 at 64.58%	0.27	OK	
	LC21 at 25.00%	0.21	OK	
	LC22 at 25.00%	0.21	OK	
	LC23 at 25.00%	0.24	OK	
	LC24 at 64.58%	0.24	OK	
	LC25 at 25.00%	0.17	OK	
	LC26 at 64.58%	0.17	OK	
	LC27 at 25.00%	0.19	OK	
	LC28 at 64.58%	0.19	OK	
	LC29 at 25.00%	0.15	OK	
	LC3 at 64.58%	0.50	OK	
	LC30 at 64.58%	0.17	OK	
	LC31 at 25.00%	0.18	OK	
	LC32 at 25.00%	0.17	OK	
	LC4 at 64.58%	0.54	OK	
	LC5 at 64.58%	0.25	OK	
	LC6 at 64.58%	0.71	OK	
	LC7 at 64.58%	0.46	OK	
	LC8 at 64.58%	0.51	OK	
	LC9 at 25.00%	0.26	OK	

62	LC1 at 66.67%	0.08	OK	Eq. H1-1b
	LC10 at 64.58%	0.37	OK	
	LC11 at 64.58%	0.36	OK	
	LC12 at 64.58%	0.38	OK	
	LC13 at 64.58%	0.19	OK	
	LC14 at 64.58%	0.15	OK	
	LC15 at 64.58%	0.21	OK	
	LC16 at 64.58%	0.22	OK	
	LC17 at 64.58%	0.26	OK	
	LC18 at 64.58%	0.25	OK	
	LC19 at 64.58%	0.28	OK	
	LC2 at 64.58%	0.51	OK	
	LC20 at 64.58%	0.28	OK	
	LC21 at 64.58%	0.22	OK	
	LC22 at 64.58%	0.22	OK	
	LC23 at 64.58%	0.24	OK	
	LC24 at 64.58%	0.25	OK	
	LC25 at 64.58%	0.19	OK	
	LC26 at 64.58%	0.21	OK	
	LC27 at 64.58%	0.21	OK	
	LC28 at 64.58%	0.20	OK	
	LC29 at 64.58%	0.20	OK	
	LC3 at 64.58%	0.41	OK	
	LC30 at 64.58%	0.22	OK	
	LC31 at 64.58%	0.21	OK	
	LC32 at 64.58%	0.19	OK	
	LC4 at 64.58%	0.42	OK	
	LC5 at 66.67%	0.08	OK	
	LC6 at 64.58%	0.46	OK	
	LC7 at 64.58%	0.36	OK	

	LC8 at 64.58%	0.37	OK	
	LC9 at 64.58%	0.31	OK	
63	LC1 at 66.67%	0.15	OK	
	LC10 at 64.58%	0.33	OK	
	LC11 at 64.58%	0.38	OK	
	LC12 at 64.58%	0.39	OK	
	LC13 at 64.58%	0.20	OK	
	LC14 at 64.58%	0.15	OK	
	LC15 at 64.58%	0.21	OK	
	LC16 at 64.58%	0.28	OK	
	LC17 at 64.58%	0.21	OK	
	LC18 at 64.58%	0.21	OK	
	LC19 at 64.58%	0.23	OK	
	LC2 at 64.58%	0.53	OK	Eq. H1-1b
	LC20 at 64.58%	0.24	OK	
	LC21 at 64.58%	0.20	OK	
	LC22 at 64.58%	0.20	OK	
	LC23 at 64.58%	0.22	OK	
	LC24 at 64.58%	0.23	OK	
	LC25 at 64.58%	0.20	OK	
	LC26 at 64.58%	0.22	OK	
	LC27 at 64.58%	0.22	OK	
	LC28 at 64.58%	0.22	OK	
	LC29 at 64.58%	0.22	OK	
	LC3 at 64.58%	0.44	OK	
	LC30 at 64.58%	0.25	OK	
	LC31 at 64.58%	0.24	OK	
	LC32 at 64.58%	0.23	OK	
	LC4 at 64.58%	0.42	OK	
	LC5 at 66.67%	0.15	OK	
	LC6 at 64.58%	0.49	OK	
	LC7 at 64.58%	0.39	OK	
	LC8 at 64.58%	0.37	OK	
	LC9 at 64.58%	0.32	OK	
64	LC1 at 64.58%	0.31	OK	
	LC10 at 64.58%	0.43	OK	
	LC11 at 25.00%	0.42	OK	
	LC12 at 64.58%	0.39	OK	
	LC13 at 25.00%	0.21	OK	
	LC14 at 25.00%	0.16	OK	
	LC15 at 25.00%	0.27	OK	
	LC16 at 64.58%	0.38	OK	
	LC17 at 25.00%	0.19	OK	
	LC18 at 64.58%	0.23	OK	
	LC19 at 25.00%	0.23	OK	
	LC2 at 64.58%	0.82	OK	Eq. H1-1b
	LC20 at 64.58%	0.20	OK	
	LC21 at 25.00%	0.21	OK	
	LC22 at 64.58%	0.25	OK	
	LC23 at 25.00%	0.25	OK	
	LC24 at 25.00%	0.22	OK	
	LC25 at 25.00%	0.26	OK	
	LC26 at 64.58%	0.30	OK	
	LC27 at 64.58%	0.29	OK	
	LC28 at 25.00%	0.26	OK	
	LC29 at 64.58%	0.29	OK	
	LC3 at 64.58%	0.62	OK	
	LC30 at 64.58%	0.34	OK	
	LC31 at 64.58%	0.33	OK	
	LC32 at 25.00%	0.29	OK	
	LC4 at 64.58%	0.80	OK	
	LC5 at 64.58%	0.35	OK	

	LC6 at 64.58%	0.76	OK	
	LC7 at 64.58%	0.58	OK	
	LC8 at 64.58%	0.76	OK	
	LC9 at 25.00%	0.32	OK	
65	LC1 at 64.58%	0.55	OK	Eq. H1-1b
	LC10 at 64.58%	0.30	OK	
	LC11 at 64.58%	0.31	OK	
	LC12 at 64.58%	0.42	OK	
	LC13 at 64.58%	0.20	OK	
	LC14 at 64.58%	0.15	OK	
	LC15 at 64.58%	0.22	OK	
	LC16 at 64.58%	0.30	OK	
	LC17 at 64.58%	0.20	OK	
	LC18 at 64.58%	0.17	OK	
	LC19 at 64.58%	0.17	OK	
	LC2 at 64.58%	0.44	OK	
	LC20 at 64.58%	0.21	OK	
	LC21 at 64.58%	0.21	OK	
	LC22 at 64.58%	0.18	OK	
	LC23 at 64.58%	0.18	OK	
	LC24 at 64.58%	0.22	OK	
	LC25 at 64.58%	0.25	OK	
	LC26 at 64.58%	0.21	OK	
	LC27 at 64.58%	0.22	OK	
	LC28 at 64.58%	0.25	OK	
	LC29 at 64.58%	0.27	OK	
	LC3 at 64.58%	0.52	OK	
	LC30 at 64.58%	0.24	OK	
	LC31 at 64.58%	0.24	OK	
	LC32 at 64.58%	0.28	OK	
	LC4 at 64.58%	0.52	OK	
	LC5 at 64.58%	0.49	OK	
	LC6 at 64.58%	0.44	OK	
	LC7 at 64.58%	0.51	OK	
	LC8 at 64.58%	0.50	OK	
	LC9 at 64.58%	0.40	OK	
66	LC1 at 64.58%	0.52	OK	Eq. H1-1b
	LC10 at 64.58%	0.43	OK	
	LC11 at 64.58%	0.43	OK	
	LC12 at 64.58%	0.49	OK	
	LC13 at 64.58%	0.26	OK	
	LC14 at 64.58%	0.20	OK	
	LC15 at 64.58%	0.31	OK	
	LC16 at 64.58%	0.44	OK	
	LC17 at 64.58%	0.26	OK	
	LC18 at 64.58%	0.24	OK	
	LC19 at 64.58%	0.24	OK	
	LC2 at 25.00%	0.25	OK	
	LC20 at 64.58%	0.26	OK	
	LC21 at 64.58%	0.28	OK	
	LC22 at 64.58%	0.26	OK	
	LC23 at 64.58%	0.26	OK	
	LC24 at 64.58%	0.28	OK	
	LC25 at 64.58%	0.34	OK	
	LC26 at 64.58%	0.31	OK	
	LC27 at 64.58%	0.31	OK	
	LC28 at 64.58%	0.34	OK	
	LC29 at 64.58%	0.38	OK	
	LC3 at 64.58%	0.35	OK	
	LC30 at 64.58%	0.36	OK	
	LC31 at 64.58%	0.36	OK	
	LC32 at 64.58%	0.38	OK	

	LC4 at 64.58%	0.39	OK	
	LC5 at 64.58%	0.45	OK	
	LC6 at 25.00%	0.20	OK	
	LC7 at 64.58%	0.34	OK	
	LC8 at 64.58%	0.33	OK	
	LC9 at 64.58%	0.49	OK	
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68	LC1 at 25.00%	0.08	OK	
	LC10 at 25.00%	0.01	OK	
	LC11 at 25.00%	0.01	OK	
	LC12 at 25.00%	0.01	OK	
	LC13 at 25.00%	0.00	OK	
	LC14 at 25.00%	0.00	OK	
	LC15 at 25.00%	0.00	OK	
	LC16 at 25.00%	0.00	OK	
	LC17 at 25.00%	0.00	OK	
	LC18 at 25.00%	0.00	OK	
	LC19 at 25.00%	0.00	OK	
	LC2 at 25.00%	0.08	OK	Eq. H1-1b
	LC20 at 25.00%	0.00	OK	
	LC21 at 25.00%	0.00	OK	
	LC22 at 25.00%	0.00	OK	
	LC23 at 25.00%	0.00	OK	
	LC24 at 25.00%	0.00	OK	
	LC25 at 25.00%	0.00	OK	
	LC26 at 25.00%	0.00	OK	
	LC27 at 25.00%	0.00	OK	
	LC28 at 25.00%	0.00	OK	
	LC29 at 25.00%	0.00	OK	
	LC3 at 25.00%	0.08	OK	
	LC30 at 25.00%	0.00	OK	
	LC31 at 25.00%	0.00	OK	
	LC32 at 25.00%	0.00	OK	
	LC4 at 25.00%	0.08	OK	
	LC5 at 25.00%	0.08	OK	
	LC6 at 25.00%	0.08	OK	
	LC7 at 25.00%	0.08	OK	
	LC8 at 25.00%	0.08	OK	
	LC9 at 25.00%	0.01	OK	
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69	LC1 at 0.00%	0.12	OK	
	LC10 at 0.00%	0.02	OK	
	LC11 at 0.00%	0.02	OK	
	LC12 at 0.00%	0.02	OK	
	LC13 at 0.00%	0.00	OK	
	LC14 at 0.00%	0.00	OK	
	LC15 at 0.00%	0.00	OK	
	LC16 at 0.00%	0.00	OK	
	LC17 at 0.00%	0.01	OK	
	LC18 at 0.00%	0.01	OK	
	LC19 at 0.00%	0.01	OK	
	LC2 at 0.00%	0.12	OK	Eq. H1-1b
	LC20 at 0.00%	0.01	OK	
	LC21 at 0.00%	0.01	OK	
	LC22 at 0.00%	0.01	OK	
	LC23 at 0.00%	0.01	OK	
	LC24 at 0.00%	0.01	OK	
	LC25 at 0.00%	0.01	OK	
	LC26 at 0.00%	0.01	OK	
	LC27 at 0.00%	0.01	OK	
	LC28 at 0.00%	0.01	OK	
	LC29 at 0.00%	0.01	OK	
	LC3 at 0.00%	0.12	OK	
	LC30 at 0.00%	0.01	OK	

	LC31 at 0.00%	0.01	OK	
	LC32 at 0.00%	0.01	OK	
	LC4 at 0.00%	0.12	OK	
	LC5 at 0.00%	0.12	OK	
	LC6 at 0.00%	0.12	OK	
	LC7 at 0.00%	0.12	OK	
	LC8 at 0.00%	0.12	OK	
	LC9 at 0.00%	0.02	OK	
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71	LC1 at 4.46%	0.36	OK	Eq. H3-6
	LC10 at 71.43%	0.36	OK	Eq. H1-1b
	LC11 at 28.57%	0.36	OK	Eq. H1-1b
	LC12 at 28.57%	0.35	OK	
	LC13 at 71.43%	0.20	OK	
	LC14 at 71.43%	0.15	OK	
	LC15 at 71.43%	0.26	OK	
	LC16 at 28.57%	0.32	OK	
	LC17 at 71.43%	0.27	OK	
	LC18 at 71.43%	0.28	OK	
	LC19 at 71.43%	0.28	OK	
	LC2 at 94.64%	0.41	OK	Eq. H1-1b
	LC20 at 71.43%	0.27	OK	
	LC21 at 28.57%	0.19	OK	
	LC22 at 28.57%	0.19	OK	
	LC23 at 28.57%	0.20	OK	
	LC24 at 28.57%	0.20	OK	
	LC25 at 71.43%	0.20	OK	
	LC26 at 71.43%	0.20	OK	
	LC27 at 71.43%	0.20	OK	
	LC28 at 71.43%	0.20	OK	
	LC29 at 5.36%	0.27	OK	
	LC3 at 28.57%	0.30	OK	
	LC30 at 28.57%	0.26	OK	
	LC31 at 28.57%	0.28	OK	
	LC32 at 5.36%	0.28	OK	
	LC4 at 5.36%	0.33	OK	Eq. H1-1b
	LC5 at 4.46%	0.34	OK	
	LC6 at 94.64%	0.38	OK	
	LC7 at 3.57%	0.27	OK	
	LC8 at 5.36%	0.29	OK	
	LC9 at 71.43%	0.34	OK	
<hr/>				
72	LC1 at 29.46%	0.32	OK	Eq. H1-1b
	LC10 at 28.57%	0.38	OK	
	LC11 at 28.57%	0.37	OK	
	LC12 at 71.43%	0.35	OK	
	LC13 at 71.43%	0.20	OK	
	LC14 at 71.43%	0.15	OK	
	LC15 at 71.43%	0.24	OK	
	LC16 at 71.43%	0.35	OK	
	LC17 at 71.43%	0.21	OK	
	LC18 at 28.57%	0.21	OK	
	LC19 at 28.57%	0.20	OK	
	LC2 at 28.57%	0.43	OK	Eq. H1-1b
	LC20 at 71.43%	0.20	OK	
	LC21 at 71.43%	0.22	OK	
	LC22 at 71.43%	0.21	OK	
	LC23 at 71.43%	0.21	OK	
	LC24 at 71.43%	0.21	OK	
	LC25 at 71.43%	0.26	OK	
	LC26 at 71.43%	0.26	OK	
	LC27 at 71.43%	0.25	OK	
	LC28 at 71.43%	0.25	OK	
	LC29 at 71.43%	0.29	OK	

		LC3 at 5.36%	0.39	OK	Eq. H1-1b
		LC30 at 71.43%	0.29	OK	
		LC31 at 71.43%	0.28	OK	
		LC32 at 71.43%	0.29	OK	
		LC4 at 3.57%	0.29	OK	Eq. H3-1
		LC5 at 29.46%	0.30	OK	
		LC6 at 28.57%	0.38	OK	
		LC7 at 5.36%	0.35	OK	
		LC8 at 3.57%	0.28	OK	
		LC9 at 71.43%	0.37	OK	Eq. H1-1b
		<hr/>			
74		LC1 at 28.57%	0.33	OK	
		LC10 at 28.57%	0.35	OK	
		LC11 at 71.43%	0.36	OK	
		LC12 at 71.43%	0.37	OK	Eq. H1-1b
		LC13 at 71.43%	0.20	OK	
		LC14 at 71.43%	0.15	OK	
		LC15 at 28.57%	0.24	OK	
		LC16 at 28.57%	0.20	OK	
		LC17 at 28.57%	0.30	OK	
		LC18 at 28.57%	0.29	OK	
		LC19 at 28.57%	0.28	OK	
		LC2 at 5.36%	0.41	OK	Eq. H1-1b
		LC20 at 28.57%	0.29	OK	
		LC21 at 28.57%	0.26	OK	
		LC22 at 28.57%	0.25	OK	
		LC23 at 28.57%	0.25	OK	
		LC24 at 28.57%	0.25	OK	
		LC25 at 28.57%	0.22	OK	
		LC26 at 28.57%	0.21	OK	
		LC27 at 28.57%	0.20	OK	
		LC28 at 28.57%	0.21	OK	
		LC29 at 28.57%	0.21	OK	
		LC3 at 94.64%	0.37	OK	Eq. H1-1b
		LC30 at 28.57%	0.20	OK	
		LC31 at 71.43%	0.20	OK	
		LC32 at 28.57%	0.20	OK	
		LC4 at 29.46%	0.25	OK	
		LC5 at 70.54%	0.29	OK	
		LC6 at 5.36%	0.37	OK	
		LC7 at 94.64%	0.33	OK	
		LC8 at 29.46%	0.23	OK	
		LC9 at 28.57%	0.37	OK	Eq. H1-1b
		<hr/>			
PIPE 3x0.216	5	LC1 at 29.86%	0.36	OK	Eq. H1-1b
		LC10 at 70.14%	0.24	OK	
		LC11 at 70.14%	0.24	OK	
		LC12 at 70.14%	0.20	OK	
		LC13 at 70.14%	0.13	OK	
		LC14 at 70.14%	0.10	OK	
		LC15 at 70.14%	0.20	OK	
		LC16 at 70.14%	0.26	OK	Eq. H1-1b
		LC17 at 70.14%	0.13	OK	
		LC18 at 70.14%	0.14	OK	
		LC19 at 70.14%	0.14	OK	
		LC2 at 70.14%	0.42	OK	Eq. H1-1b
		LC20 at 70.14%	0.13	OK	
		LC21 at 70.14%	0.15	OK	
		LC22 at 70.14%	0.16	OK	
		LC23 at 70.14%	0.16	OK	
		LC24 at 70.14%	0.15	OK	
		LC25 at 70.14%	0.19	OK	
		LC26 at 70.14%	0.21	OK	
		LC27 at 70.14%	0.21	OK	

	LC28 at 70.14%	0.19	OK	
	LC29 at 70.14%	0.21	OK	
	LC3 at 70.14%	0.33	OK	
	LC30 at 70.14%	0.22	OK	
	LC31 at 70.14%	0.22	OK	
	LC32 at 70.14%	0.21	OK	
	LC4 at 29.86%	0.20	OK	
	LC5 at 29.86%	0.34	OK	
	LC6 at 70.14%	0.39	OK	
	LC7 at 70.14%	0.30	OK	
	LC8 at 29.86%	0.18	OK	
	LC9 at 70.14%	0.20	OK	
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7	LC1 at 70.00%	0.41	OK	Eq. H1-1b
	LC10 at 70.00%	0.23	OK	
	LC11 at 70.00%	0.20	OK	
	LC12 at 70.00%	0.21	OK	
	LC13 at 70.00%	0.13	OK	
	LC14 at 70.00%	0.10	OK	
	LC15 at 30.00%	0.16	OK	
	LC16 at 70.00%	0.11	OK	
	LC17 at 30.00%	0.16	OK	
	LC18 at 30.00%	0.16	OK	
	LC19 at 30.00%	0.17	OK	
	LC2 at 70.00%	0.33	OK	
	LC20 at 30.00%	0.17	OK	Eq. H1-1b
	LC21 at 30.00%	0.15	OK	
	LC22 at 30.00%	0.14	OK	
	LC23 at 30.00%	0.16	OK	
	LC24 at 30.00%	0.16	OK	
	LC25 at 70.00%	0.11	OK	
	LC26 at 70.00%	0.11	OK	
	LC27 at 30.00%	0.11	OK	
	LC28 at 30.00%	0.11	OK	
	LC29 at 70.00%	0.12	OK	
	LC3 at 30.00%	0.29	OK	Eq. H1-1b
	LC30 at 70.00%	0.12	OK	
	LC31 at 70.00%	0.10	OK	
	LC32 at 70.00%	0.11	OK	
	LC4 at 30.00%	0.29	OK	Eq. H1-1b
	LC5 at 70.00%	0.37	OK	
	LC6 at 70.00%	0.30	OK	
	LC7 at 30.00%	0.27	OK	
	LC8 at 30.00%	0.27	OK	
	LC9 at 70.00%	0.25	OK	Eq. H1-1b
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8	LC1 at 70.83%	0.22	OK	
	LC10 at 70.14%	0.19	OK	
	LC11 at 70.14%	0.23	OK	
	LC12 at 70.14%	0.25	OK	Eq. H1-1b
	LC13 at 70.14%	0.13	OK	
	LC14 at 70.14%	0.10	OK	
	LC15 at 70.14%	0.15	OK	
	LC16 at 29.17%	0.20	OK	Eq. H1-1b
	LC17 at 70.83%	0.17	OK	
	LC18 at 70.83%	0.17	OK	
	LC19 at 70.14%	0.17	OK	
	LC2 at 29.86%	0.31	OK	Eq. H1-1b
	LC20 at 70.14%	0.18	OK	
	LC21 at 29.86%	0.12	OK	
	LC22 at 29.86%	0.13	OK	
	LC23 at 29.86%	0.13	OK	
	LC24 at 29.86%	0.12	OK	
	LC25 at 70.14%	0.17	OK	

		LC26 at 70.14%	0.16	OK	
		LC27 at 70.14%	0.17	OK	
		LC28 at 70.14%	0.18	OK	
		LC29 at 29.17%	0.16	OK	
		LC3 at 70.83%	0.28	OK	Eq. H1-1b
		LC30 at 29.17%	0.16	OK	
		LC31 at 29.17%	0.16	OK	
		LC32 at 29.17%	0.16	OK	
		LC4 at 70.14%	0.28	OK	Eq. H1-1b
		LC5 at 70.83%	0.20	OK	
		LC6 at 29.86%	0.29	OK	
		LC7 at 70.83%	0.25	OK	
		LC8 at 70.14%	0.25	OK	
		LC9 at 70.14%	0.22	OK	
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PL 6x1/2	11	LC1 at 50.00%	0.43	OK	
		LC10 at 48.44%	0.09	OK	
		LC11 at 50.00%	0.07	OK	
		LC12 at 48.44%	0.08	OK	
		LC13 at 50.00%	0.04	OK	
		LC14 at 50.00%	0.03	OK	
		LC15 at 50.00%	0.05	OK	
		LC16 at 50.00%	0.04	OK	
		LC17 at 26.56%	0.06	OK	
		LC18 at 26.56%	0.06	OK	
		LC19 at 26.56%	0.06	OK	
		LC2 at 48.44%	0.49	OK	
		LC20 at 26.56%	0.06	OK	
		LC21 at 50.00%	0.04	OK	
		LC22 at 50.00%	0.04	OK	
		LC23 at 50.00%	0.05	OK	
		LC24 at 50.00%	0.05	OK	
		LC25 at 50.00%	0.04	OK	
		LC26 at 48.44%	0.04	OK	
		LC27 at 50.00%	0.04	OK	
		LC28 at 50.00%	0.04	OK	
		LC29 at 50.00%	0.04	OK	
		LC3 at 50.00%	0.45	OK	Eq. H1-1b
		LC30 at 48.44%	0.04	OK	
		LC31 at 50.00%	0.04	OK	
		LC32 at 50.00%	0.04	OK	
		LC4 at 48.44%	0.51	OK	Eq. H1-1b
		LC5 at 50.00%	0.44	OK	
		LC6 at 48.44%	0.49	OK	
		LC7 at 50.00%	0.45	OK	
		LC8 at 48.44%	0.51	OK	
		LC9 at 50.00%	0.06	OK	
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	13	LC1 at 50.00%	0.48	OK	Eq. H1-1b
		LC10 at 50.00%	0.07	OK	
		LC11 at 48.44%	0.08	OK	
		LC12 at 50.00%	0.06	OK	
		LC13 at 50.00%	0.04	OK	
		LC14 at 50.00%	0.03	OK	
		LC15 at 50.00%	0.04	OK	
		LC16 at 50.00%	0.04	OK	
		LC17 at 50.00%	0.04	OK	
		LC18 at 50.00%	0.04	OK	
		LC19 at 48.44%	0.04	OK	
		LC2 at 48.44%	0.23	OK	
		LC20 at 50.00%	0.04	OK	
		LC21 at 50.00%	0.04	OK	
		LC22 at 50.00%	0.04	OK	
		LC23 at 50.00%	0.04	OK	

	LC24 at 50.00%	0.04	OK	
	LC25 at 50.00%	0.04	OK	
	LC26 at 50.00%	0.04	OK	
	LC27 at 50.00%	0.03	OK	
	LC28 at 50.00%	0.04	OK	
	LC29 at 50.00%	0.04	OK	
	LC3 at 50.00%	0.45	OK	
	LC30 at 50.00%	0.04	OK	
	LC31 at 50.00%	0.03	OK	
	LC32 at 50.00%	0.04	OK	
	LC4 at 50.00%	0.23	OK	
	LC5 at 50.00%	0.48	OK	
	LC6 at 48.44%	0.22	OK	
	LC7 at 50.00%	0.46	OK	
	LC8 at 50.00%	0.23	OK	
	LC9 at 50.00%	0.07	OK	
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36	LC1 at 50.00%	0.45	OK	
	LC10 at 26.56%	0.07	OK	
	LC11 at 26.56%	0.07	OK	
	LC12 at 50.00%	0.07	OK	
	LC13 at 26.56%	0.04	OK	
	LC14 at 26.56%	0.03	OK	
	LC15 at 26.56%	0.05	OK	
	LC16 at 26.56%	0.08	OK	
	LC17 at 26.56%	0.04	OK	
	LC18 at 26.56%	0.04	OK	
	LC19 at 26.56%	0.04	OK	
	LC2 at 48.44%	0.48	OK	Eq. H1-1b
	LC20 at 26.56%	0.04	OK	
	LC21 at 26.56%	0.04	OK	
	LC22 at 26.56%	0.04	OK	
	LC23 at 26.56%	0.05	OK	
	LC24 at 26.56%	0.04	OK	
	LC25 at 50.00%	0.05	OK	
	LC26 at 26.56%	0.05	OK	
	LC27 at 26.56%	0.05	OK	
	LC28 at 26.56%	0.05	OK	
	LC29 at 26.56%	0.07	OK	
	LC3 at 50.00%	0.47	OK	Eq. H1-1b
	LC30 at 26.56%	0.07	OK	
	LC31 at 26.56%	0.07	OK	
	LC32 at 26.56%	0.07	OK	
	LC4 at 48.44%	0.45	OK	
	LC5 at 50.00%	0.45	OK	
	LC6 at 48.44%	0.47	OK	
	LC7 at 50.00%	0.46	OK	
	LC8 at 48.44%	0.45	OK	
	LC9 at 50.00%	0.08	OK	
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70	LC1 at 100.00%	0.12	OK	
	LC10 at 0.00%	0.07	OK	
	LC11 at 0.00%	0.10	OK	
	LC12 at 0.00%	0.09	OK	
	LC13 at 0.00%	0.05	OK	
	LC14 at 0.00%	0.03	OK	
	LC15 at 0.00%	0.08	OK	
	LC16 at 0.00%	0.12	OK	
	LC17 at 100.00%	0.05	OK	
	LC18 at 100.00%	0.05	OK	
	LC19 at 100.00%	0.04	OK	
	LC2 at 100.00%	0.13	OK	Eq. H1-1b
	LC20 at 100.00%	0.04	OK	
	LC21 at 0.00%	0.05	OK	

	LC22 at 0.00%	0.05	OK	
	LC23 at 0.00%	0.06	OK	
	LC24 at 0.00%	0.06	OK	
	LC25 at 0.00%	0.07	OK	
	LC26 at 0.00%	0.08	OK	
	LC27 at 0.00%	0.09	OK	
	LC28 at 0.00%	0.08	OK	
	LC29 at 0.00%	0.09	OK	
	LC3 at 0.00%	0.18	OK	Eq. H1-1b
	LC30 at 0.00%	0.09	OK	
	LC31 at 0.00%	0.10	OK	
	LC32 at 0.00%	0.10	OK	
	LC4 at 100.00%	0.09	OK	
	LC5 at 100.00%	0.12	OK	
	LC6 at 100.00%	0.13	OK	
	LC7 at 0.00%	0.17	OK	
	LC8 at 100.00%	0.10	OK	
	LC9 at 0.00%	0.06	OK	
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73	LC1 at 100.00%	0.13	OK	
	LC10 at 100.00%	0.06	OK	
	LC11 at 100.00%	0.06	OK	
	LC12 at 100.00%	0.09	OK	
	LC13 at 100.00%	0.05	OK	
	LC14 at 100.00%	0.03	OK	
	LC15 at 0.00%	0.05	OK	
	LC16 at 100.00%	0.09	OK	
	LC17 at 0.00%	0.06	OK	
	LC18 at 0.00%	0.07	OK	
	LC19 at 0.00%	0.07	OK	
	LC2 at 0.00%	0.12	OK	
	LC20 at 0.00%	0.06	OK	
	LC21 at 0.00%	0.05	OK	
	LC22 at 0.00%	0.06	OK	
	LC23 at 0.00%	0.06	OK	
	LC24 at 0.00%	0.05	OK	
	LC25 at 100.00%	0.05	OK	
	LC26 at 100.00%	0.04	OK	
	LC27 at 100.00%	0.04	OK	
	LC28 at 100.00%	0.05	OK	
	LC29 at 100.00%	0.07	OK	
	LC3 at 0.00%	0.14	OK	Eq. H1-1b
	LC30 at 100.00%	0.06	OK	
	LC31 at 100.00%	0.06	OK	
	LC32 at 100.00%	0.07	OK	
	LC4 at 100.00%	0.17	OK	Eq. H1-1b
	LC5 at 100.00%	0.12	OK	
	LC6 at 0.00%	0.11	OK	
	LC7 at 0.00%	0.14	OK	
	LC8 at 100.00%	0.16	OK	
	LC9 at 100.00%	0.09	OK	
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75	LC1 at 100.00%	0.11	OK	
	LC10 at 100.00%	0.10	OK	
	LC11 at 100.00%	0.08	OK	
	LC12 at 100.00%	0.07	OK	
	LC13 at 100.00%	0.05	OK	
	LC14 at 100.00%	0.04	OK	
	LC15 at 100.00%	0.05	OK	
	LC16 at 0.00%	0.07	OK	
	LC17 at 100.00%	0.08	OK	
	LC18 at 100.00%	0.09	OK	
	LC19 at 100.00%	0.08	OK	
	LC2 at 100.00%	0.18	OK	Eq. H1-1b

LC20 at 100.00%	0.07	OK
LC21 at 100.00%	0.06	OK
LC22 at 100.00%	0.07	OK
LC23 at 100.00%	0.06	OK
LC24 at 100.00%	0.06	OK
LC25 at 100.00%	0.04	OK
LC26 at 100.00%	0.04	OK
LC27 at 62.50%	0.04	OK
LC28 at 0.00%	0.04	OK
LC29 at 0.00%	0.05	OK
LC3 at 43.75%	0.04	OK
LC30 at 0.00%	0.04	OK
LC31 at 0.00%	0.05	OK
LC32 at 0.00%	0.06	OK
LC4 at 0.00%	0.12	OK
LC5 at 100.00%	0.10	OK
LC6 at 100.00%	0.16	OK
LC7 at 100.00%	0.05	OK
LC8 at 0.00%	0.11	OK
LC9 at 100.00%	0.09	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
2	0.00	0.00	-1.666	0
11	-7.0215	0.00	3.163	0
12	-0.7715	0.00	-7.6623	0
15	7.0215	0.00	3.163	0
16	0.7715	0.00	-7.6623	0
17	-6.25	0.00	4.4993	0
18	6.25	0.00	4.4993	0
46	0.00	0.00	-7.3375	0
49	-0.959	0.00	-7.3375	0
52	0.959	0.00	-7.3375	0
56	3.8965	0.00	-2.2497	0
68	0.00	0.00	4.4756	0
79	2.1114	0.00	-4.4756	0
80	0.459	0.00	-7.3375	0
81	-2.1114	0.00	-4.4756	0
82	-0.459	0.00	-7.3375	0
85	6.3545	0.00	3.6688	0
86	1.4428	0.00	0.833	0
87	5.875	0.00	4.4993	0
88	6.834	0.00	2.8382	0
89	2.8203	0.00	4.0663	0

90	6.125	0.00	4.0663	0
91	4.9317	0.00	0.4093	0
92	6.584	0.00	3.2713	0
95	-6.3545	0.00	3.6688	0
96	-1.4428	0.00	0.833	0
97	-6.834	0.00	2.8382	0
98	-5.875	0.00	4.4993	0
99	-4.9317	0.00	0.4093	0
100	-6.584	0.00	3.2713	0
101	-2.8203	0.00	4.0663	0
102	-6.125	0.00	4.0663	0
135	-5.583	4.00	4.6993	0
136	-2.583	4.00	4.6993	0
137	2.583	4.00	4.6993	0
138	5.583	4.00	4.6993	0
139	6.8612	4.00	2.4854	0
140	5.3612	4.00	-0.1127	0
141	2.7782	4.00	-4.5866	0
142	1.2782	4.00	-7.1847	0
143	-1.2782	4.00	-7.1847	0
144	-2.7782	4.00	-4.5866	0
145	-5.3612	4.00	-0.1127	0
146	-6.8612	4.00	2.4854	0
147	-5.583	-2.00	4.6993	0
148	-2.583	-2.00	4.6993	0
149	2.583	-2.00	4.6993	0
150	5.583	-2.00	4.6993	0
151	6.8612	-2.00	2.4854	0
152	5.3612	-2.00	-0.1127	0
153	2.7782	-2.00	-4.5866	0
154	1.2782	-2.00	-7.1847	0
155	-1.2782	-2.00	-7.1847	0
156	-2.7782	-2.00	-4.5866	0
157	-5.3612	-2.00	-0.1127	0
158	-6.8612	-2.00	2.4854	0
161	-2.5594	1.00	1.7086	0
162	-2.5594	-3.00	1.7086	0
163	0.00	0.00	-4.4756	0
164	0.00	3.00	-4.4756	0
165	-6.834	2.50	2.8382	0
166	-5.875	2.50	4.4993	0
167	-6.25	2.50	4.4993	0
168	6.25	2.50	4.4993	0
169	-0.7715	2.50	-7.6623	0
170	-7.0215	2.50	3.163	0
171	6.834	2.50	2.8382	0
172	5.875	2.50	4.4993	0
173	7.0215	2.50	3.163	0
174	0.7715	2.50	-7.6623	0
175	-0.959	2.50	-7.3375	0
176	0.959	2.50	-7.3375	0
93	-5.1817	0.00	-0.0237	0
67	-2.6114	0.00	-4.4756	0
66	2.6114	0.00	-4.4756	0
84	5.1817	0.00	-0.0237	0
83	2.5703	0.00	4.4993	0
94	-2.5703	0.00	4.4993	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
2	1	1	1	1	1	1
86	1	1	1	1	1	1
96	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
5	12	11		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
7	15	16		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
8	17	18		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
11	88	87		PL 6x1/2	A36	0.00	0.00	0.00
12	85	86		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
13	49	52		PL 6x1/2	A36	0.00	0.00	0.00
14	46	2		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
24	66	67		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
27	79	80		L 2X2X3_16	A36	0.00	0.00	0.00
28	82	81		L 2X2X3_16	A36	0.00	0.00	0.00
29	83	84		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
32	89	90		L 2X2X3_16	A36	0.00	0.00	0.00
33	92	91		L 2X2X3_16	A36	0.00	0.00	0.00
34	93	94		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
35	95	96		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
36	97	98		PL 6x1/2	A36	0.00	0.00	0.00
37	99	100		L 2X2X3_16	A36	0.00	0.00	0.00
38	102	101		L 2X2X3_16	A36	0.00	0.00	0.00
55	135	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
56	136	148		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	137	149		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
58	138	150		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
59	139	151		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
60	140	152		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
61	141	153		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
62	142	154		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
63	143	155		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
64	144	156		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
65	145	157		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
66	146	158		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
68	161	162		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
69	163	164		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
70	165	166		PL 6x1/2	A36	0.00	0.00	0.00
71	167	168		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
72	169	170		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
73	171	172		PL 6x1/2	A36	0.00	0.00	0.00
74	173	174		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
75	175	176		PL 6x1/2	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
27	270.00	0	0.00	0.00	0.00
28	270.00	0	0.00	0.00	0.00
32	270.00	0	0.00	0.00	0.00
33	270.00	0	0.00	0.00	0.00
37	270.00	0	0.00	0.00	0.00
38	270.00	0	0.00	0.00	0.00

Plymouth, CT : Commercial Property Record Card

[[Back to Search Results](#)]

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Search For Properties

Map-Block-Lot
Name
Street Name

Map-Block-Lot	Card	Account	Location	Zoning	State Class	Acres
00041600	1	048-073B-012	171 TOWN HILL RD	RA1	903 - City/Town Property	20.460
Living Units						
0						

Owner Information

Terryville Country Fair Inc Terryville Lions Club
 Po Box 72
 Terryville CT 06786

Property Picture



Deed Information

Book/Page: 152/643
Deed Date: n/a

Building Information

Building No: 0
Year Built: 0
No of Units: 0
Structure Type:
Grade:
Identical Units: 0

Valuation

Land: \$855,400
Building: \$240,140
Total: \$1,095,540
Net Assessment: \$766,880

Sales History

Book/Page	Date	Price	Type	Validity
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Out Building Information

Structure Code	Width	Lgth/SqFt	Year	RCNLD
Garage Frame			1908	\$9,860
Canopy Only			0	\$6,730
Utility Frame			0	\$4,110
Garage Masonry			1903	\$50,470
Garage Masonry			1920	\$28,390
Utility Frame			0	\$11,550

Exterior/Interior Information

Levels	Size	Use Type	Ext. Walls	Const. Type	Partitions	Heating	A/C	Plumbing	Condition	Func. Utility	Unadj. RCNLD
--------	------	----------	------------	-------------	------------	---------	-----	----------	-----------	---------------	--------------

Building Sketch

<u>Descriptor/Area</u>

Notice

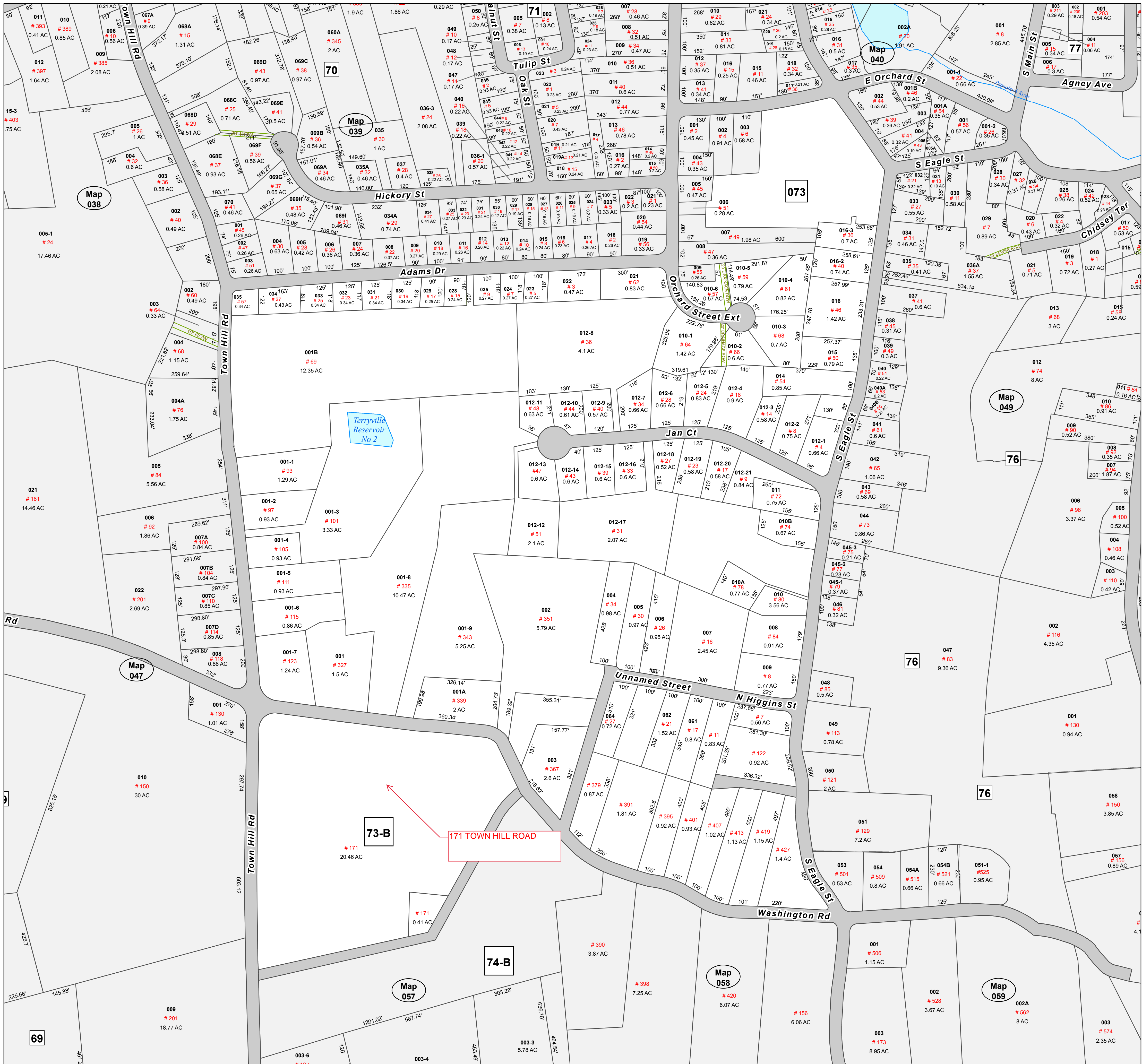
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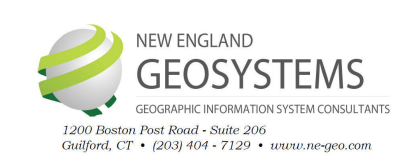
Currently All Values Have Not Been Finalized and Are Subject To Change.

Comments regarding this service should be directed to: rwalcott@plymouthct.us



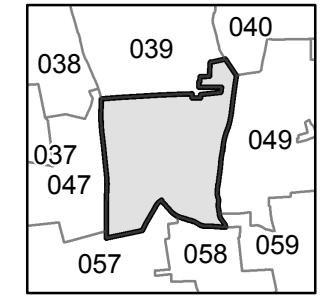
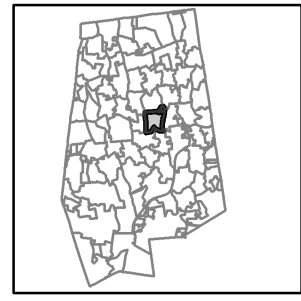


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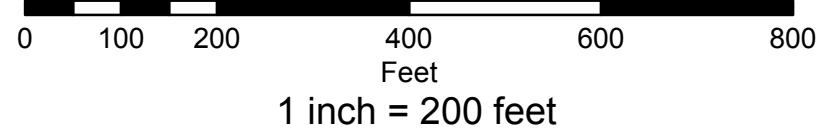


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Print Date
October 2014

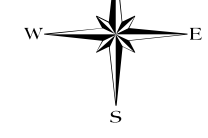


Town of Plymouth, Connecticut 2013 Assessment Parcel Map



- 13 Parcel Lot
- # 17 Address
- 2.4 Ac Acres
- 13 Block Number
- Map 13 Map Number
- Water
- Wetlands
- Intermittent Water
- Inundated Area
- Parcels
- Intermittent Stream
- Railroad

Map Coordinates based on NAD 83 Connecticut State Plane Feet.
Parcel Features based on aerial photography dated 2012.



TOWN OF PLYMOUTH, CONNECTICUT

ZONING PERMIT NO. 00-201

Fee Paid: \$ 100.00 H 058194

Date: July 5 19 2000

Permission is hereby granted to Terryville Lions Club & Omnipoint to erect a Telecommunication Tower on the east side of Town Hill Rd (fair grounds) as follows: Size _____ ft. long, _____ ft. wide, _____ stories high; distance from road center line _____ ft.; distance from each lot line: E _____ ft.; W _____ ft.; S _____ ft.; N _____ ft.; for the use of the facility as a Telecommunication Tower

as approved by Pt 2 on 6/22/2000 with stipulations

PLANNING AND ZONING COMMISSION, TOWN OF PLYMOUTH CONNECTICUT

* see approved Site Plan

Dated 3/2000
3/8/2000
3/16/2000

Received 6/22/2000

Ronald J Mounie

Agent of the Planning and Zoning Commission

The recipient of this permit accepts this permit on the condition that he, as owner or as representing the owner, agrees to comply with all applicable ordinances and regulations of the Town of Plymouth and the State of Connecticut regarding the use, occupancy and type of activity to be instituted. It is furthermore understood that the facility can not be used until a Certificate of Occupancy has been issued by the Planning and Zoning Commission and that any change of use similarly does require a new Certificate of Occupancy. Before a Certificate of Occupancy will be issued a plot plan drawn to a scale of 1" = 50' prepared and certified by a licensed engineer or land surveyor must be submitted to the Planning and Zoning Commission showing all boundaries of the line of any public or private right-of-way, sanitary facilities and water supply. This permit shall be valid for one year.

MOTION: Gaye Zukauskas made a motion to add Town Hill Road/Lions back on the agenda. Steve Panasuk seconded. **VOTE:** S. Panasuk – Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.

MOTION: Patrick Herzing made a motion for a 5-minute recess at 9:23 p.m. **VOTE:** All in favor.

Chairman Patrick Herzing called the meeting back to order at 9:28 p.m.

Town Hill Road/Lions - Special Permit – Telecommunication Tower – Omnipoint –

MOTION: Gaye Zukauskas made a motion to approve the application for the telecommunication tower-Town Hill Road-Lions Club and Omnipoint-State ID #CT-11417C consisting of 5 sheets, cover dated 6/20/00, vicinity plan dated 3/8/00, sheet C-1, C-2 and C-3 all dated 6/20/00 with the only stipulation that Plymouth emergency services to have free access as needed with no charge to the Town. Any additional carriers to come in for a special permit. Bond to be set by Public Works in the event of abandonment. Steve Panasuk seconded. **VOTE:** S. Panasuk - Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.

11. Town Hill/Washington Roads – Pines Subdivision – Bond Reduction – CT Water Co. –

CT Water Co. has sold most of the lots in the subdivision to Mr. Zappone. Discussion was had. **MOTION:** Wayne Radke made a motion to reduce the bond as requested and get a new bond from Mr. Zappone before reduction of CT Water Co.'s bond. Gaye Zukauskas seconded. **VOTE:** S. Panasuk – Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.


16. Plymouth Housing Authority – Section 8-24 Review – Yefko Property – Mr. Kuehn read the memo dated 6/21 from Anthony A. Lorenzetti, PE into the record. He is in support of this proposal. It would be a solution to the parking situation at Gosinski Park. Half of it would be for off street parking and the other half for a minimum 20,000 sq. ft. residential parcel for a low/moderate income housing. The resolution should be 39,100 not 29,100. Mr. Kuehn read the resolution into the record. **MOTION:** Gaye Zukauskas made a motion to accept the resolution for an 8-24 review. Wayne Radke seconded. **VOTE:** S. Panasuk – Aye, G. Zukauskas – Aye, W. Radke – Aye and Chairman Herzing so voted.

18. Land Use Corner – Gaye strikes again. The final revision has been faxed to the Plymouth News. Gaye suggested that Mr. Kuehn do one next month on industrial property.

21. Correspondence from ZBA Chairman Mike Cole – Patrick Herzing will call Mike Cole and get a time set up – probably in September to get together to discuss the zoning regulations. It was suggested to have Mike come up with an agenda of issues to look at ahead of time.

22. Proposed ordinance for zoning violations – The Town Council tabled this item at their last meeting so no public hearing has been scheduled. It recommends a \$150 fine per violation. Maybe we can not issue any permits to people who have not finished and cleaned up their last items.

STAFF COMMENTS –Mr. Kuehn informed the Commission that 36 signs will be going up in the industrial park for the public hearing.




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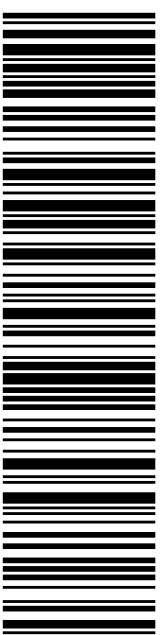
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Ship Date:	08/30/2018	Total	\$6.70
Expected Delivery Date:	08/31/2018		
Insured Value:	\$50.00		

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To: MAYOR DAVID V MERCHANT
 TOWN OF PLYMOUTH
 80 MAIN ST
 TERRYVILLE CT 06786-5107

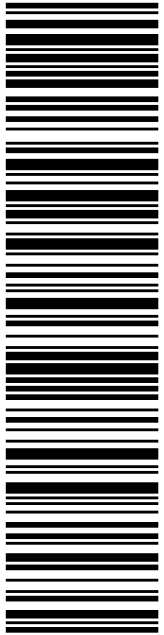
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Click-N-Ship® Label Record

USPS TRACKING # / Insurance Number:
9405 8036 9930 0685 7904 49

Trans. #:	442881627	Priority Mail® Postage:	\$6.70
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Ship Date:	08/30/2018	Total	\$6.70
Expected Delivery Date:	08/31/2018		
Insured Value:	\$50.00		

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 QC DEVELOPMENT
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 STORRS CT 06268-0916

To: TERRYVILLE LIONS CLUB
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