QC Development
PO Box 916
Storrs, CT 06268
860-670-9068
Mark.Roberts@QCDevelopment.net

March 2, 2018

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT2138
6 Shirley Street, Norwalk, CT 06850
N 41-06-55.73
W 73-26-03.64

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 81-foot level of the existing 376-foot Guyed Lattice Tower at 6 Shirley Street, Norwalk, CT. The tower and property are owned by CTI Tower Assets II LLC. AT&T now intends to install (3) RRUS- 4415 B25. These Remote Radio Units (RRU) will be installed at the 81-foot level of the tower.

This facility was originally constructed around 1984 according to FCC registration information. AT&T has previously documented efforts to locate original zoning and permitting documents including the attached e-mail from the City indicating that no records can be found.

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 Mayor Harry Rilling, Mayor of the City of Norwalk, as elected official and to the Norwalk Planning and Zoning Department, as well as to the tower and property 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.

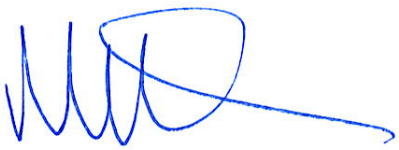
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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: The Honorable Harry Rilling - as Elected Official
Steven Kleppin – Director of Planning & Zoning
CTI Tower Assets II LLC - as Tower and Property Owner

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*							6.99%
AT&T GSM	1	325	81	0.0208	880	0.5867	0.35%
AT&T UMTS	1	325	81	0.0208	880	0.5867	0.35%
AT&T LTE	2	1476	81	0.1887	740	0.4933	3.83%
AT&T LTE	1	1285	81	0.0822	2300	1.0000	0.82%
Site Total							12.35%

*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*							6.99%
AT&T UMTS	1	325	81	0.0208	880	0.5867	0.35%
AT&T LTE	2	1476	81	0.1887	740	0.4933	3.83%
AT&T LTE	2	4842	81	0.6191	1900	1.0000	6.19%
AT&T LTE	1	1285	81	0.0822	2300	1.0000	0.82%
Site Total							18.19%

*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

Note: Proposed Loading may also include corrections to certain Existing Loading values

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING GUYED TOWER: • NEW AT&T RRUS: RRUS 4415 B25 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW JUMPER CABLES: COAX JUMPER (1) PER SECTOR FROM EACH RRU (TOTAL OF 3) • NEW FIBER JUMPERS: FIBER JUMPERS (2) FROM THE SQUID TO EACH RRU (TOTAL OF 6) ITEMS TO BE MOUNTED INSIDE EXISTING EQUIPMENT SHELTER: • NONE ITEMS TO REMAIN: • (9) ANTENNAS, (3) RRU'S, (1) SURGE ARRESTORS, (2) DC POWER CABLES, & (1) FIBER RUNS.
SITE ADDRESS:	SHIRLEY STREET NORWALK, CT 06850
LATITUDE:	41.115520° N 41° 6' 55.87" N
LONGITUDE:	73.434360° W 73° 26' 3.69" W
TYPE OF SITE:	GUYED TOWER/INDOOR EQUIPMENT
STRUCTURE HEIGHT:	360'–0"± A.G.L
RAD CENTER:	80'–0"± A.G.L
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

SITE NUMBER: CT2138

SITE NAME: NORWALK WNLK

PROJECT: LTE 2C 2018 UPGRADE

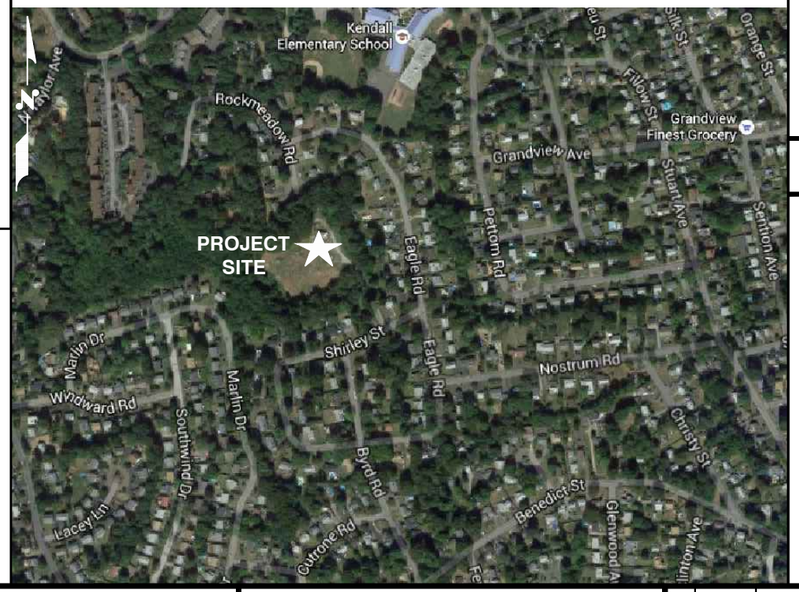
DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T–1	TITLE SHEET	B
GN–1	GENERAL NOTES	B
A–1	COMPOUND & EQUIPMENT PLANS	B
A–2	ANTENNA LAYOUTS & ELEVATION	B
A–3	DETAILS	B
RF–1	RF PLUMBING DIAGRAM	B
G–1	GROUNDING DETAILS	B

VICINITY MAP

DIRECTIONS TO SITE:

HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD. TURN LEFT AT CAPITAL BLVD. TURN LEFT AT WEST ST. TURN LEFT TO MERGE ONTO I–91 S TOWARD NEW HAVEN. TAKE EXIT 17 FOR CT–15 S/W CROSS PKWY. MERGE ONTO CT–15 S. TAKE EXIT 52 FOR STATE ROUTE 108 S/STATE ROUTE 8 S TOWARD BRIDGEPORT. FOLLOW SIGNS FOR CT–8 S/BRIDGEPORT AND MERGE ONTO CT–8 S/STATE ROUTE 8 S. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I–95 S/N.Y. CITY AND MERGE ONTO I–95 S. TAKE EXIT 14 FOR US–1/CONNECTICUT AVE. TURN RIGHT AT US–1 N/CONNECTICUT AVE. TURN LEFT AT FERRIS AVE. TURN LEFT AT BENEDICT ST. TAKE THE 1ST RIGHT ONTO BYRD RD. TURN RIGHT AT SHIRLEY ST. TAKE THE 1ST LEFT TO STAY ON SHIRLEY ST.



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.

UNDERGROUND SERVICE ALERT

811 DigSafe MA·ME·NH·RI·VT

WWW.DIGSAFE.COM
72 HOURS PRIOR

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

SAI
12 INDUSTRIAL WAY
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STATE OF CONNECTICUT — DEREK J. CREASER — 29355 — LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(LTE 2C)

SITE NUMBER	DRAWING NUMBER	REV
CT2138	T–1	B

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 LTE 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 BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
    LIGHTENING 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

    EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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		

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2138
SITE NAME: NORWALK WNLK
SHIRLEY STREET
NORWALK, CT 06850
FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREASER · No. 28354 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
(LTE 2C)

SITE NUMBER	DRAWING NUMBER	REV
CT2138	GN-1	B

NOTE:

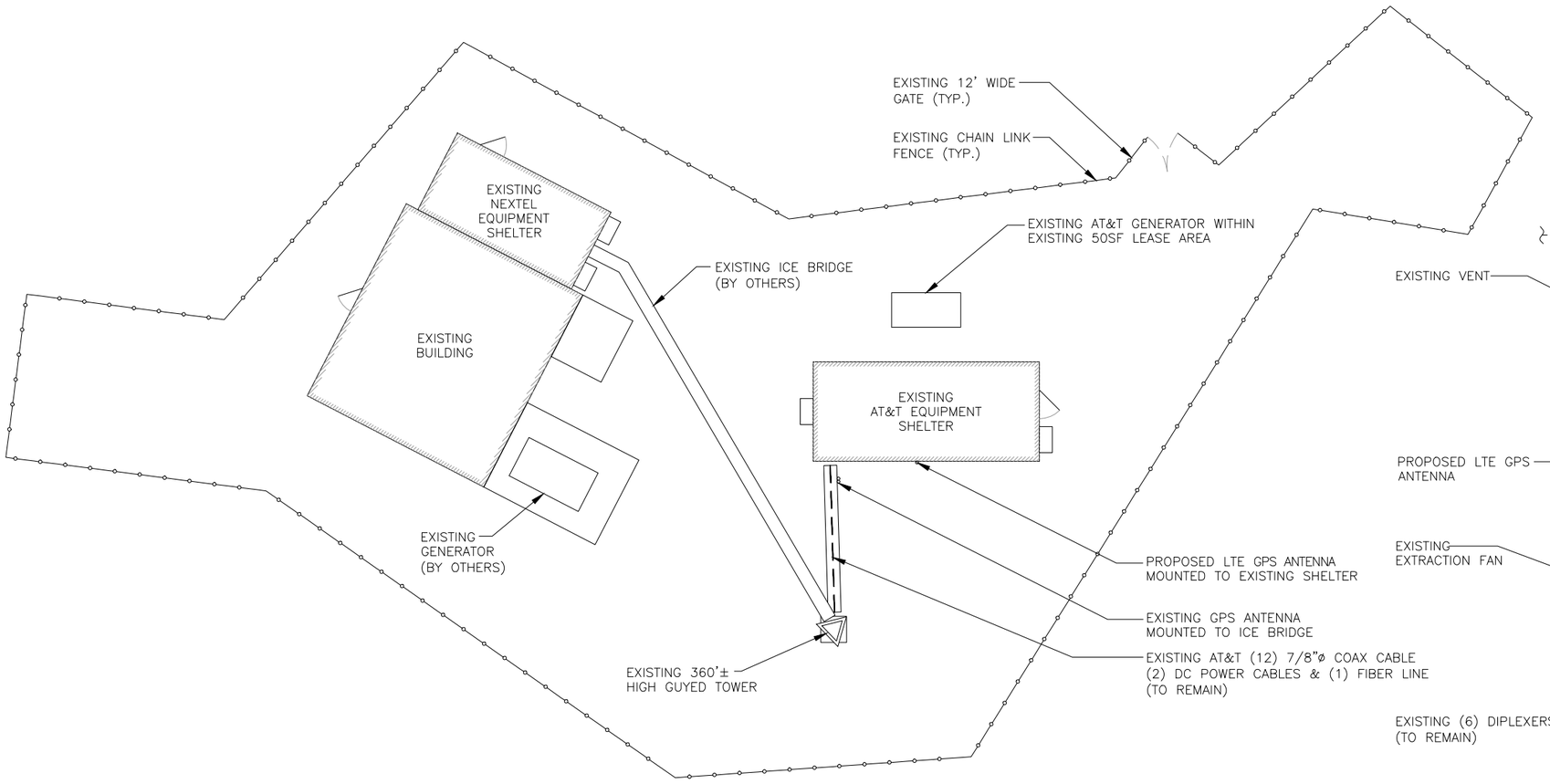
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING MOUNT TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

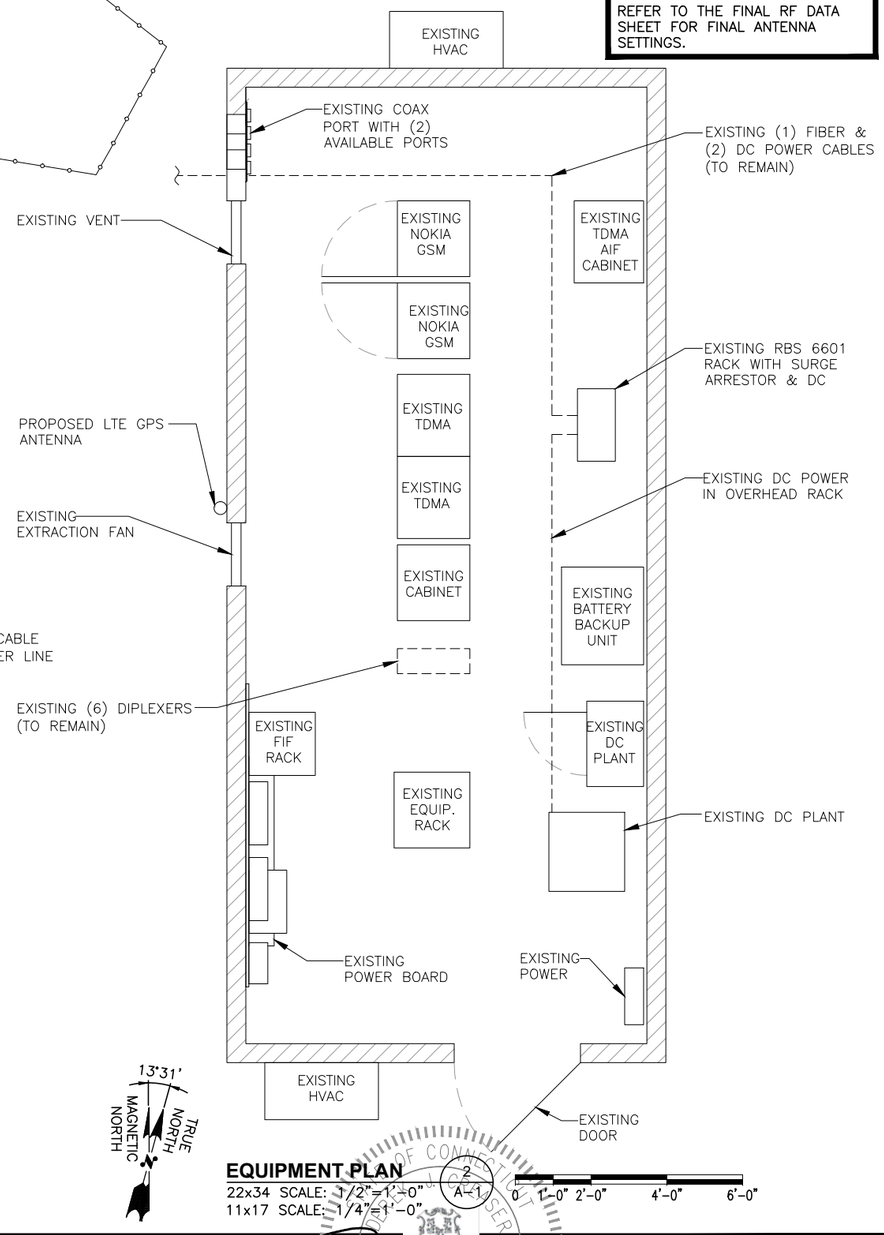
NOTE:

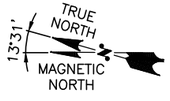
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

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







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

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

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

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

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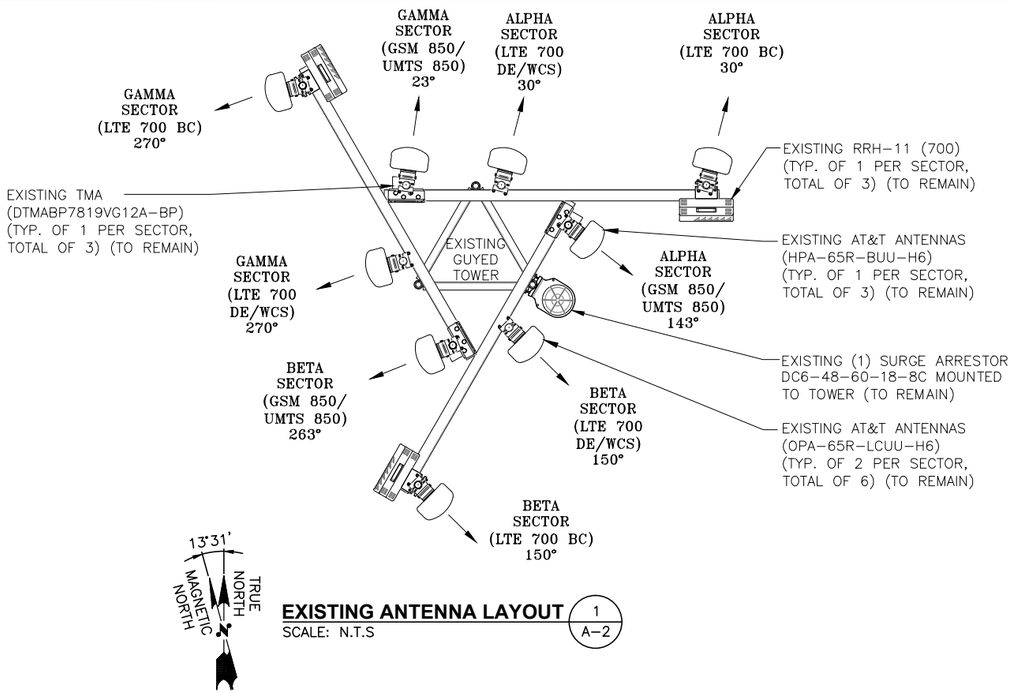
STATE OF CONNECTICUT — DAVID J. CHASSE — LICENSED PROFESSIONAL ENGINEER

AT&T

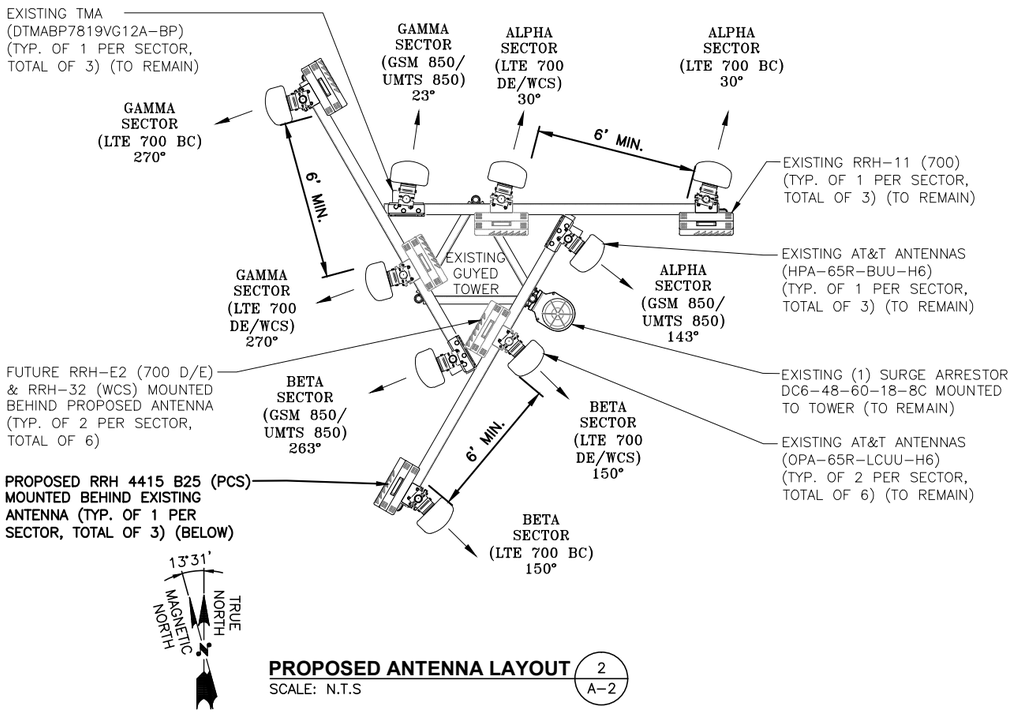
COMPOUND & EQUIPMENT PLANS (LTE 2C)

SITE NUMBER	DRAWING NUMBER	REV
CT2138	A-1	B



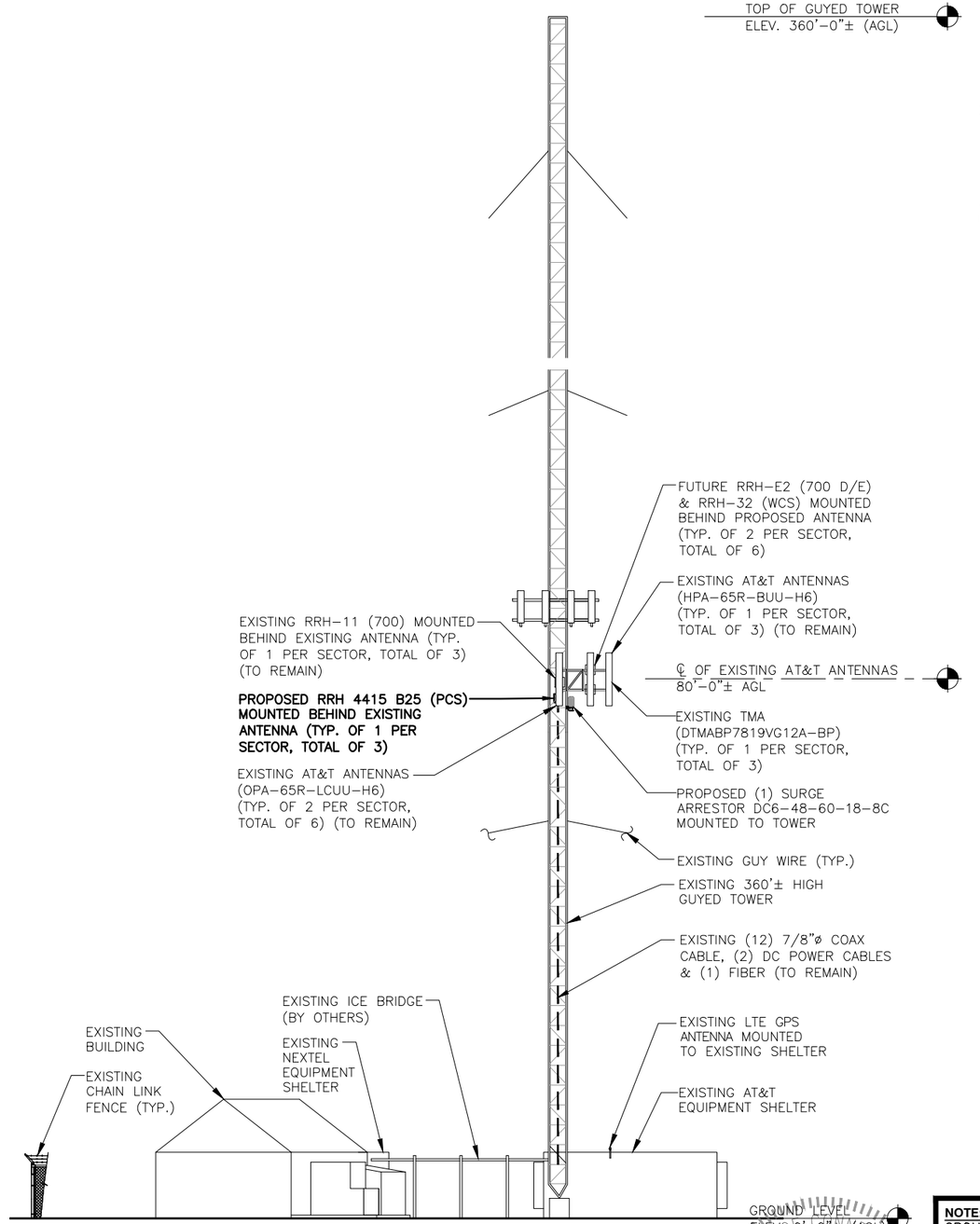
EXISTING ANTENNA LAYOUT (1 / A-2)

SCALE: N.T.S



PROPOSED ANTENNA LAYOUT (2 / A-2)

SCALE: N.T.S



ELEVATION (3 / A-2)

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

0 5'-4" 10'-8" 21'-4" 32'-0"

NOTE:
GROUND LEVEL EQUIPMENT NOT SHOWN FOR CLARITY

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING MOUNT TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

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FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	02/28/18	ISSUED FOR PERMITTING	MR	AT	DJC
A	01/15/18	ISSUED FOR REVIEW	GA	AT	DJC

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

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

AT&T

ANTENNA LAYOUTS & ELEVATION (LTE 2C)

SITE NUMBER	DRAWING NUMBER	REV
CT2138	A-2	B

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING MOUNT TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

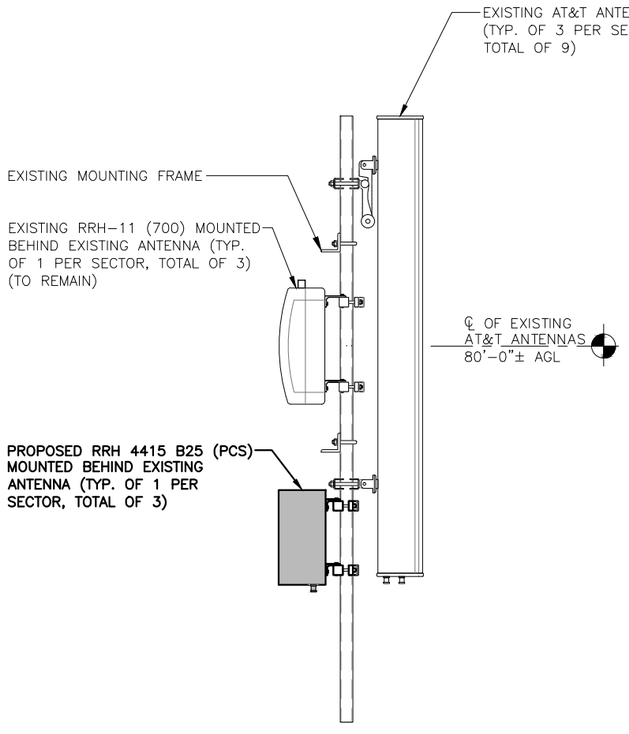
FINAL ANTENNA SCHEDULE

SECTOR	BAND	ANTENNA		SIZE (INCHES) (L X W X D)	RAD CENTER	AZIMUTH	TMA'S		RRU'S		SIZE (INCHES) (L X W X D)	COAX JUMPERS	FIBER JUMPERS	COAX
ALPHA	GSM 850/UMTS 850	EXISTING	HPA-65R-BUU-H6	72X14.8X9	80'-0"±	143°	(1)	DTMABP7819VG12A-BP	–	–	–	–	–	(2) 1-5/8"
	LTE 700 DE/WCS	EXISTING	OPA-65R-LCUU-H6	72X14.8X7.4	80'-0"±	30°	–	–	FUTURE FUTURE	RRUS-E2 (700) RRUS-32 (WCS)	–	–	–	(2) 1-5/8"
	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	LTE 700 BC	EXISTING	OPA-65R-LCUU-H6	72X14.8X7.4	80'-0"±	30°	–	–	EXISTING PROPOSED	RRUS-11 (700) 4415 B25 (PCS)	– 15.0X13.2X7.4	– 1*	– 2**	–
BETA	GSM 850/UMTS 850	EXISTING	HPA-65R-BUU-H6	72X14.8X9	80'-0"±	263°	(1)	DTMABP7819VG12A-BP	–	–	–	–	–	(2) 1-5/8"
	LTE 700 DE/WCS	EXISTING	OPA-65R-LCUU-H6	72X14.8X7.4	80'-0"±	150°	–	–	FUTURE FUTURE	RRUS-E2 (700) RRUS-32 (WCS)	–	–	–	(2) 1-5/8"
	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	LTE 700 BC	EXISTING	OPA-65R-LCUU-H6	72X14.8X7.4	80'-0"±	150°	–	–	EXISTING PROPOSED	RRUS-11 (700) 4415 B25 (PCS)	– 15.0X13.2X7.4	– 1*	– 2**	–
GAMMA	GSM 850/UMTS 850	EXISTING	HPA-65R-BUU-H6	72X14.8X9	80'-0"±	23°	(1)	DTMABP7819VG12A-BP	–	–	–	–	–	(2) 1-5/8"
	LTE 700 DE/WCS	EXISTING	OPA-65R-LCUU-H6	72X14.8X7.4	80'-0"±	270°	–	–	FUTURE FUTURE	RRUS-E2 (700) RRUS-32 (WCS)	–	–	–	(2) 1-5/8"
	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	LTE 700 BC	EXISTING	OPA-65R-LCUU-H6	72X14.8X7.4	80'-0"±	270°	–	–	EXISTING PROPOSED	RRUS-11 (700) 4415 B25 (PCS)	– 15.0X13.2X7.4	– 1*	– 2**	–

FINAL ANTENNA CONFIGURATION TABLE (3 / A-3)

*COAX JUMPER NOTE:
COAX JUMPERS (1) PER SECTOR, FROM EACH RRU (TOTAL OF 3).

**FIBER JUMPER NOTE:
FIBER JUMPERS (2) PER SECTOR, FROM THE SQUID TO EACH RRU (TOTAL OF 6).



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

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

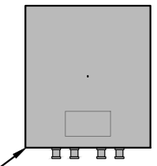
RRU CHART

QUANTITY	MODEL	L	W	D
3 (E)	RRUS-11	19.7"	17.0"	7.2"
3 (P)	4415 B25	15.0"	13.2"	7.4"
3 (F)	RRUS-32	27.2"	12.1"	7.0"
3 (F)	RRUS-E2	20.4"	18.5"	7.5"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:

SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2138
SITE NAME: NORWALK WNLK
SHIRLEY STREET
NORWALK, CT 06850
FAIRFIELD COUNTY

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

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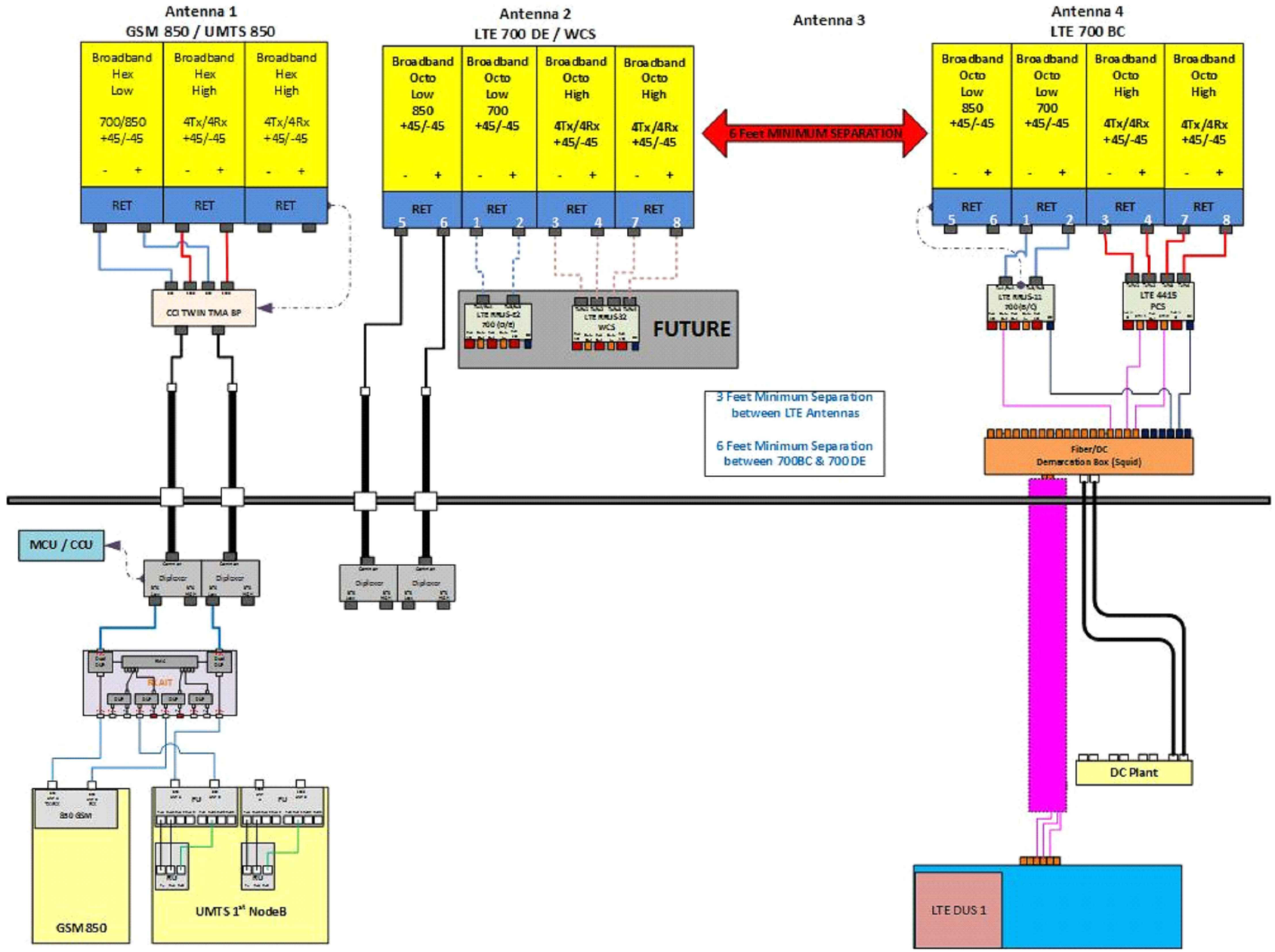
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREASER · NO. 28654 · LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS
(LTE 2C)

SITE NUMBER	DRAWING NUMBER	REV
CT2138	A-3	B



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

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

NOTE:

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2138
SITE NAME: NORWALK WNLK
SHIRLEY STREET
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ROCKY HILL, CT 06067

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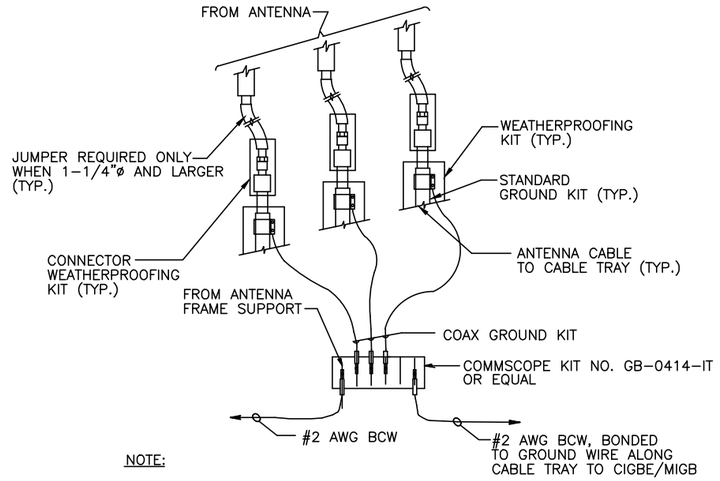
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREASER · NO. 28554 · LICENSED PROFESSIONAL ENGINEER

AT&T

RF PLUMBING DIAGRAM
(LTE 2C)

SITE NUMBER	DRAWING NUMBER	REV
CT2138	RF–1	B



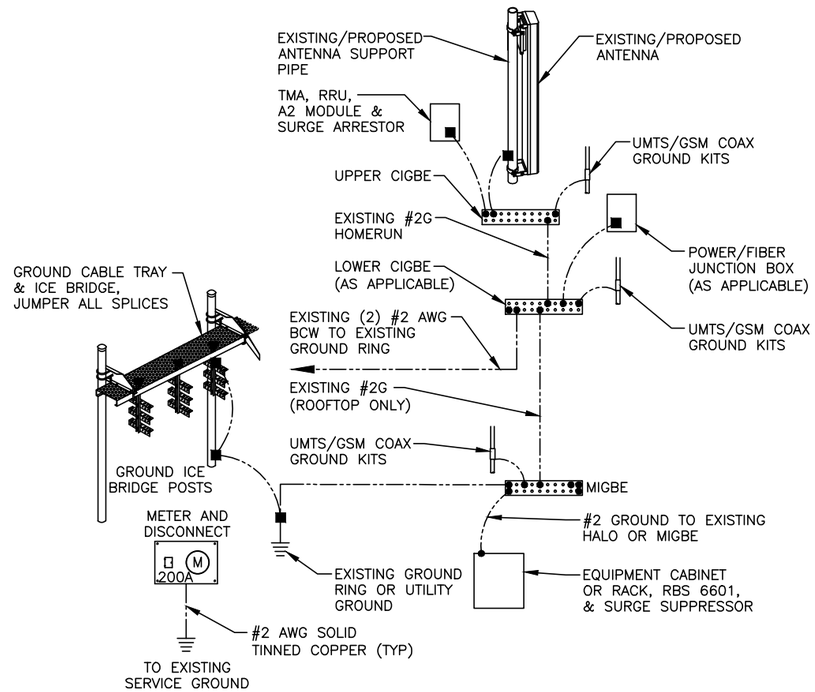
NOTE:

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

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

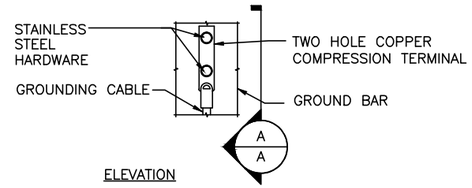
1 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1



NOTE:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

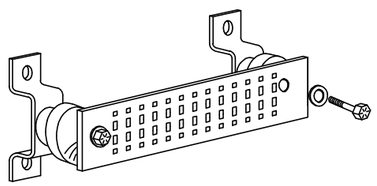
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL

SCALE: N.T.S

4 / G-1

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STATE OF CONNECTICUT
DEREK J. CREASER
NO. 25851
LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS
(LTE 2C)

SITE NUMBER	DRAWING NUMBER	REV
CT2138	G-1	B

PASS
(Legs, 97% capacity)

February 8, 2018

Brandon Barnes
CTI Towers
5000 CentreGreen Way Suite 325
Cary, NC 27513

Subject	**Rigorous Structural Analysis**
Carrier Designation	**AT&T, Reconfiguration** **Site Number: CT2138** **Site Name: Norwalk-WNLK**
CTI Towers Designation	**Site Number: 52010** **Site Name: Norwalk 1**
Engineering Firm Designation	**Delta Oaks Group Project Number: STR18-00909-10** **Delta Oaks Group Site Number: 07-00079**
Site Data	**6 Shirley Street, Norwalk, Fairfield County, CT 06850** **Latitude: N 41.1156° ± Longitude: W 73.4344° ±** **Elevation: 117-ft ±, Topography Category: 1; Site Class "D"** **Exposure Category: "B"; Structure Class/Risk Category "II";** **341.5-ft Guyed Mast**

Dear Mr. Barnes,

To your request, we present our rigorous structural analysis. Our work indicates that with the proposed appurtenance configuration, the tower and foundation **will** satisfy the structural strength requirements of ANSI/TIA-222-G-2-2009 / *2012 International Building Code* (local building code) / ASCE 7-10 for:

- V_{ult} = 119-mph / V_{asd} = 92-mph three-second gust basic wind speed [per Eqn. 16-33 of the 2012 IBC]
- 50-mph three-second gust basic wind speed with 3/4-in radial ice
- Earthquake design parameters and loading, per USGS Ground Motion Parameter Calculator (ASCE 7-10) and industry standard, respectively, including:
  - S_s = 0.235 g, S_1 = 0.068 g

Delta Oaks Group appreciates the opportunity to be of service to CTI Towers. Please do not hesitate to contact us if you have any questions or require any additional information.

Sincerely,

Blake Bartok, PE
Senior Structural Engineer

STATE OF CONNECTICUT
MICHAEL L. LASSITER
No. 25064
LICENSED PROFESSIONAL ENGINEER
February 09, 2018

Michael L. Lassiter, SE, PE
Chief Structural Engineer
CT PE License 25064

Table 1: Existing, Proposed and Reserved Appurtenance Configuration

Elevation[2] (AGL, ft)	Carrier	Mount	Equipment	Feedlines[1]	Location
330	Fox [Existing]	--	(1) Shively 6810 Broadcast Antenna	(1) 1 5/8	Leg A
303	Fox [Existing]	(1) 2.38" Ø x 5' Pipe Mount	(1) Scala 3' x 5.5' Grid Dish	(1) 7/16	Leg C
290	Fox [Existing]	(1) 5.5' Standoff	(1) 10" x 8" x 4.25" Box (1) 7.5" Ø x 3.5' Omni	(1) 3/8 (1) 7/8	Face B Leg B
290	Fox [Existing]	--	(1) 2.36" Ø x 20' 4 Element Dipole	(1) 7/8	Leg B
280	Fox [Existing]	(1) 15" Standoff	(1) Andrew DB413-B	(1) 1 5/8	Leg B
260	Fox [Existing]	--	(1) 25' x 1.62" Ø Broadcast Antenna	(1) 1 5/8	Leg A
246	Fox [Existing]	(1) 3.5' Standoff	(1) 2.3" Ø x 20' Omni	(1) 7/8	Leg C
245	Fox [Existing]	(1) 3' Standoff	(1) 2.3" Ø x 20' Omni	(1) 7/8	Face C
223	CTI [Existing]	--	(2) TWR L-810 Lights	(1) Conduit	Face C
183	CTI [Existing]	--	(1) 26.5" x 15" Conduit Box	(1) 7/16	Leg C
169	Fox [Existing]	--	(1) 10" x 10" x 1.25" Detuner Box	(1) 7/16	Leg B
145.5	Fox [Existing]	--	(1) 14.875"x15.125"x0.5" Flat Panel	(1) 1/4	Leg C
141	Fox [Existing]	(1) 2.38" Ø x 3.5' Pipe Mount	(1) 4' Grid Dish	(1) 7/8	Leg B
135	CTI [Existing]	--	(2) TWR L-810 Lights	(1) Conduit	Face C
104.5	Verizon [Existing]	(3) 3' x 12.5' Sector Mounts	(1) RFS 19" x 15" x 10.5" Squid	(2) 1 1/4	Face C
104			(1) RFS 19" x 15" x 10.5" Squid		
102.5			(6) CSS X7C-FRO-660-VR0 (6) Antel WWX063X19G00 (1) RFS 25" x 12" x 8.25" Radio (1) RFS 16.5" x 17" x 10.25" Radio		
81.5[3]	AT&T [To Remove]	(3) 9' Face Mounts	(3) Ericsson RRUS-E2	--	Face B
	AT&T [Existing]		(3) CCI HPA-65R-BUU-H6 (6) CCI OPA-65R-LCUU-H6 (3) CCI DTMABP7819VG12A (3) Ericsson RRUS-11 (3) Ericsson RRUS-32 (1) Raycap DC6-48-60-18-8C	(12) 7/8 (1) 10 mm Fiber (2) 0.795" DC Power	
	AT&T [Proposed]		***(3) Ericsson RRUS-4415 B25***	--	

Table 1: Existing, Proposed and Reserved Appurtenance Configuration (Con.)

Elevation[2] (AGL, ft)	Carrier	Mount	Equipment	Feedlines[1]	Location
33	Fox [Existing]	--	(1) 26.5" x 15" Conduit Box	(1) 7/16	Leg B
8.5	Fox [Existing]	--	(1) 15" x 15" x 6.5" Detuner Box	(1) 7/16	Leg B

1. See Feed Line Plan for locations.
2. Existing loading per Tower Mapping Report by Delta Oaks Group dated 5/4/2017 (DOG Project# AGI17-00909-03, Revision 0).
3. Existing and proposed AT&T loading per tenant application dated 1/4/2018.

Table 2: Serviceability Requirements: Limit State Deformations[1]

Elevation (AGL, ft)	Equipment	Twist (deg)[2]	Sway (deg)[2]	Deflection (in)	Deflection Limit (in)[3]	Result
341.5	Structure	0.2293	0.3333	3.738	122.94	O. K.

4. See program output for supporting details.
5. Per TIA-222-G Section 2.8.2.1 rotation about the vertical axis (twist) or any horizontal axis (sway) of the structure shall not exceed 4 degrees.
6. Per TIA-222-G Section 2.8.2.2 horizontal displacement shall not exceed 3% of the height of the structure.

Table 3: Tower Structure Results Summary, Percent Capacity Utilized[1,2]

Component	Percent Capacity	Result
Pole	49	O. K.
Legs	**97**	**O. K.**
Diagonals	85	O. K.
Horizontals	56	O. K.
Secondary-Horizontals	24	O. K.
Girts	4	O. K.
Guy Wires	48	O. K.
Bolt Checks	85	O. K.

1. Detailed results and capacities available in the TNX Tower output attached. Percent utilized less than 105% is considered acceptable.
2. Material properties were assumed:
    a. Leg members: A572-50
    b. Pole Structure: A53 Gr. B
    c. Bracing: Pipes-A500 Gr. B; Angles-A36
    d. Bolts: A325

Table 4: Foundation Results, Percent Capacity Utilized[1,2]

Component	Percent Utilized	Result
Mast – Stability	11	O. K.
Inner Anchors – Stability	26	O. K.
Outer Anchors – Stability	28	O. K.

1. Foundation rebar information not available at time of analysis.
2. Lower anchor block analyzed as connected to anchor shaft through original upper anchor blocks based on information obtained from tower owner.

ASSUMPTIONS

This rigorous structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. Delta Oaks Group ("DOG") has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed based on industry standards.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to ±5' AGL, antenna size accurate to ±3.3 sf, and coax equal to the number of existing antennas without reserve.
11. Documents reviewed and used in this structural analysis were provided by CLIENT.
12. The proposed coax shall be installed per the attached coax layout plan, Feed Line Plan.
13. Leg A is determined per best industry practice.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and DOG should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

Delta Oaks Group ("DOG") has not performed a detailed site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by DOG in connection with this Rigorous Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

DOG does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. DOG provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the specified code recommended amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from DOG, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

DOG makes no warranties, expressed and/or implied, in connection with this report and disclaim any liability arising from material, fabrication, and erection of this tower. DOG will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of DOG pursuant to this report will be limited to the total fee received for preparation of this report.

Attachments:

- Document Research Report
- Feed Line Plan
- Program Input and Output – Wind
- Foundation Calculations
- Tenant Application

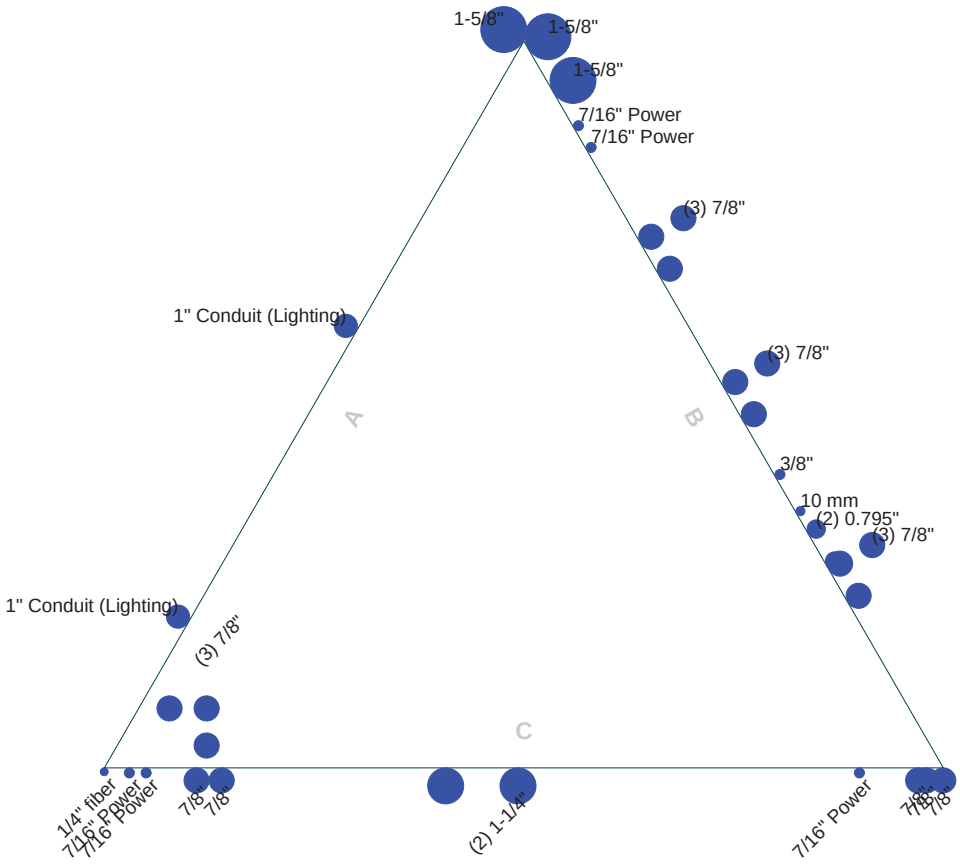
Document Research Report

Project #: STR18-00909-10
Site ID: 52010
Site Name: Norwalk 1

Doc ID	Document Name	Issued By	Issued To	Issue Date	Description
17-00909.04	Copy of CT2138_Revised ATT App_01 10 17 CTI Terms.xlsx	Norwalk-WNLK	CTI Towers	1/10/2017	Re-configuration Application
17-00909.01	Tower Mapping_Norwalk 52010_5-4-17_Rev 0.pdf	Delta Oaks Group	CTI Towers	5/4/2017	Tower Mapping Report
17-00909.02	Foundation Investigation_Norwalk 52010_5-4-17_Rev 0.pdf	Delta Oaks Group	CTI Towers	5/4/2017	Foundation Mapping Report
17-00909.03	Norwalk_52010_Geotechnical Report_May 4, 2017_Rev 0.pdf	Delta Oaks Group	CTI Towers	5/4/2017	Geotechnical Investigation
17-00909-02	52010_20170508_SAR_signed.pdf	Delta Oaks Group	CTI Towers	5/8/2017	Structural Analysis Report
18-00909.01	CTI Towers Norwalk (52010) ATT AMD 5 APP (1).pdf	Norwalk-WNLK	CTI Towers	1/4/2018	Re-configuration Application Revised

Feed Line Plan

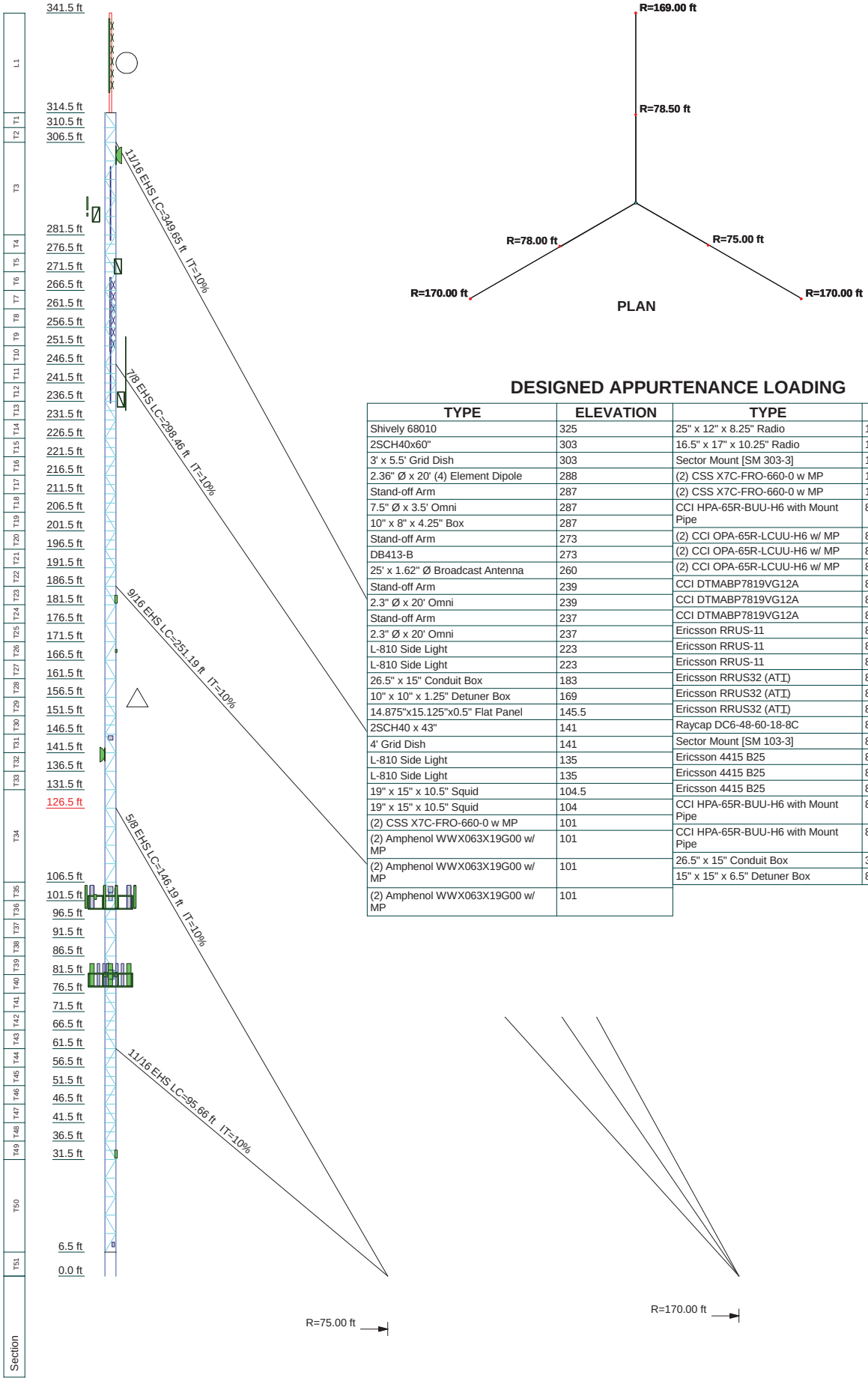
Round Flat App In Face App Out Face



DELTA OAKS GROUP
CLIENT FOCUSED -- EMPLOYEE DRIVEN

Delta Oaks Group
4904 Professional Court, Second Floor
Raleigh, NC 27609
Phone: 919-342-8247
FAX:

Job: ***52010 Norwalk 1***		
Project: ***STR18-00909-10***		
Client: CTI Towers	Drawn by: BDM	App'd:
Code: TIA-222-G	Date: 02/08/18	Scale: NTS
Path: \\10.0.30.2\Company\2018 Projects\18-00909 Norwalk 52010\STR\Models\52010-ERP.ep		Dwg No. E-7



DESIGNED APPURTENANCE LOADING

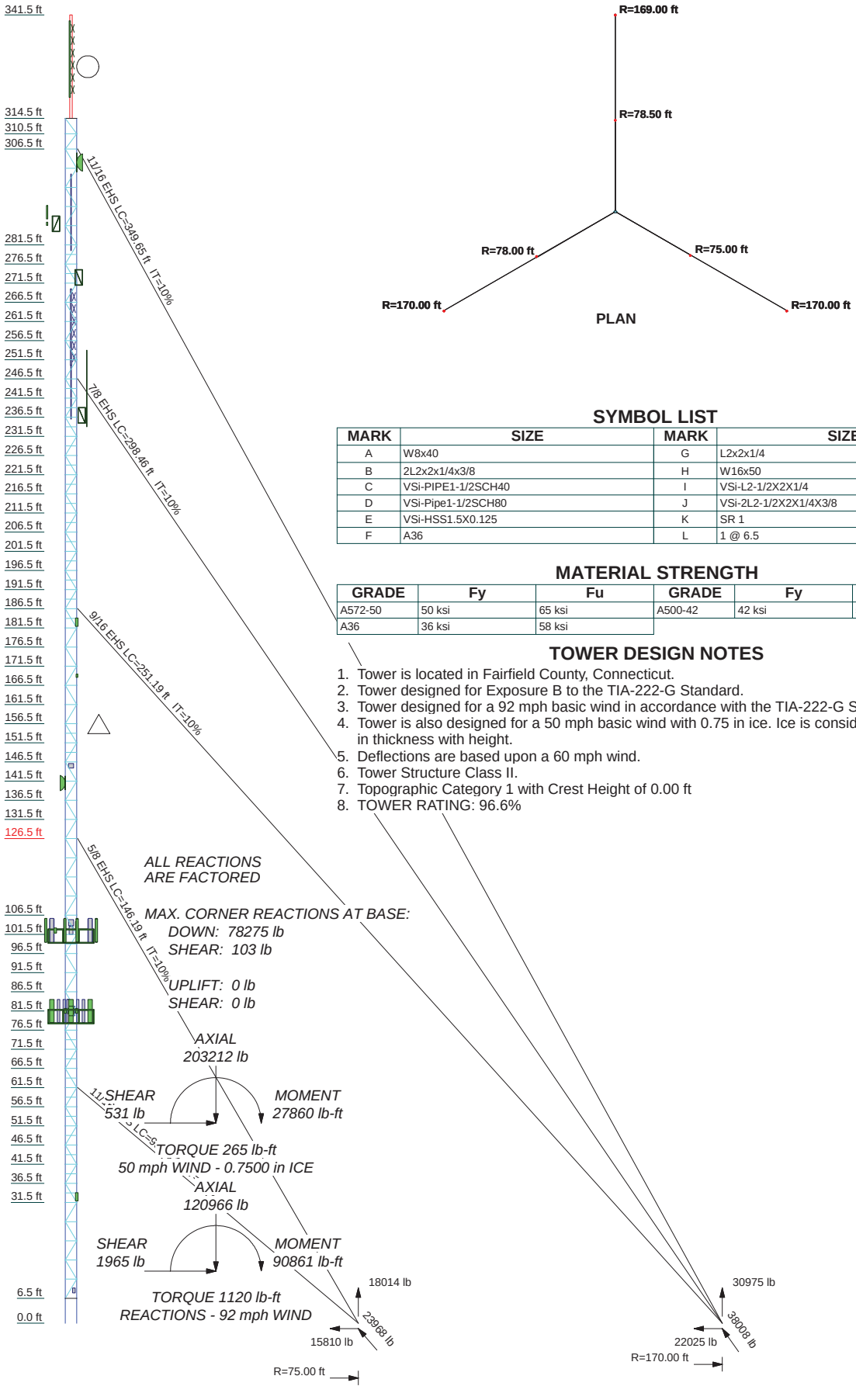
TYPE	ELEVATION	TYPE	ELEVATION
Shively 68010	325	25" x 12" x 8.25" Radio	101
2SCH40x60"	303	16.5" x 17" x 10.25" Radio	101
3' x 5.5' Grid Dish	303	Sector Mount [SM 303-3]	101
2.36" Ø x 20' (4) Element Dipole	288	(2) CSS X7C-FRO-660-0 w MP	101
Stand-off Arm	287	(2) CSS X7C-FRO-660-0 w MP	101
7.5" Ø x 3.5' Omni	287	CCI HPA-65R-BUU-H6 with Mount Pipe	80
10" x 8" x 4.25" Box	287		
Stand-off Arm	273	(2) CCI OPA-65R-LCUU-H6 w/ MP	80
DB413-B	273	(2) CCI OPA-65R-LCUU-H6 w/ MP	80
25' x 1.62" Ø Broadcast Antenna	260	(2) CCI OPA-65R-LCUU-H6 w/ MP	80
Stand-off Arm	239	CCI DTMABP7819VG12A	80
2.3" Ø x 20' Omni	239	CCI DTMABP7819VG12A	80
Stand-off Arm	237	CCI DTMABP7819VG12A	80
2.3" Ø x 20' Omni	237	Ericsson RRUS-11	80
L-810 Side Light	223	Ericsson RRUS-11	80
L-810 Side Light	223	Ericsson RRUS-11	80
26.5" x 15" Conduit Box	183	Ericsson RRUS32 (ATI)	80
10" x 10" x 1.25" Detuner Box	169	Ericsson RRUS32 (ATI)	80
14.875"x15.125"x0.5" Flat Panel	145.5	Ericsson RRUS32 (ATI)	80
2SCH40 x 43"	141	Raycap DC6-48-60-18-8C	80
4' Grid Dish	141	Sector Mount [SM 103-3]	80
L-810 Side Light	135	Ericsson 4415 B25	80
L-810 Side Light	135	Ericsson 4415 B25	80
19" x 15" x 10.5" Squid	104.5	Ericsson 4415 B25	80
19" x 15" x 10.5" Squid	104	CCI HPA-65R-BUU-H6 with Mount Pipe	80
(2) CSS X7C-FRO-660-0 w MP	101	CCI HPA-65R-BUU-H6 with Mount Pipe	80
(2) Amphenol WWX063X19G00 w/ MP	101	26.5" x 15" Conduit Box	33
(2) Amphenol WWX063X19G00 w/ MP	101	15" x 15" x 6.5" Detuner Box	8.5
(2) Amphenol WWX063X19G00 w/ MP	101		

DELTA OAKS GROUP
CLIENT FOCUSED -- EMPLOYEE DRIVEN

Delta Oaks Group
4904 Professional Court, Second Floor
Raleigh, NC 27609
Phone: 919-342-8247
FAX:

Job: ***52010 Norwalk 1***			
Project: ***STR18-00909-10***			
Client: CTI Towers	Drawn by: BDM	App'd:	
Code: TIA-222-G	Date: 02/08/18	Scale: NTS	
Path: \\10.0.30.2\Company\2018 Projects\18-00909 Norwalk 52010\STR\Models\52010-ERP.eri		Dwg No. E-1	

Section	T51	T50	T49	T48	T47	T46	T45	T44	T43	T42	T41	T40	T39	T38	T37	T36	T35	T34	T33	T32	T31	T30	T29	T28	T27	T26	T25	T24	T23	T22	T21	T20	T19	T18	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1	L1
Legs	A	SR 2 1/4																A572-50																																					P8x.322 (8" std)
Leg Grade	A36																								N.A.																													A53-B-35
Diagonals	N.A.	VSi-PIPE1-1/2SCH40			SR 1		E			I	C		N.A.			K		VSi-HSS1.5X0.125				SR 1		N.A.																																N.A.
Diagonal Grade	N.A.												A500-42												F																														N.A.
Top Girts	H																								N.A.																																N.A.
Horizontals	N.A.																																																										N.A.
Sec. Horizontals		N.A.			SR 1					I			N.A.			K		N.A.				SR 1		N.A.																																		0.71875
Face Width (ft)																								3																																		N.A.
# Panels @ (ft)	L																	60 @ 5																																							2 @ 4	
Weight (lb) 20538.1	226.5	1335.4	291.1	291.1	275.7	275.7	275.7	284.2	284.2	299.6	267.1	251.6	251.6	251.6	275.7	275.7	251.6	1298.1	251.6	251.6	275.7	275.7	275.7	251.6	267.1	267.1	251.6	347.4	347.4	347.4	347.4	347.4	347.4	347.4	347.4	347.4	347.4	347.4	347.4	347.4	347.4	330.7	314.7	314.7	314.7	323.3	323.3	323.3	1496.1	244.8	225.1	771.7



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	W8x40	G	L2x2x1/4
B	2L2x2x1/4x3/8	H	W16x50
C	VSi-PIPE1-1/2SCH40	I	VSi-L2-1/2X2X1/4
D	VSi-Pipe1-1/2SCH80	J	VSi-2L2-1/2X2X1/4X3/8
E	VSi-HSS1.5X0.125	K	SR 1
F	A36	L	1 @ 6.5

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A500-42	42 ksi	58 ksi
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 92 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 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: 96.6%

ALL REACTIONS ARE FACTORED

DELTA OAKS GROUP
CLIENT FOCUSED -- EMPLOYEE DRIVEN

Delta Oaks Group
4904 Professional Court, Second Floor
Raleigh, NC 27609
Phone: 919-342-8247
FAX:

Job: ***52010 Norwalk 1***			
Project: ***STR18-00909-10***			
Client: CTI Towers	Drawn by: BDM	App'd:	
Code: TIA-222-G	Date: 02/08/18	Scale: NTS	
Path: \\10.0.30.2\Company\2018 Projects\18-00909 Norwalk 52010\STR\Models\52010-ERP.eri		Dwg No. E-1	

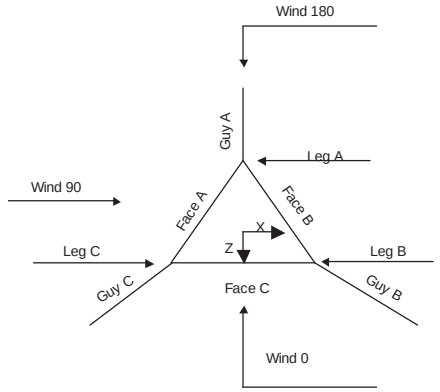
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 341.50 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 3.00 ft at the top and 3.00 ft at the base.
An index plate is provided at the 3x guyed -tower connection.
There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 92 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Safety factor used in guy design is 1.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	√ SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	√ All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	√ Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
√ Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
√ Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
√ SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric		



Corner & Starmount Guyed Tower

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	341.50-314.50	27.00	P8x.322 (8" std)	A53-B-35 (35 ksi)	

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 341.50-314.50				1	1	1			

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	314.50-310.50			3.00	1	4.00
T2	310.50-306.50			3.00	1	4.00
T3	306.50-281.50			3.00	1	25.00
T4	281.50-276.50			3.00	1	5.00
T5	276.50-271.50			3.00	1	5.00
T6	271.50-266.50			3.00	1	5.00
T7	266.50-261.50			3.00	1	5.00
T8	261.50-256.50			3.00	1	5.00
T9	256.50-251.50			3.00	1	5.00
T10	251.50-246.50			3.00	1	5.00
T11	246.50-241.50			3.00	1	5.00
T12	241.50-236.50			3.00	1	5.00
T13	236.50-231.50			3.00	1	5.00
T14	231.50-226.50			3.00	1	5.00
T15	226.50-221.50			3.00	1	5.00
T16	221.50-216.50			3.00	1	5.00
T17	216.50-211.50			3.00	1	5.00
T18	211.50-206.50			3.00	1	5.00
T19	206.50-201.50			3.00	1	5.00
T20	201.50-196.50			3.00	1	5.00
T21	196.50-191.50			3.00	1	5.00
T22	191.50-186.50			3.00	1	5.00
T23	186.50-181.50			3.00	1	5.00
T24	181.50-176.50			3.00	1	5.00
T25	176.50-171.50			3.00	1	5.00
T26	171.50-166.50			3.00	1	5.00
T27	166.50-161.50			3.00	1	5.00
T28	161.50-156.50			3.00	1	5.00
T29	156.50-151.50			3.00	1	5.00
T30	151.50-146.50			3.00	1	5.00
T31	146.50-141.50			3.00	1	5.00
T32	141.50-136.50			3.00	1	5.00
T33	136.50-131.50			3.00	1	5.00
T34	131.50-106.50			3.00	1	25.00
T35	106.50-101.50			3.00	1	5.00
T36	101.50-96.50			3.00	1	5.00
T37	96.50-91.50			3.00	1	5.00
T38	91.50-86.50			3.00	1	5.00
T39	86.50-81.50			3.00	1	5.00
T40	81.50-76.50			3.00	1	5.00
T41	76.50-71.50			3.00	1	5.00
T42	71.50-66.50			3.00	1	5.00
T43	66.50-61.50			3.00	1	5.00
T44	61.50-56.50			3.00	1	5.00
T45	56.50-51.50			3.00	1	5.00
T46	51.50-46.50			3.00	1	5.00
T47	46.50-41.50			3.00	1	5.00
T48	41.50-36.50			3.00	1	5.00
T49	36.50-31.50			3.00	1	5.00
T50	31.50-6.50			3.00	1	25.00
T51	6.50-0.00			3.00	1	6.50

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	314.50-310.50	4.00	Diag Down	No	Yes	0.0000	0.0000
T2	310.50-306.50	4.00	Diag Up	No	Yes	0.0000	0.0000
T3	306.50-281.50	5.00	K Brace Right	No	Yes	0.0000	0.0000
T4	281.50-276.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T5	276.50-271.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T6	271.50-266.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T7	266.50-261.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T8	261.50-256.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T9	256.50-251.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T10	251.50-246.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T11	246.50-241.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T12	241.50-236.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T13	236.50-231.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T14	231.50-226.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T15	226.50-221.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T16	221.50-216.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T17	216.50-211.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T18	211.50-206.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T19	206.50-201.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T20	201.50-196.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T21	196.50-191.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T22	191.50-186.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T23	186.50-181.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T24	181.50-176.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T25	176.50-171.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T26	171.50-166.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T27	166.50-161.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T28	161.50-156.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T29	156.50-151.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T30	151.50-146.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T31	146.50-141.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T32	141.50-136.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T33	136.50-131.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T34	131.50-106.50	5.00	K Brace Left	No	Yes	0.0000	0.0000
T35	106.50-101.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T36	101.50-96.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T37	96.50-91.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T38	91.50-86.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T39	86.50-81.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T40	81.50-76.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T41	76.50-71.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T42	71.50-66.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T43	66.50-61.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T44	61.50-56.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T45	56.50-51.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T46	51.50-46.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T47	46.50-41.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T48	41.50-36.50	5.00	Diag Up	No	Yes	0.0000	0.0000
T49	36.50-31.50	5.00	Diag Down	No	Yes	0.0000	0.0000
T50	31.50-6.50	5.00	K Brace Left	No	Yes	0.0000	0.0000
T51	6.50-0.00	6.50	X Brace	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 314.50-310.50	Solid Round	2 1/2	A572-50 (50 ksi)	Double Equal Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T2 310.50-306.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T3 306.50-281.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T4 281.50-276.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T5 276.50-271.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T6 271.50-266.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T7 266.50-261.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T8 261.50-256.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T9 256.50-251.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-Pipe1-1/2SCH80	A500-42 (42 ksi)
T10 251.50-246.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-Pipe1-1/2SCH80	A500-42 (42 ksi)
T11 246.50-241.50	Solid Round	2 1/2	A572-50 (50 ksi)	Double Equal Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T12 241.50-236.50	Solid Round	2 1/2	A572-50 (50 ksi)	Double Equal Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T13 236.50-231.50	Solid Round	2 1/2	A572-50 (50 ksi)	Double Equal Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T14 231.50-226.50	Solid Round	2 1/2	A572-50 (50 ksi)	Double Equal Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T15 226.50-221.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T16 221.50-216.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T17 216.50-211.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T18 211.50-206.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T19 206.50-201.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T20 201.50-196.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T21 196.50-191.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T22 191.50-186.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T23 186.50-181.50	Solid Round	2 1/2	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T24 181.50-176.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T25 176.50-171.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T26 171.50-166.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T27 166.50-161.50	Solid Round	2 1/4	A572-50 (50 ksi)	Double Equal Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T28 161.50-156.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T29 156.50-151.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T30 151.50-146.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T31	Solid Round	2 1/4	A572-50	Pipe	VSi-HSS1.5X0.125	A500-42

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
146.50-141.50			(50 ksi)			(42 ksi)
T32 141.50-136.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T33 136.50-131.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T34 131.50-106.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T35 106.50-101.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T36 101.50-96.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T37 96.50-91.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T38 91.50-86.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T39 86.50-81.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T40 81.50-76.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T41 76.50-71.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T42 71.50-66.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T43 66.50-61.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T44 61.50-56.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T45 56.50-51.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T46 51.50-46.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T47 46.50-41.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T48 41.50-36.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T49 36.50-31.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T50 31.50-6.50	Solid Round	2 1/4	A572-50 (50 ksi)	Pipe	VSi-PIPE1-1/2SCH40	A500-42 (42 ksi)
T51 6.50-0.00	Wide Flange	W8x40	A36 (36 ksi)	Tube		A500-42 (42 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 314.50-310.50	Equal Angle	L2x2x1/4	A36 (36 ksi)	Tube		A500-42 (42 ksi)
T51 6.50-0.00	Wide Flange	W16x50	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 314.50-310.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T2 310.50-306.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T3 306.50-281.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T4 281.50-276.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T5 276.50-271.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T6 271.50-266.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T7 266.50-261.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T8 261.50-256.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T9 256.50-251.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T10 251.50-246.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T11 246.50-241.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T12 241.50-236.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T13 236.50-231.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T14 231.50-226.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T15 226.50-221.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T16 221.50-216.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T17 216.50-211.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T18 211.50-206.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T19 206.50-201.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T20 201.50-196.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T21 196.50-191.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T22 191.50-186.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T23 186.50-181.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T24 181.50-176.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T25 176.50-171.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T26 171.50-166.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T27 166.50-161.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T28 161.50-156.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T29	None	Flat Bar		A36	Pipe	VSi-HSS1.5X0.125	A500-42

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
156.50-151.50				(36 ksi)			(42 ksi)
T30 151.50-146.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T31 146.50-141.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T32 141.50-136.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T33 136.50-131.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T34 131.50-106.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T35 106.50-101.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T36 101.50-96.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T37 96.50-91.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T38 91.50-86.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T39 86.50-81.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T40 81.50-76.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T41 76.50-71.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T42 71.50-66.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T43 66.50-61.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T44 61.50-56.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T45 56.50-51.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T46 51.50-46.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T47 46.50-41.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T48 41.50-36.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T49 36.50-31.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)
T50 31.50-6.50	None	Flat Bar		A36 (36 ksi)	Pipe	VSi-HSS1.5X0.125	A500-42 (42 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T4 281.50-276.50	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T5 276.50-271.50	Solid Round	1	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T11	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
246.50-241.50			(36 ksi)			(50 ksi)
T12	Double Angle	VSi-2L2-1/2X2X1/4X3/8	A36	Solid Round		A572-50
241.50-236.50			(36 ksi)			(50 ksi)
T13	Double Angle	VSi-2L2-1/2X2X1/4X3/8	A36	Solid Round		A572-50
236.50-231.50			(36 ksi)			(50 ksi)
T14	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
231.50-226.50			(36 ksi)			(50 ksi)
T15	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
226.50-221.50			(36 ksi)			(50 ksi)
T16	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
221.50-216.50			(36 ksi)			(50 ksi)
T17	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
216.50-211.50			(36 ksi)			(50 ksi)
T18	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
211.50-206.50			(36 ksi)			(50 ksi)
T19	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
206.50-201.50			(36 ksi)			(50 ksi)
T20	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
201.50-196.50			(36 ksi)			(50 ksi)
T21	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
196.50-191.50			(36 ksi)			(50 ksi)
T22	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
191.50-186.50			(36 ksi)			(50 ksi)
T23	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
186.50-181.50			(36 ksi)			(50 ksi)
T29	Solid Round	1	A36	Solid Round		A572-50
156.50-151.50			(36 ksi)			(50 ksi)
T30	Solid Round	1	A36	Solid Round		A572-50
151.50-146.50			(36 ksi)			(50 ksi)
T36 101.50-96.50	Solid Round	1	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T41 76.50-71.50	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T42 71.50-66.50	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T43 66.50-61.50	Single Angle	VSi-L2-1/2X2X1/4	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T44 61.50-56.50	Solid Round	1	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T45 56.50-51.50	Solid Round	1	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T46 51.50-46.50	Solid Round	1	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T47 46.50-41.50	Solid Round	1	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T48 41.50-36.50	Solid Round	1	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)
T49 36.50-31.50	Solid Round	1	A36	Solid Round		A572-50
			(36 ksi)			(50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
314.50-310.50			(36 ksi)						
T2	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
310.50-306.50			(36 ksi)						
T3	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
306.50-281.50			(36 ksi)						
T4	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
281.50-276.50			(36 ksi)						
T5	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
276.50-271.50			(36 ksi)						
T6	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
271.50-266.50			(36 ksi)						
T7	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
266.50-261.50			(36 ksi)						
T8	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
261.50-256.50			(36 ksi)						
T9	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
256.50-251.50			(36 ksi)						
T10	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
251.50-246.50			(36 ksi)						
T11	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
246.50-241.50			(36 ksi)						
T12	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
241.50-236.50			(36 ksi)						
T13	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
236.50-231.50			(36 ksi)						
T14	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
231.50-226.50			(36 ksi)						
T15	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
226.50-221.50			(36 ksi)						
T16	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
221.50-216.50			(36 ksi)						
T17	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
216.50-211.50			(36 ksi)						
T18	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
211.50-206.50			(36 ksi)						
T19	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
206.50-201.50			(36 ksi)						
T20	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
201.50-196.50			(36 ksi)						
T21	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
196.50-191.50			(36 ksi)						
T22	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
191.50-186.50			(36 ksi)						
T23	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
186.50-181.50			(36 ksi)						
T24	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
181.50-176.50			(36 ksi)						
T25	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
176.50-171.50			(36 ksi)						
T26	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
171.50-166.50			(36 ksi)						
T27	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
166.50-161.50			(36 ksi)						
T28	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
161.50-156.50			(36 ksi)						
T29	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
156.50-151.50			(36 ksi)						
T30	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
151.50-146.50			(36 ksi)						
T31	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
146.50-141.50			(36 ksi)						
T32	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
141.50-136.50			(36 ksi)						
T33	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
136.50-131.50			(36 ksi)						
T34	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
131.50-106.50			(36 ksi)						
T35	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
106.50-101.50			(36 ksi)						
T36	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
101.50-96.50			(36 ksi)						
T37	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
96.50-91.50			(36 ksi)						
T38	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
91.50-86.50			(36 ksi)						
T39	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
86.50-81.50			(36 ksi)						
T40	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
81.50-76.50			(36 ksi)						
T41	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
76.50-71.50			(36 ksi)						
T42	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
71.50-66.50			(36 ksi)						
T43	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
66.50-61.50			(36 ksi)						
T44	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
61.50-56.50			(36 ksi)						
T45	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
56.50-51.50			(36 ksi)						
T46	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
51.50-46.50			(36 ksi)						
T47	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
46.50-41.50			(36 ksi)						
T48	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
41.50-36.50			(36 ksi)						
T49	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
36.50-31.50			(36 ksi)						
T50 31.50-6.50	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
			(36 ksi)						
T51 6.50-0.00	0.00	0.0000	A36	1	1	1	36.0000	36.0000	36.0000
			(36 ksi)						

Tower Section Geometry *(cont'd)*

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	K Brace Diags X	Single Diags X	Girts X	Horiz. X	Sec. Horiz. X	Inner Brace X
ft				Y	Y	Y	Y	Y	Y	Y
T1	No	No	1	1	1	1	1	1	1	1
314.50-310.50				1	1	1	1	1	1	1
T2	No	No	1	1	1	1	1	1	1	1

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	K Brace Diags X	Single Diags X	Girts X	Horiz. X	Sec. Horiz. X	Inner Brace X
ft				Y	Y	Y	Y	Y	Y	Y
310.50-306.50				1	1	1	1	1	1	1
T3	No	No	1	1	1	1	1	1	1	1
306.50-281.50				1	1	1	1	1	1	1
T4	No	No	1	1	1	1	1	1	1	1
281.50-276.50				1	1	1	1	1	1	1
T5	No	No	1	1	1	1	1	1	1	1
276.50-271.50				1	1	1	1	1	1	1
T6	No	No	1	1	1	1	1	1	1	1
271.50-266.50				1	1	1	1	1	1	1
T7	No	No	1	1	1	1	1	1	1	1
266.50-261.50				1	1	1	1	1	1	1
T8	No	No	1	1	1	1	1	1	1	1
261.50-256.50				1	1	1	1	1	1	1
T9	No	No	1	1	1	1	1	1	1	1
256.50-251.50				1	1	1	1	1	1	1
T10	No	No	1	1	1	1	1	1	1	1
251.50-246.50				1	1	1	1	1	1	1
T11	No	No	1	1	1	1	1	1	1	1
246.50-241.50				1	1	1	1	1	1	1
T12	No	No	1	1	1	1	1	1	1	1
241.50-236.50				1	1	1	1	1	1	1
T13	No	No	1	1	1	1	1	1	1	1
236.50-231.50				1	1	1	1	1	1	1
T14	No	No	1	1	1	1	1	1	1	1
231.50-226.50				1	1	1	1	1	1	1
T15	No	No	1	1	1	1	1	1	1	1
226.50-221.50				1	1	1	1	1	1	1
T16	No	No	1	1	1	1	1	1	1	1
221.50-216.50				1	1	1	1	1	1	1
T17	No	No	1	1	1	1	1	1	1	1
216.50-211.50				1	1	1	1	1	1	1
T18	No	No	1	1	1	1	1	1	1	1
211.50-206.50				1	1	1	1	1	1	1
T19	No	No	1	1	1	1	1	1	1	1
206.50-201.50				1	1	1	1	1	1	1
T20	No	No	1	1	1	1	1	1	1	1
201.50-196.50				1	1	1	1	1	1	1
T21	No	No	1	1	1	1	1	1	1	1
196.50-191.50				1	1	1	1	1	1	1
T22	No	No	1	1	1	1	1	1	1	1
191.50-186.50				1	1	1	1	1	1	1
T23	No	No	1	1	1	1	1	1	1	1
186.50-181.50				1	1	1	1	1	1	1
T24	No	No	1	1	1	1	1	1	1	1
181.50-176.50				1	1	1	1	1	1	1
T25	No	No	1	1	1	1	1	1	1	1
176.50-171.50				1	1	1	1	1	1	1
T26	No	No	1	1	1	1	1	1	1	1
171.50-166.50				1	1	1	1	1	1	1
T27	No	No	1	1	1	1	1	1	1	1
166.50-161.50				1	1	1	1	1	1	1
T28	No	No	1	1	1	1	1	1	1	1
161.50-156.50				1	1	1	1	1	1	1
T29	No	No	1	1	1	1	1	1	1	1
156.50-151.50				1	1	1	1	1	1	1
T30	No	No	1	1	1	1	1	1	1	1
151.50-146.50				1	1	1	1	1	1	1
T31	No	No	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
146.50-141.50				1	1	1	1	1	1	1
T32	No	No	1	1	1	1	1	1	1	1
141.50-136.50				1	1	1	1	1	1	1
T33	No	No	1	1	1	1	1	1	1	1
136.50-131.50				1	1	1	1	1	1	1
T34	No	No	1	1	1	1	1	1	1	1
131.50-106.50				1	1	1	1	1	1	1
T35	No	No	1	1	1	1	1	1	1	1
106.50-101.50				1	1	1	1	1	1	1
T36	No	No	1	1	1	1	1	1	1	1
101.50-96.50				1	1	1	1	1	1	1
T37	No	No	1	1	1	1	1	1	1	1
96.50-91.50				1	1	1	1	1	1	1
T38	No	No	1	1	1	1	1	1	1	1
91.50-86.50				1	1	1	1	1	1	1
T39	No	No	1	1	1	1	1	1	1	1
86.50-81.50				1	1	1	1	1	1	1
T40	No	No	1	1	1	1	1	1	1	1
81.50-76.50				1	1	1	1	1	1	1
T41	No	No	1	1	1	0.5	1	1	1	1
76.50-71.50				1	1	0.5	1	1	1	1
T42	No	No	1	1	1	0.5	1	1	1	1
71.50-66.50				1	1	0.5	1	1	1	1
T43	No	No	1	1	1	0.5	1	1	1	1
66.50-61.50				1	1	0.5	1	1	1	1
T44	No	No	1	1	1	1	1	1	1	1
61.50-56.50				1	1	1	1	1	1	1
T45	No	No	1	1	1	1	1	1	1	1
56.50-51.50				1	1	1	1	1	1	1
T46	No	No	1	1	1	1	1	1	1	1
51.50-46.50				1	1	1	1	1	1	1
T47	No	No	1	1	1	1	1	1	1	1
46.50-41.50				1	1	1	1	1	1	1
T48	No	No	1	1	1	1	1	1	1	1
41.50-36.50				1	1	1	1	1	1	1
T49	No	No	1	1	1	1	1	1	1	1
36.50-31.50				1	1	1	1	1	1	1
T50	No	No	1	1	1	1	1	1	1	1
31.50-6.50				1	1	1	1	1	1	1
T51 6.50-0.00	No	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
314.50-310.50														
T2	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
310.50-306.50														
T3	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
306.50-281.50														
T4	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
281.50-276.50														
T5	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
276.50-271.50														
T6	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
271.50-266.50														
T7	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
266.50-261.50														
T8	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
261.50-256.50														
T9	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
256.50-251.50														
T10	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
251.50-246.50														
T11	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
246.50-241.50														
T12	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
241.50-236.50														
T13	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
236.50-231.50														
T14	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
231.50-226.50														
T15	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
226.50-221.50														
T16	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
221.50-216.50														
T17	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
216.50-211.50														
T18	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
211.50-206.50														
T19	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
206.50-201.50														
T20	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
201.50-196.50														
T21	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
196.50-191.50														
T22	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
191.50-186.50														
T23	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
186.50-181.50														
T24	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
181.50-176.50														
T25	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
176.50-171.50														
T26	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
171.50-166.50														
T27	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
166.50-161.50														
T28	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
161.50-156.50														

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T29	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
156.50-151.50														
T30	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
151.50-146.50														
T31	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
146.50-141.50														
T32	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
141.50-136.50														
T33	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
136.50-131.50														
T34	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
131.50-106.50														
T35	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
106.50-101.50														
T36	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
101.50-96.50														
T37	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
96.50-91.50														
T38	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
91.50-86.50														
T39	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
86.50-81.50														
T40	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
81.50-76.50														
T41	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
76.50-71.50														
T42	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
71.50-66.50														
T43	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
66.50-61.50														
T44	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
61.50-56.50														
T45	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
56.50-51.50														
T46	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
51.50-46.50														
T47	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
46.50-41.50														
T48	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
41.50-36.50														
T49	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
36.50-31.50														
T50 31.50-6.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T51 6.50-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
314.50-310.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T2	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
310.50-306.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T3	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	1
306.50-281.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
281.50-276.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
276.50-271.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
271.50-266.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
266.50-261.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
261.50-256.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T9	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
256.50-251.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T10	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
251.50-246.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T11	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
246.50-241.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T12	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
241.50-236.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T13	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	1
236.50-231.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T14	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
231.50-226.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T15	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
226.50-221.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T16	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
221.50-216.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T17	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
216.50-211.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T18	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	1
211.50-206.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T19	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
206.50-201.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T20	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
201.50-196.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T21	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
196.50-191.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T22	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
191.50-186.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T23	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
186.50-181.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T24	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
181.50-176.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T25	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
176.50-171.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T26	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
171.50-166.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T27	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
166.50-161.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T28	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	1
161.50-156.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T29	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
156.50-151.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T30	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
151.50-146.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T31	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
146.50-141.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T32	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
141.50-136.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T33	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
136.50-131.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T34	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
131.50-106.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T35	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
106.50-101.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T36	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
101.50-96.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T37	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
96.50-91.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T38	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
91.50-86.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T39	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
86.50-81.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T40	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
81.50-76.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T41	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
76.50-71.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T42	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	0
71.50-66.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T43	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
66.50-61.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T44	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	1
61.50-56.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T45	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
56.50-51.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T46	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
51.50-46.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T47	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
46.50-41.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T48	Flange	0.5000	0	0.6250	1	0.6250	0	0.0000	0	0.6250	0	0.6250	1	0.5000	1
41.50-36.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T49	Flange	0.5000	3	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
36.50-31.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T50 31.50-6.50	Flange	0.5000	4	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	1	0.5000	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T51 6.50-0.00	Flange	0.5000	0	0.5000	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.5000	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Guy Data

Guy Elevation ft	Guy Grade	Guy Size	Initial Tension lb	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
306.5	EHS	A 11/16	5000.00	10%	24200	0.994	348.93	169.00	0.0000	0.00	100%
		B 11/16	5000.00	10%	24200	0.994	349.41	170.00	0.0000	0.00	100%
		C 11/16	5000.00	10%	24200	0.994	349.41	170.00	0.0000	0.00	100%

246.5	EHS	A	7/8	7970.00	10%	19000	1.581	297.63	169.00	0.0000	0.00	100%
		B	7/8	7970.00	10%	19000	1.581	298.19	170.00	0.0000	0.00	100%
		C	7/8	7970.00	10%	19000	1.581	298.19	170.00	0.0000	0.00	100%
186.5	EHS	A	9/16	3500.00	10%	21000	0.671	250.31	169.00	0.0000	0.00	100%
		B	9/16	3500.00	10%	21000	0.671	250.98	170.00	0.0000	0.00	100%
		C	9/16	3500.00	10%	21000	0.671	250.98	170.00	0.0000	0.00	100%
126.5	EHS	A	5/8	4240.00	10%	21000	0.813	147.84	78.50	0.0000	0.00	100%
		B	5/8	4240.00	10%	21000	0.813	146.06	75.00	0.0000	0.00	100%
		C	5/8	4240.00	10%	21000	0.813	147.59	78.00	0.0000	0.00	100%
61.5	EHS	A	11/16	5000.00	10%	24200	0.994	98.29	78.50	0.0000	0.00	100%
		B	11/16	5000.00	10%	24200	0.994	95.59	75.00	0.0000	0.00	100%
		C	11/16	5000.00	10%	24200	0.994	97.90	78.00	0.0000	0.00	100%

Guy Data*(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
306.5	Corner						
246.5	Corner						
186.5	Corner						
126.5	Corner						
61.5	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
306.50	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
246.50	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
186.50	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
126.50	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
61.50	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A lb	Cable Weight B lb	Cable Weight C lb	Cable Weight D lb	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
306.5	346.83	347.31	347.31		11.75 5.9 sec/pulse	11.79 5.9 sec/pulse	11.79 5.9 sec/pulse	
246.5	470.55	471.44	471.44		8.59	8.62	8.62	

Guy Elevation ft	Cable Weight A lb	Cable Weight B lb	Cable Weight C lb	Cable Weight D lb	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
					5.1 sec/pulse	5.1 sec/pulse	5.1 sec/pulse	
186.5	167.96	168.41	168.41		5.91	5.94	5.94	
					4.2 sec/pulse	4.2 sec/pulse	4.2 sec/pulse	
126.5	120.20	118.75	119.99		2.07	2.02	2.07	
					2.5 sec/pulse	2.5 sec/pulse	2.5 sec/pulse	
61.5	97.70	95.02	97.32		0.96	0.90	0.95	
					1.7 sec/pulse	1.6 sec/pulse	1.7 sec/pulse	

Guy Data *(cont'd)*

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
306.5	No	No			1	1	1	1
246.5	No	No			1	1	1	1
186.5	No	No			1	1	1	1
126.5	No	No			1	1	1	1
61.5	No	No			1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
306.5	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
246.5	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
186.5	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
126.5	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
61.5	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
306.5	A	153.25	21	6	1.7490
	B	153.25	21	6	1.7490
	C	153.25	21	6	1.7490
246.5	A	123.25	19	6	1.7113
	B	123.25	19	6	1.7113
	C	123.25	19	6	1.7113

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
186.5	A	93.25	18	5	1.6642
	B	93.25	18	5	1.6642
	C	93.25	18	5	1.6642
126.5	A	63.25	16	5	1.6008
	B	63.25	16	5	1.6008
	C	63.25	16	5	1.6008
61.5	A	30.75	13	4	1.4894
	B	30.75	13	4	1.4894
	C	30.75	13	4	1.4894

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
1-5/8"	A	Ar (CaAa)	314.50 - 0.00	1	1	0.000 0.000	1.9800		0.82
1-5/8"	A	Surface Ar (CaAa)	325.00 - 314.50	1	1	0.000 0.000	1.9800		0.82
***									
7/16" Power	C	Ar (CaAa)	303.00 - 0.00	1	1	0.000 0.000	0.4375		0.05
***									
3/8"	B	Ar (CaAa)	287.00 - 0.00	1	1	0.000 0.000	0.4400		0.08
7/8"	C	Ar (CaAa)	287.00 - 0.00	1	1	0.000 0.000	1.0900		0.33
***									
7/8"	C	Ar (CaAa)	288.00 - 0.00	1	1	0.000 0.000	1.0900		0.33
***									
1-5/8"	B	Ar (CaAa)	273.00 - 0.00	1	1	0.000 0.000	1.9800		0.82
***									
1-5/8"	B	Ar (CaAa)	260.00 - 0.00	1	1	0.000 0.000	1.9800		0.82
***									
7/8"	C	Ar (CaAa)	239.00 - 0.00	1	1	0.000 0.000	1.0900		0.33
***									
7/8"	C	Ar (CaAa)	237.00 - 0.00	1	1	0.000 0.000	1.0900		0.33
***									
1" Conduit (Lighting)	A	Ar (CaAa)	223.00 - 0.00	1	1	0.000 0.000	1.0000		1.13
***									
7/16" Power	C	Ar (CaAa)	183.00 - 0.00	1	1	0.000 0.000	0.4375		0.05
***									
7/16" Power	C	Ar (CaAa)	169.00 - 0.00	1	1	0.000 0.000	0.4375		0.05
***									
1/4" fiber	C	Ar (CaAa)	145.50 - 0.00	1	1	0.000 0.000	0.3450		0.06
***									
7/8"	C	Ar (CaAa)	141.00 - 0.00	1	1	0.000 0.000	1.0900		0.33
***									

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
1" Conduit (Lighting)	A	Ar (CaAa)	135.00 - 0.00	1	1	0.000 0.000	1.0000		1.13
***									
1-1/4"	C	Ar (CaAa)	101.00 - 0.00	2	2	0.000 0.000	1.5500		0.66
***									
7/8"	B	Ar (CaAa)	80.00 - 0.00	3	2	0.000 0.000	1.0900		0.33
7/8"	B	Ar (CaAa)	80.00 - 0.00	3	2	0.000 0.000	1.0900		0.33
7/8"	C	Ar (CaAa)	80.00 - 0.00	3	2	0.000 0.000	1.0900		0.33
10 mm	B	Ar (CaAa)	80.00 - 0.00	1	1	0.000 0.000	0.3937		0.01
0.795"	B	Ar (CaAa)	80.00 - 0.00	2	2	0.000 0.000	0.7950		0.33
7/8"	B	Ar (CaAa)	80.00 - 0.00	3	2	0.000 0.000	1.0900		0.33
***									
7/16" Power	B	Ar (CaAa)	33.00 - 0.00	1	1	0.000 0.000	0.4375		0.05
***									
7/16" Power	B	Ar (CaAa)	8.50 - 0.00	1	1	0.000 0.000	0.4375		0.05
***									

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C_AA_A ft^2/ft	Weight plf
***							

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	341.50-314.50	A	0.000	0.000	2.079	0.000	8.61
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T1	314.50-310.50	A	0.000	0.000	0.792	0.000	3.28
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	310.50-306.50	A	0.000	0.000	0.792	0.000	3.28
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T3	306.50-281.50	A	0.000	0.000	4.950	0.000	20.50
		B	0.000	0.000	0.242	0.000	0.44
		C	0.000	0.000	2.249	0.000	5.04
T4	281.50-276.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	0.220	0.000	0.40
		C	0.000	0.000	1.309	0.000	3.55
T5	276.50-271.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	0.517	0.000	1.63

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		C	0.000	0.000	1.309	0.000	3.55
T6	271.50-266.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	1.210	0.000	4.50
		C	0.000	0.000	1.309	0.000	3.55
T7	266.50-261.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	1.210	0.000	4.50
		C	0.000	0.000	1.309	0.000	3.55
T8	261.50-256.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	1.903	0.000	7.37
		C	0.000	0.000	1.309	0.000	3.55
T9	256.50-251.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	1.309	0.000	3.55
T10	251.50-246.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	1.309	0.000	3.55
T11	246.50-241.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	1.309	0.000	3.55
T12	241.50-236.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	1.636	0.000	4.54
T13	236.50-231.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T14	231.50-226.50	A	0.000	0.000	0.990	0.000	4.10
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T15	226.50-221.50	A	0.000	0.000	1.140	0.000	5.79
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T16	221.50-216.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T17	216.50-211.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T18	211.50-206.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T19	206.50-201.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T20	201.50-196.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T21	196.50-191.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T22	191.50-186.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.399	0.000	6.85
T23	186.50-181.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.464	0.000	6.92
T24	181.50-176.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.618	0.000	7.10
T25	176.50-171.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.618	0.000	7.10

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T26	171.50-166.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.727	0.000	7.22
T27	166.50-161.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.836	0.000	7.35
T28	161.50-156.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.836	0.000	7.35
T29	156.50-151.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.836	0.000	7.35
T30	151.50-146.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.836	0.000	7.35
T31	146.50-141.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	2.974	0.000	7.59
T32	141.50-136.50	A	0.000	0.000	1.490	0.000	9.75
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	3.499	0.000	9.13
T33	136.50-131.50	A	0.000	0.000	1.840	0.000	13.71
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	3.554	0.000	9.30
T34	131.50-106.50	A	0.000	0.000	9.950	0.000	77.00
		B	0.000	0.000	11.000	0.000	43.00
		C	0.000	0.000	17.769	0.000	46.50
T35	106.50-101.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	3.554	0.000	9.30
T36	101.50-96.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	4.949	0.000	15.24
T37	96.50-91.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	5.104	0.000	15.90
T38	91.50-86.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	5.104	0.000	15.90
T39	86.50-81.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	2.200	0.000	8.60
		C	0.000	0.000	5.104	0.000	15.90
T40	81.50-76.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	6.328	0.000	21.36
		C	0.000	0.000	6.248	0.000	19.36
T41	76.50-71.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T42	71.50-66.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T43	66.50-61.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T44	61.50-56.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T45	56.50-51.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T46	51.50-46.50	A	0.000	0.000	1.990	0.000	15.40

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T47	46.50-41.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T48	41.50-36.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.097	0.000	26.82
		C	0.000	0.000	6.739	0.000	20.85
T49	36.50-31.50	A	0.000	0.000	1.990	0.000	15.40
		B	0.000	0.000	8.162	0.000	26.90
		C	0.000	0.000	6.739	0.000	20.85
T50	31.50-6.50	A	0.000	0.000	9.950	0.000	77.00
		B	0.000	0.000	41.666	0.000	135.47
		C	0.000	0.000	33.694	0.000	104.25
T51	6.50-0.00	A	0.000	0.000	2.587	0.000	20.02
		B	0.000	0.000	11.095	0.000	35.52
		C	0.000	0.000	8.760	0.000	27.11

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	341.50-314.50	A	1.887	0.000	0.000	5.768	0.000	102.24
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T1	314.50-310.50	A	1.878	0.000	0.000	2.295	0.000	38.69
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T2	310.50-306.50	A	1.876	0.000	0.000	2.293	0.000	38.62
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T3	306.50-281.50	A	1.867	0.000	0.000	14.284	0.000	239.82
		B		0.000	0.000	2.295	0.000	29.37
		C		0.000	0.000	14.756	0.000	198.93
T4	281.50-276.50	A	1.857	0.000	0.000	2.847	0.000	47.62
		B		0.000	0.000	2.077	0.000	26.46
		C		0.000	0.000	6.880	0.000	96.43
T5	276.50-271.50	A	1.854	0.000	0.000	2.844	0.000	47.51
		B		0.000	0.000	2.927	0.000	40.62
		C		0.000	0.000	6.870	0.000	96.15
T6	271.50-266.50	A	1.850	0.000	0.000	2.840	0.000	47.39
		B		0.000	0.000	4.910	0.000	73.67
		C		0.000	0.000	6.859	0.000	95.87
T7	266.50-261.50	A	1.847	0.000	0.000	2.837	0.000	47.27
		B		0.000	0.000	4.903	0.000	73.47
		C		0.000	0.000	6.849	0.000	95.58
T8	261.50-256.50	A	1.843	0.000	0.000	2.833	0.000	47.15
		B		0.000	0.000	6.880	0.000	106.26
		C		0.000	0.000	6.838	0.000	95.28
T9	256.50-251.50	A	1.840	0.000	0.000	2.830	0.000	47.02
		B		0.000	0.000	7.719	0.000	120.06
		C		0.000	0.000	6.828	0.000	94.98
T10	251.50-246.50	A	1.836	0.000	0.000	2.826	0.000	46.90
		B		0.000	0.000	7.708	0.000	119.72
		C		0.000	0.000	6.817	0.000	94.68
T11	246.50-241.50	A	1.832	0.000	0.000	2.822	0.000	46.77
		B		0.000	0.000	7.697	0.000	119.37

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		C		0.000	0.000	6.805	0.000	94.37
T12	241.50-236.50	A	1.828	0.000	0.000	2.818	0.000	46.64
		B		0.000	0.000	7.685	0.000	119.01
		C		0.000	0.000	8.218	0.000	114.60
T13	236.50-231.50	A	1.825	0.000	0.000	2.815	0.000	46.50
		B		0.000	0.000	7.674	0.000	118.65
		C		0.000	0.000	11.522	0.000	162.00
T14	231.50-226.50	A	1.821	0.000	0.000	2.811	0.000	46.37
		B		0.000	0.000	7.662	0.000	118.28
		C		0.000	0.000	11.502	0.000	161.45
T15	226.50-221.50	A	1.817	0.000	0.000	3.502	0.000	57.30
		B		0.000	0.000	7.650	0.000	117.91
		C		0.000	0.000	11.482	0.000	160.88
T16	221.50-216.50	A	1.813	0.000	0.000	5.115	0.000	82.88
		B		0.000	0.000	7.638	0.000	117.52
		C		0.000	0.000	11.461	0.000	160.31
T17	216.50-211.50	A	1.808	0.000	0.000	5.107	0.000	82.62
		B		0.000	0.000	7.625	0.000	117.13
		C		0.000	0.000	11.440	0.000	159.73
T18	211.50-206.50	A	1.804	0.000	0.000	5.098	0.000	82.35
		B		0.000	0.000	7.612	0.000	116.74
		C		0.000	0.000	11.419	0.000	159.13
T19	206.50-201.50	A	1.800	0.000	0.000	5.089	0.000	82.08
		B		0.000	0.000	7.599	0.000	116.33
		C		0.000	0.000	11.397	0.000	158.52
T20	201.50-196.50	A	1.795	0.000	0.000	5.081	0.000	81.81
		B		0.000	0.000	7.586	0.000	115.92
		C		0.000	0.000	11.375	0.000	157.90
T21	196.50-191.50	A	1.791	0.000	0.000	5.071	0.000	81.52
		B		0.000	0.000	7.572	0.000	115.49
		C		0.000	0.000	11.352	0.000	157.27
T22	191.50-186.50	A	1.786	0.000	0.000	5.062	0.000	81.23
		B		0.000	0.000	7.558	0.000	115.06
		C		0.000	0.000	11.329	0.000	156.62
T23	186.50-181.50	A	1.781	0.000	0.000	5.052	0.000	80.94
		B		0.000	0.000	7.544	0.000	114.62
		C		0.000	0.000	11.905	0.000	163.28
T24	181.50-176.50	A	1.776	0.000	0.000	5.043	0.000	80.64
		B		0.000	0.000	7.529	0.000	114.17
		C		0.000	0.000	13.276	0.000	179.56
T25	176.50-171.50	A	1.771	0.000	0.000	5.033	0.000	80.33
		B		0.000	0.000	7.514	0.000	113.71
		C		0.000	0.000	13.245	0.000	178.74
T26	171.50-166.50	A	1.766	0.000	0.000	5.022	0.000	80.01
		B		0.000	0.000	7.498	0.000	113.23
		C		0.000	0.000	14.207	0.000	189.92
T27	166.50-161.50	A	1.761	0.000	0.000	5.012	0.000	79.69
		B		0.000	0.000	7.483	0.000	112.75
		C		0.000	0.000	15.162	0.000	200.95
T28	161.50-156.50	A	1.755	0.000	0.000	5.001	0.000	79.35
		B		0.000	0.000	7.466	0.000	112.25
		C		0.000	0.000	15.124	0.000	199.94
T29	156.50-151.50	A	1.750	0.000	0.000	4.990	0.000	79.01
		B		0.000	0.000	7.449	0.000	111.74
		C		0.000	0.000	15.085	0.000	198.91
T30	151.50-146.50	A	1.744	0.000	0.000	4.978	0.000	78.66
		B		0.000	0.000	7.432	0.000	111.22
		C		0.000	0.000	15.045	0.000	197.85
T31	146.50-141.50	A	1.738	0.000	0.000	4.966	0.000	78.30
		B		0.000	0.000	7.414	0.000	110.68
		C		0.000	0.000	16.531	0.000	214.69

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T32	141.50-136.50	A	1.732	0.000	0.000	4.954	0.000	77.93
		B		0.000	0.000	7.396	0.000	110.13
		C		0.000	0.000	18.914	0.000	246.27
T33	136.50-131.50	A	1.726	0.000	0.000	6.499	0.000	101.61
		B		0.000	0.000	7.377	0.000	109.55
		C		0.000	0.000	19.085	0.000	247.94
T34	131.50-106.50	A	1.705	0.000	0.000	35.529	0.000	550.75
		B		0.000	0.000	36.579	0.000	538.63
		C		0.000	0.000	94.506	0.000	1216.06
T35	106.50-101.50	A	1.682	0.000	0.000	7.037	0.000	108.18
		B		0.000	0.000	7.247	0.000	105.70
		C		0.000	0.000	18.696	0.000	237.97
T36	101.50-96.50	A	1.674	0.000	0.000	7.013	0.000	107.47
		B		0.000	0.000	7.223	0.000	104.96
		C		0.000	0.000	23.897	0.000	294.97
T37	96.50-91.50	A	1.666	0.000	0.000	6.987	0.000	106.73
		B		0.000	0.000	7.197	0.000	104.20
		C		0.000	0.000	24.391	0.000	299.19
T38	91.50-86.50	A	1.656	0.000	0.000	6.959	0.000	105.96
		B		0.000	0.000	7.169	0.000	103.41
		C		0.000	0.000	24.293	0.000	296.76
T39	86.50-81.50	A	1.647	0.000	0.000	6.931	0.000	105.15
		B		0.000	0.000	7.141	0.000	102.57
		C		0.000	0.000	24.191	0.000	294.21
T40	81.50-76.50	A	1.637	0.000	0.000	6.900	0.000	104.29
		B		0.000	0.000	22.494	0.000	256.01
		C		0.000	0.000	27.767	0.000	329.06
T41	76.50-71.50	A	1.626	0.000	0.000	6.868	0.000	103.40
		B		0.000	0.000	28.969	0.000	319.45
		C		0.000	0.000	29.212	0.000	341.93
T42	71.50-66.50	A	1.615	0.000	0.000	6.834	0.000	102.45
		B		0.000	0.000	28.844	0.000	316.61
		C		0.000	0.000	29.071	0.000	338.53
T43	66.50-61.50	A	1.603	0.000	0.000	6.798	0.000	101.44
		B		0.000	0.000	28.710	0.000	313.59
		C		0.000	0.000	28.919	0.000	334.92
T44	61.50-56.50	A	1.590	0.000	0.000	6.759	0.000	100.36
		B		0.000	0.000	28.567	0.000	310.36
		C		0.000	0.000	28.757	0.000	331.06
T45	56.50-51.50	A	1.576	0.000	0.000	6.717	0.000	99.21
		B		0.000	0.000	28.412	0.000	306.90
		C		0.000	0.000	28.582	0.000	326.93
T46	51.50-46.50	A	1.560	0.000	0.000	6.671	0.000	97.96
		B		0.000	0.000	28.244	0.000	303.16
		C		0.000	0.000	28.392	0.000	322.46
T47	46.50-41.50	A	1.544	0.000	0.000	6.621	0.000	96.61
		B		0.000	0.000	28.059	0.000	299.08
		C		0.000	0.000	28.184	0.000	317.60
T48	41.50-36.50	A	1.525	0.000	0.000	6.566	0.000	95.12
		B		0.000	0.000	27.855	0.000	294.59
		C		0.000	0.000	27.953	0.000	312.26
T49	36.50-31.50	A	1.504	0.000	0.000	6.503	0.000	93.46
		B		0.000	0.000	28.142	0.000	295.02
		C		0.000	0.000	27.693	0.000	306.32
T50	31.50-6.50	A	1.419	0.000	0.000	31.242	0.000	434.16
		B		0.000	0.000	142.276	0.000	1436.08
		C		0.000	0.000	133.159	0.000	1413.01
T51	6.50-0.00	A	1.190	0.000	0.000	7.227	0.000	91.34
		B		0.000	0.000	35.056	0.000	316.00
		C		0.000	0.000	30.896	0.000	290.39

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	341.50-314.50	-0.6957	-0.4017	-0.6749	-0.3897
T1	314.50-310.50	-0.0677	-1.6815	-0.0747	-1.8529
T2	310.50-306.50	-0.0939	-2.3302	-0.0861	-2.1376
T3	306.50-281.50	0.1341	-1.7607	-0.2090	-1.0358
T4	281.50-276.50	1.6033	-0.6789	1.7313	0.2286
T5	276.50-271.50	1.6171	-1.1735	1.7407	-0.1636
T6	271.50-266.50	1.6611	-2.2502	2.0276	-1.1765
T7	266.50-261.50	1.6611	-2.2502	2.0287	-1.1778
T8	261.50-256.50	1.6260	-3.3012	1.9806	-2.1613
T9	256.50-251.50	1.6122	-3.7163	1.9620	-2.5552
T10	251.50-246.50	1.6122	-3.7163	1.9630	-2.5576
T11	246.50-241.50	1.2435	-2.8664	1.5170	-1.9772
T12	241.50-236.50	0.9480	-2.5964	1.1115	-1.6381
T13	236.50-231.50	0.3239	-2.0055	0.2711	-0.9085
T14	231.50-226.50	0.3239	-2.0055	0.2715	-0.9102
T15	226.50-221.50	0.2822	-2.2702	0.1806	-1.0303
T16	221.50-216.50	0.1128	-2.4049	-0.0394	-1.2444
T17	216.50-211.50	0.1128	-2.4049	-0.0393	-1.2464
T18	211.50-206.50	0.1128	-2.4049	-0.0392	-1.2485
T19	206.50-201.50	0.1128	-2.4049	-0.0392	-1.2507
T20	201.50-196.50	0.1128	-2.4049	-0.0391	-1.2529
T21	196.50-191.50	0.1128	-2.4049	-0.0390	-1.2551
T22	191.50-186.50	0.1128	-2.4049	-0.0390	-1.2574
T23	186.50-181.50	0.0447	-2.3528	-0.2169	-1.1346
T24	181.50-176.50	-0.1359	-2.7096	-0.7732	-1.0687
T25	176.50-171.50	-0.1322	-2.6362	-0.7573	-1.0487
T26	171.50-166.50	-0.0199	-2.5338	-0.4451	-0.8106
T27	166.50-161.50	0.0807	-2.1632	-0.1416	-0.5669
T28	161.50-156.50	0.0931	-2.4978	-0.1480	-0.5950
T29	156.50-151.50	0.0901	-2.4152	-0.1319	-0.5328
T30	151.50-146.50	0.0901	-2.4152	-0.1319	-0.5351
T31	146.50-141.50	-0.0849	-2.3692	-0.7033	-0.2542
T32	141.50-136.50	0.4459	-1.8900	-0.1285	0.2702
T33	136.50-131.50	0.1483	-1.7076	-0.4873	0.4209
T34	131.50-106.50	-0.0004	-1.6518	-0.6650	0.4582
T35	106.50-101.50	-0.0004	-1.6518	-0.6641	0.4512
T36	101.50-96.50	-0.1483	-0.5521	-0.6100	0.6923
T37	96.50-91.50	-0.1679	-0.4588	-0.6665	0.7866
T38	91.50-86.50	-0.1679	-0.4588	-0.6663	0.7856
T39	86.50-81.50	-0.1679	-0.4588	-0.6660	0.7846
T40	81.50-76.50	1.1426	-0.7053	0.0494	0.5049
T41	76.50-71.50	1.4064	-0.7178	0.2450	0.3810
T42	71.50-66.50	1.4241	-0.7269	0.2511	0.3848
T43	66.50-61.50	1.4241	-0.7269	0.2539	0.3831
T44	61.50-56.50	1.5244	-0.7781	0.2657	0.3942
T45	56.50-51.50	1.5244	-0.7781	0.2692	0.3921
T46	51.50-46.50	1.5244	-0.7781	0.2730	0.3898
T47	46.50-41.50	1.5023	-0.7668	0.2738	0.3825
T48	41.50-36.50	1.5023	-0.7668	0.2785	0.3796
T49	36.50-31.50	1.5060	-0.8073	0.3009	0.2677
T50	31.50-6.50	1.5435	-0.9292	0.3854	-0.0230
T51	6.50-0.00	0.6883	-0.4706	0.3014	-0.2449

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	2	1-5/8"	314.50 - 325.00	1.0000	1.0000
T1	1	1-5/8"	310.50 - 314.50	0.6000	0.4504
T2	1	1-5/8"	306.50 - 310.50	0.6000	0.4728
T3	1	1-5/8"	281.50 - 306.50	0.6000	0.5012
T3	4	7/16" Power	281.50 - 303.00	0.6000	0.5012
T3	6	3/8"	281.50 - 287.00	0.6000	0.5012
T3	7	7/8"	281.50 - 287.00	0.6000	0.5012
T3	9	7/8"	281.50 - 288.00	0.6000	0.5012
T4	1	1-5/8"	276.50 - 281.50	0.6000	0.4403
T4	4	7/16" Power	276.50 - 281.50	0.6000	0.4403
T4	6	3/8"	276.50 - 281.50	0.6000	0.4403
T4	7	7/8"	276.50 - 281.50	0.6000	0.4403
T4	9	7/8"	276.50 - 281.50	0.6000	0.4403
T5	1	1-5/8"	271.50 - 276.50	0.6000	0.4408
T5	4	7/16" Power	271.50 - 276.50	0.6000	0.4408
T5	6	3/8"	271.50 - 276.50	0.6000	0.4408
T5	7	7/8"	271.50 - 276.50	0.6000	0.4408
T5	9	7/8"	271.50 - 276.50	0.6000	0.4408
T5	11	1-5/8"	271.50 - 273.00	0.6000	0.4408
T6	1	1-5/8"	266.50 - 271.50	0.6000	0.4933
T6	4	7/16" Power	266.50 - 271.50	0.6000	0.4933
T6	6	3/8"	266.50 - 271.50	0.6000	0.4933
T6	7	7/8"	266.50 - 271.50	0.6000	0.4933
T6	9	7/8"	266.50 - 271.50	0.6000	0.4933
T6	11	1-5/8"	266.50 - 271.50	0.6000	0.4933
T7	1	1-5/8"	261.50 - 266.50	0.6000	0.4938
T7	4	7/16" Power	261.50 - 266.50	0.6000	0.4938
T7	6	3/8"	261.50 -	0.6000	0.4938

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			266.50		
T7	7	7/8"	261.50 - 266.50	0.6000	0.4938
T7	9	7/8"	261.50 - 266.50	0.6000	0.4938
T7	11	1-5/8"	261.50 - 266.50	0.6000	0.4938
T8	1	1-5/8"	256.50 - 261.50	0.6000	0.4944
T8	4	7/16" Power	256.50 - 261.50	0.6000	0.4944
T8	6	3/8"	256.50 - 261.50	0.6000	0.4944
T8	7	7/8"	256.50 - 261.50	0.6000	0.4944
T8	9	7/8"	256.50 - 261.50	0.6000	0.4944
T8	11	1-5/8"	256.50 - 261.50	0.6000	0.4944
T8	13	1-5/8"	256.50 - 260.00	0.6000	0.4944
T9	1	1-5/8"	251.50 - 256.50	0.6000	0.4949
T9	4	7/16" Power	251.50 - 256.50	0.6000	0.4949
T9	6	3/8"	251.50 - 256.50	0.6000	0.4949
T9	7	7/8"	251.50 - 256.50	0.6000	0.4949
T9	9	7/8"	251.50 - 256.50	0.6000	0.4949
T9	11	1-5/8"	251.50 - 256.50	0.6000	0.4949
T9	13	1-5/8"	251.50 - 256.50	0.6000	0.4949
T10	1	1-5/8"	246.50 - 251.50	0.6000	0.4954
T10	4	7/16" Power	246.50 - 251.50	0.6000	0.4954
T10	6	3/8"	246.50 - 251.50	0.6000	0.4954
T10	7	7/8"	246.50 - 251.50	0.6000	0.4954
T10	9	7/8"	246.50 - 251.50	0.6000	0.4954
T10	11	1-5/8"	246.50 - 251.50	0.6000	0.4954
T10	13	1-5/8"	246.50 - 251.50	0.6000	0.4954
T11	1	1-5/8"	241.50 - 246.50	0.6000	0.4118
T11	4	7/16" Power	241.50 - 246.50	0.6000	0.4118
T11	6	3/8"	241.50 - 246.50	0.6000	0.4118
T11	7	7/8"	241.50 - 246.50	0.6000	0.4118
T11	9	7/8"	241.50 - 246.50	0.6000	0.4118
T11	11	1-5/8"	241.50 - 246.50	0.6000	0.4118
T11	13	1-5/8"	241.50 -	0.6000	0.4118

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			246.50		
T12	1	1-5/8"	236.50 - 241.50	0.6000	0.4124
T12	4	7/16" Power	236.50 - 241.50	0.6000	0.4124
T12	6	3/8"	236.50 - 241.50	0.6000	0.4124
T12	7	7/8"	236.50 - 241.50	0.6000	0.4124
T12	9	7/8"	236.50 - 241.50	0.6000	0.4124
T12	11	1-5/8"	236.50 - 241.50	0.6000	0.4124
T12	13	1-5/8"	236.50 - 241.50	0.6000	0.4124
T12	15	7/8"	236.50 - 239.00	0.6000	0.4124
T12	17	7/8"	236.50 - 237.00	0.6000	0.4124
T13	1	1-5/8"	231.50 - 236.50	0.6000	0.4131
T13	4	7/16" Power	231.50 - 236.50	0.6000	0.4131
T13	6	3/8"	231.50 - 236.50	0.6000	0.4131
T13	7	7/8"	231.50 - 236.50	0.6000	0.4131
T13	9	7/8"	231.50 - 236.50	0.6000	0.4131
T13	11	1-5/8"	231.50 - 236.50	0.6000	0.4131
T13	13	1-5/8"	231.50 - 236.50	0.6000	0.4131
T13	15	7/8"	231.50 - 236.50	0.6000	0.4131
T13	17	7/8"	231.50 - 236.50	0.6000	0.4131
T14	1	1-5/8"	226.50 - 231.50	0.6000	0.4138
T14	4	7/16" Power	226.50 - 231.50	0.6000	0.4138
T14	6	3/8"	226.50 - 231.50	0.6000	0.4138
T14	7	7/8"	226.50 - 231.50	0.6000	0.4138
T14	9	7/8"	226.50 - 231.50	0.6000	0.4138
T14	11	1-5/8"	226.50 - 231.50	0.6000	0.4138
T14	13	1-5/8"	226.50 - 231.50	0.6000	0.4138
T14	15	7/8"	226.50 - 231.50	0.6000	0.4138
T14	17	7/8"	226.50 - 231.50	0.6000	0.4138
T15	1	1-5/8"	221.50 - 226.50	0.6000	0.4170
T15	4	7/16" Power	221.50 - 226.50	0.6000	0.4170
T15	6	3/8"	221.50 - 226.50	0.6000	0.4170
T15	7	7/8"	221.50 -	0.6000	0.4170

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T15	9	7/8"	226.50 221.50 - 226.50	0.6000	0.4170
T15	11	1-5/8"	221.50 - 226.50	0.6000	0.4170
T15	13	1-5/8"	221.50 - 226.50	0.6000	0.4170
T15	15	7/8"	221.50 - 226.50	0.6000	0.4170
T15	17	7/8"	221.50 - 226.50	0.6000	0.4170
T15	19	1" Conduit (Lighting)	221.50 - 223.00	0.6000	0.4170
T16	1	1-5/8"	216.50 - 221.50	0.6000	0.4178
T16	4	7/16" Power	216.50 - 221.50	0.6000	0.4178
T16	6	3/8"	216.50 - 221.50	0.6000	0.4178
T16	7	7/8"	216.50 - 221.50	0.6000	0.4178
T16	9	7/8"	216.50 - 221.50	0.6000	0.4178
T16	11	1-5/8"	216.50 - 221.50	0.6000	0.4178
T16	13	1-5/8"	216.50 - 221.50	0.6000	0.4178
T16	15	7/8"	216.50 - 221.50	0.6000	0.4178
T16	17	7/8"	216.50 - 221.50	0.6000	0.4178
T16	19	1" Conduit (Lighting)	216.50 - 221.50	0.6000	0.4178
T17	1	1-5/8"	211.50 - 216.50	0.6000	0.4185
T17	4	7/16" Power	211.50 - 216.50	0.6000	0.4185
T17	6	3/8"	211.50 - 216.50	0.6000	0.4185
T17	7	7/8"	211.50 - 216.50	0.6000	0.4185
T17	9	7/8"	211.50 - 216.50	0.6000	0.4185
T17	11	1-5/8"	211.50 - 216.50	0.6000	0.4185
T17	13	1-5/8"	211.50 - 216.50	0.6000	0.4185
T17	15	7/8"	211.50 - 216.50	0.6000	0.4185
T17	17	7/8"	211.50 - 216.50	0.6000	0.4185
T17	19	1" Conduit (Lighting)	211.50 - 216.50	0.6000	0.4185
T18	1	1-5/8"	206.50 - 211.50	0.6000	0.4192
T18	4	7/16" Power	206.50 - 211.50	0.6000	0.4192
T18	6	3/8"	206.50 - 211.50	0.6000	0.4192
T18	7	7/8"	206.50 - 211.50	0.6000	0.4192
T18	9	7/8"	206.50 -	0.6000	0.4192

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			211.50		
T18	11	1-5/8"	206.50 - 211.50	0.6000	0.4192
T18	13	1-5/8"	206.50 - 211.50	0.6000	0.4192
T18	15	7/8"	206.50 - 211.50	0.6000	0.4192
T18	17	7/8"	206.50 - 211.50	0.6000	0.4192
T18	19	1" Conduit (Lighting)	206.50 - 211.50	0.6000	0.4192
T19	1	1-5/8"	201.50 - 206.50	0.6000	0.4200
T19	4	7/16" Power	201.50 - 206.50	0.6000	0.4200
T19	6	3/8"	201.50 - 206.50	0.6000	0.4200
T19	7	7/8"	201.50 - 206.50	0.6000	0.4200
T19	9	7/8"	201.50 - 206.50	0.6000	0.4200
T19	11	1-5/8"	201.50 - 206.50	0.6000	0.4200
T19	13	1-5/8"	201.50 - 206.50	0.6000	0.4200
T19	15	7/8"	201.50 - 206.50	0.6000	0.4200
T19	17	7/8"	201.50 - 206.50	0.6000	0.4200
T19	19	1" Conduit (Lighting)	201.50 - 206.50	0.6000	0.4200
T20	1	1-5/8"	196.50 - 201.50	0.6000	0.4207
T20	4	7/16" Power	196.50 - 201.50	0.6000	0.4207
T20	6	3/8"	196.50 - 201.50	0.6000	0.4207
T20	7	7/8"	196.50 - 201.50	0.6000	0.4207
T20	9	7/8"	196.50 - 201.50	0.6000	0.4207
T20	11	1-5/8"	196.50 - 201.50	0.6000	0.4207
T20	13	1-5/8"	196.50 - 201.50	0.6000	0.4207
T20	15	7/8"	196.50 - 201.50	0.6000	0.4207
T20	17	7/8"	196.50 - 201.50	0.6000	0.4207
T20	19	1" Conduit (Lighting)	196.50 - 201.50	0.6000	0.4207
T21	1	1-5/8"	191.50 - 196.50	0.6000	0.4215
T21	4	7/16" Power	191.50 - 196.50	0.6000	0.4215
T21	6	3/8"	191.50 - 196.50	0.6000	0.4215
T21	7	7/8"	191.50 - 196.50	0.6000	0.4215
T21	9	7/8"	191.50 - 196.50	0.6000	0.4215
T21	11	1-5/8"	191.50 -	0.6000	0.4215

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			196.50		
T21	13	1-5/8"	191.50 - 196.50	0.6000	0.4215
T21	15	7/8"	191.50 - 196.50	0.6000	0.4215
T21	17	7/8"	191.50 - 196.50	0.6000	0.4215
T21	19	1" Conduit (Lighting)	191.50 - 196.50	0.6000	0.4215
T22	1	1-5/8"	186.50 - 191.50	0.6000	0.4223
T22	4	7/16" Power	186.50 - 191.50	0.6000	0.4223
T22	6	3/8"	186.50 - 191.50	0.6000	0.4223
T22	7	7/8"	186.50 - 191.50	0.6000	0.4223
T22	9	7/8"	186.50 - 191.50	0.6000	0.4223
T22	11	1-5/8"	186.50 - 191.50	0.6000	0.4223
T22	13	1-5/8"	186.50 - 191.50	0.6000	0.4223
T22	15	7/8"	186.50 - 191.50	0.6000	0.4223
T22	17	7/8"	186.50 - 191.50	0.6000	0.4223
T22	19	1" Conduit (Lighting)	186.50 - 191.50	0.6000	0.4223
T23	1	1-5/8"	181.50 - 186.50	0.6000	0.4231
T23	4	7/16" Power	181.50 - 186.50	0.6000	0.4231
T23	6	3/8"	181.50 - 186.50	0.6000	0.4231
T23	7	7/8"	181.50 - 186.50	0.6000	0.4231
T23	9	7/8"	181.50 - 186.50	0.6000	0.4231
T23	11	1-5/8"	181.50 - 186.50	0.6000	0.4231
T23	13	1-5/8"	181.50 - 186.50	0.6000	0.4231
T23	15	7/8"	181.50 - 186.50	0.6000	0.4231
T23	17	7/8"	181.50 - 186.50	0.6000	0.4231
T23	19	1" Conduit (Lighting)	181.50 - 186.50	0.6000	0.4231
T23	21	7/16" Power	181.50 - 183.00	0.6000	0.4231
T24	1	1-5/8"	176.50 - 181.50	0.6000	0.5232
T24	4	7/16" Power	176.50 - 181.50	0.6000	0.5232
T24	6	3/8"	176.50 - 181.50	0.6000	0.5232
T24	7	7/8"	176.50 - 181.50	0.6000	0.5232
T24	9	7/8"	176.50 - 181.50	0.6000	0.5232
T24	11	1-5/8"	176.50 -	0.6000	0.5232

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			181.50		
T24	13	1-5/8"	176.50 - 181.50	0.6000	0.5232
T24	15	7/8"	176.50 - 181.50	0.6000	0.5232
T24	17	7/8"	176.50 - 181.50	0.6000	0.5232
T24	19	1" Conduit (Lighting)	176.50 - 181.50	0.6000	0.5232
T24	21	7/16" Power	176.50 - 181.50	0.6000	0.5232
T25	1	1-5/8"	171.50 - 176.50	0.6000	0.5125
T25	4	7/16" Power	171.50 - 176.50	0.6000	0.5125
T25	6	3/8"	171.50 - 176.50	0.6000	0.5125
T25	7	7/8"	171.50 - 176.50	0.6000	0.5125
T25	9	7/8"	171.50 - 176.50	0.6000	0.5125
T25	11	1-5/8"	171.50 - 176.50	0.6000	0.5125
T25	13	1-5/8"	171.50 - 176.50	0.6000	0.5125
T25	15	7/8"	171.50 - 176.50	0.6000	0.5125
T25	17	7/8"	171.50 - 176.50	0.6000	0.5125
T25	19	1" Conduit (Lighting)	171.50 - 176.50	0.6000	0.5125
T25	21	7/16" Power	171.50 - 176.50	0.6000	0.5125
T26	1	1-5/8"	166.50 - 171.50	0.6000	0.5133
T26	4	7/16" Power	166.50 - 171.50	0.6000	0.5133
T26	6	3/8"	166.50 - 171.50	0.6000	0.5133
T26	7	7/8"	166.50 - 171.50	0.6000	0.5133
T26	9	7/8"	166.50 - 171.50	0.6000	0.5133
T26	11	1-5/8"	166.50 - 171.50	0.6000	0.5133
T26	13	1-5/8"	166.50 - 171.50	0.6000	0.5133
T26	15	7/8"	166.50 - 171.50	0.6000	0.5133
T26	17	7/8"	166.50 - 171.50	0.6000	0.5133
T26	19	1" Conduit (Lighting)	166.50 - 171.50	0.6000	0.5133
T26	21	7/16" Power	166.50 - 171.50	0.6000	0.5133
T26	23	7/16" Power	166.50 - 169.00	0.6000	0.5133
T27	1	1-5/8"	161.50 - 166.50	0.6000	0.5115
T27	4	7/16" Power	161.50 - 166.50	0.6000	0.5115
T27	6	3/8"	161.50 -	0.6000	0.5115

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			166.50		
T27	7	7/8"	161.50 - 166.50	0.6000	0.5115
T27	9	7/8"	161.50 - 166.50	0.6000	0.5115
T27	11	1-5/8"	161.50 - 166.50	0.6000	0.5115
T27	13	1-5/8"	161.50 - 166.50	0.6000	0.5115
T27	15	7/8"	161.50 - 166.50	0.6000	0.5115
T27	17	7/8"	161.50 - 166.50	0.6000	0.5115
T27	19	1" Conduit (Lighting)	161.50 - 166.50	0.6000	0.5115
T27	21	7/16" Power	161.50 - 166.50	0.6000	0.5115
T27	23	7/16" Power	161.50 - 166.50	0.6000	0.5115
T28	1	1-5/8"	156.50 - 161.50	0.6000	0.5254
T28	4	7/16" Power	156.50 - 161.50	0.6000	0.5254
T28	6	3/8"	156.50 - 161.50	0.6000	0.5254
T28	7	7/8"	156.50 - 161.50	0.6000	0.5254
T28	9	7/8"	156.50 - 161.50	0.6000	0.5254
T28	11	1-5/8"	156.50 - 161.50	0.6000	0.5254
T28	13	1-5/8"	156.50 - 161.50	0.6000	0.5254
T28	15	7/8"	156.50 - 161.50	0.6000	0.5254
T28	17	7/8"	156.50 - 161.50	0.6000	0.5254
T28	19	1" Conduit (Lighting)	156.50 - 161.50	0.6000	0.5254
T28	21	7/16" Power	156.50 - 161.50	0.6000	0.5254
T28	23	7/16" Power	156.50 - 161.50	0.6000	0.5254
T29	1	1-5/8"	151.50 - 156.50	0.6000	0.4657
T29	4	7/16" Power	151.50 - 156.50	0.6000	0.4657
T29	6	3/8"	151.50 - 156.50	0.6000	0.4657
T29	7	7/8"	151.50 - 156.50	0.6000	0.4657
T29	9	7/8"	151.50 - 156.50	0.6000	0.4657
T29	11	1-5/8"	151.50 - 156.50	0.6000	0.4657
T29	13	1-5/8"	151.50 - 156.50	0.6000	0.4657
T29	15	7/8"	151.50 - 156.50	0.6000	0.4657
T29	17	7/8"	151.50 - 156.50	0.6000	0.4657
T29	19	1" Conduit (Lighting)	151.50 -	0.6000	0.4657

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			156.50		
T29	21	7/16" Power	151.50 - 156.50	0.6000	0.4657
T29	23	7/16" Power	151.50 - 156.50	0.6000	0.4657
T30	1	1-5/8"	146.50 - 151.50	0.6000	0.4667
T30	4	7/16" Power	146.50 - 151.50	0.6000	0.4667
T30	6	3/8"	146.50 - 151.50	0.6000	0.4667
T30	7	7/8"	146.50 - 151.50	0.6000	0.4667
T30	9	7/8"	146.50 - 151.50	0.6000	0.4667
T30	11	1-5/8"	146.50 - 151.50	0.6000	0.4667
T30	13	1-5/8"	146.50 - 151.50	0.6000	0.4667
T30	15	7/8"	146.50 - 151.50	0.6000	0.4667
T30	17	7/8"	146.50 - 151.50	0.6000	0.4667
T30	19	1" Conduit (Lighting)	146.50 - 151.50	0.6000	0.4667
T30	21	7/16" Power	146.50 - 151.50	0.6000	0.4667
T30	23	7/16" Power	146.50 - 151.50	0.6000	0.4667
T31	1	1-5/8"	141.50 - 146.50	0.6000	0.5281
T31	4	7/16" Power	141.50 - 146.50	0.6000	0.5281
T31	6	3/8"	141.50 - 146.50	0.6000	0.5281
T31	7	7/8"	141.50 - 146.50	0.6000	0.5281
T31	9	7/8"	141.50 - 146.50	0.6000	0.5281
T31	11	1-5/8"	141.50 - 146.50	0.6000	0.5281
T31	13	1-5/8"	141.50 - 146.50	0.6000	0.5281
T31	15	7/8"	141.50 - 146.50	0.6000	0.5281
T31	17	7/8"	141.50 - 146.50	0.6000	0.5281
T31	19	1" Conduit (Lighting)	141.50 - 146.50	0.6000	0.5281
T31	21	7/16" Power	141.50 - 146.50	0.6000	0.5281
T31	23	7/16" Power	141.50 - 146.50	0.6000	0.5281
T31	25	1/4" fiber	141.50 - 145.50	0.6000	0.5281
T32	1	1-5/8"	136.50 - 141.50	0.6000	0.5290
T32	4	7/16" Power	136.50 - 141.50	0.6000	0.5290
T32	6	3/8"	136.50 - 141.50	0.6000	0.5290
T32	7	7/8"	136.50 -	0.6000	0.5290

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			141.50		
T32	9	7/8"	136.50 - 141.50	0.6000	0.5290
T32	11	1-5/8"	136.50 - 141.50	0.6000	0.5290
T32	13	1-5/8"	136.50 - 141.50	0.6000	0.5290
T32	15	7/8"	136.50 - 141.50	0.6000	0.5290
T32	17	7/8"	136.50 - 141.50	0.6000	0.5290
T32	19	1" Conduit (Lighting)	136.50 - 141.50	0.6000	0.5290
T32	21	7/16" Power	136.50 - 141.50	0.6000	0.5290
T32	23	7/16" Power	136.50 - 141.50	0.6000	0.5290
T32	25	1/4" fiber	136.50 - 141.50	0.6000	0.5290
T32	27	7/8"	136.50 - 141.00	0.6000	0.5290
T33	1	1-5/8"	131.50 - 136.50	0.6000	0.5300
T33	4	7/16" Power	131.50 - 136.50	0.6000	0.5300
T33	6	3/8"	131.50 - 136.50	0.6000	0.5300
T33	7	7/8"	131.50 - 136.50	0.6000	0.5300
T33	9	7/8"	131.50 - 136.50	0.6000	0.5300
T33	11	1-5/8"	131.50 - 136.50	0.6000	0.5300
T33	13	1-5/8"	131.50 - 136.50	0.6000	0.5300
T33	15	7/8"	131.50 - 136.50	0.6000	0.5300
T33	17	7/8"	131.50 - 136.50	0.6000	0.5300
T33	19	1" Conduit (Lighting)	131.50 - 136.50	0.6000	0.5300
T33	21	7/16" Power	131.50 - 136.50	0.6000	0.5300
T33	23	7/16" Power	131.50 - 136.50	0.6000	0.5300
T33	25	1/4" fiber	131.50 - 136.50	0.6000	0.5300
T33	27	7/8"	131.50 - 136.50	0.6000	0.5300
T33	29	1" Conduit (Lighting)	131.50 - 135.00	0.6000	0.5300
T34	1	1-5/8"	106.50 - 131.50	0.6000	0.5331
T34	4	7/16" Power	106.50 - 131.50	0.6000	0.5331
T34	6	3/8"	106.50 - 131.50	0.6000	0.5331
T34	7	7/8"	106.50 - 131.50	0.6000	0.5331
T34	9	7/8"	106.50 - 131.50	0.6000	0.5331
T34	11	1-5/8"	106.50 -	0.6000	0.5331

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			131.50		
T34	13	1-5/8"	106.50 - 131.50	0.6000	0.5331
T34	15	7/8"	106.50 - 131.50	0.6000	0.5331
T34	17	7/8"	106.50 - 131.50	0.6000	0.5331
T34	19	1" Conduit (Lighting)	106.50 - 131.50	0.6000	0.5331
T34	21	7/16" Power	106.50 - 131.50	0.6000	0.5331
T34	23	7/16" Power	106.50 - 131.50	0.6000	0.5331
T34	25	1/4" fiber	106.50 - 131.50	0.6000	0.5331
T34	27	7/8"	106.50 - 131.50	0.6000	0.5331
T34	29	1" Conduit (Lighting)	106.50 - 131.50	0.6000	0.5331
T35	1	1-5/8"	101.50 - 106.50	0.6000	0.5366
T35	4	7/16" Power	101.50 - 106.50	0.6000	0.5366
T35	6	3/8"	101.50 - 106.50	0.6000	0.5366
T35	7	7/8"	101.50 - 106.50	0.6000	0.5366
T35	9	7/8"	101.50 - 106.50	0.6000	0.5366
T35	11	1-5/8"	101.50 - 106.50	0.6000	0.5366
T35	13	1-5/8"	101.50 - 106.50	0.6000	0.5366
T35	15	7/8"	101.50 - 106.50	0.6000	0.5366
T35	17	7/8"	101.50 - 106.50	0.6000	0.5366
T35	19	1" Conduit (Lighting)	101.50 - 106.50	0.6000	0.5366
T35	21	7/16" Power	101.50 - 106.50	0.6000	0.5366
T35	23	7/16" Power	101.50 - 106.50	0.6000	0.5366
T35	25	1/4" fiber	101.50 - 106.50	0.6000	0.5366
T35	27	7/8"	101.50 - 106.50	0.6000	0.5366
T35	29	1" Conduit (Lighting)	101.50 - 106.50	0.6000	0.5366
T36	1	1-5/8"	96.50 - 101.50	0.6000	0.4791
T36	4	7/16" Power	96.50 - 101.50	0.6000	0.4791
T36	6	3/8"	96.50 - 101.50	0.6000	0.4791
T36	7	7/8"	96.50 - 101.50	0.6000	0.4791
T36	9	7/8"	96.50 - 101.50	0.6000	0.4791
T36	11	1-5/8"	96.50 - 101.50	0.6000	0.4791
T36	13	1-5/8"	96.50 - 101.50	0.6000	0.4791
T36	15	7/8"	96.50 - 101.50	0.6000	0.4791
T36	17	7/8"	96.50 - 101.50	0.6000	0.4791
T36	19	1" Conduit (Lighting)	96.50 - 101.50	0.6000	0.4791
T36	21	7/16" Power	96.50 - 101.50	0.6000	0.4791
T36	23	7/16" Power	96.50 - 101.50	0.6000	0.4791
T36	25	1/4" fiber	96.50 - 101.50	0.6000	0.4791

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T36	27	7/8"	96.50 - 101.50	0.6000	0.4791
T36	29	1" Conduit (Lighting)	96.50 - 101.50	0.6000	0.4791
T36	31	1-1/4"	96.50 - 101.00	0.6000	0.4791
T37	1	1-5/8"	91.50 - 96.50	0.6000	0.5392
T37	4	7/16" Power	91.50 - 96.50	0.6000	0.5392
T37	6	3/8"	91.50 - 96.50	0.6000	0.5392
T37	7	7/8"	91.50 - 96.50	0.6000	0.5392
T37	9	7/8"	91.50 - 96.50	0.6000	0.5392
T37	11	1-5/8"	91.50 - 96.50	0.6000	0.5392
T37	13	1-5/8"	91.50 - 96.50	0.6000	0.5392
T37	15	7/8"	91.50 - 96.50	0.6000	0.5392
T37	17	7/8"	91.50 - 96.50	0.6000	0.5392
T37	19	1" Conduit (Lighting)	91.50 - 96.50	0.6000	0.5392
T37	21	7/16" Power	91.50 - 96.50	0.6000	0.5392
T37	23	7/16" Power	91.50 - 96.50	0.6000	0.5392
T37	25	1/4" fiber	91.50 - 96.50	0.6000	0.5392
T37	27	7/8"	91.50 - 96.50	0.6000	0.5392
T37	29	1" Conduit (Lighting)	91.50 - 96.50	0.6000	0.5392
T37	31	1-1/4"	91.50 - 96.50	0.6000	0.5392
T38	1	1-5/8"	86.50 - 91.50	0.6000	0.5406
T38	4	7/16" Power	86.50 - 91.50	0.6000	0.5406
T38	6	3/8"	86.50 - 91.50	0.6000	0.5406
T38	7	7/8"	86.50 - 91.50	0.6000	0.5406
T38	9	7/8"	86.50 - 91.50	0.6000	0.5406
T38	11	1-5/8"	86.50 - 91.50	0.6000	0.5406
T38	13	1-5/8"	86.50 - 91.50	0.6000	0.5406
T38	15	7/8"	86.50 - 91.50	0.6000	0.5406
T38	17	7/8"	86.50 - 91.50	0.6000	0.5406
T38	19	1" Conduit (Lighting)	86.50 - 91.50	0.6000	0.5406
T38	21	7/16" Power	86.50 - 91.50	0.6000	0.5406
T38	23	7/16" Power	86.50 - 91.50	0.6000	0.5406
T38	25	1/4" fiber	86.50 - 91.50	0.6000	0.5406
T38	27	7/8"	86.50 - 91.50	0.6000	0.5406
T38	29	1" Conduit (Lighting)	86.50 - 91.50	0.6000	0.5406
T38	31	1-1/4"	86.50 - 91.50	0.6000	0.5406
T39	1	1-5/8"	81.50 - 86.50	0.6000	0.5420
T39	4	7/16" Power	81.50 - 86.50	0.6000	0.5420
T39	6	3/8"	81.50 - 86.50	0.6000	0.5420
T39	7	7/8"	81.50 - 86.50	0.6000	0.5420
T39	9	7/8"	81.50 - 86.50	0.6000	0.5420
T39	11	1-5/8"	81.50 - 86.50	0.6000	0.5420
T39	13	1-5/8"	81.50 - 86.50	0.6000	0.5420
T39	15	7/8"	81.50 - 86.50	0.6000	0.5420
T39	17	7/8"	81.50 - 86.50	0.6000	0.5420
T39	19	1" Conduit (Lighting)	81.50 - 86.50	0.6000	0.5420
T39	21	7/16" Power	81.50 - 86.50	0.6000	0.5420
T39	23	7/16" Power	81.50 - 86.50	0.6000	0.5420
T39	25	1/4" fiber	81.50 - 86.50	0.6000	0.5420
T39	27	7/8"	81.50 - 86.50	0.6000	0.5420
T39	29	1" Conduit (Lighting)	81.50 - 86.50	0.6000	0.5420
T39	31	1-1/4"	81.50 - 86.50	0.6000	0.5420
T40	1	1-5/8"	76.50 - 81.50	0.6000	0.5331
T40	4	7/16" Power	76.50 - 81.50	0.6000	0.5331
T40	6	3/8"	76.50 - 81.50	0.6000	0.5331
T40	7	7/8"	76.50 - 81.50	0.6000	0.5331
T40	9	7/8"	76.50 - 81.50	0.6000	0.5331
T40	11	1-5/8"	76.50 - 81.50	0.6000	0.5331
T40	13	1-5/8"	76.50 - 81.50	0.6000	0.5331
T40	15	7/8"	76.50 - 81.50	0.6000	0.5331
T40	17	7/8"	76.50 - 81.50	0.6000	0.5331
T40	19	1" Conduit (Lighting)	76.50 - 81.50	0.6000	0.5331
T40	21	7/16" Power	76.50 - 81.50	0.6000	0.5331

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T40	23	7/16" Power	76.50 - 81.50	0.6000	0.5331
T40	25	1/4" fiber	76.50 - 81.50	0.6000	0.5331
T40	27	7/8"	76.50 - 81.50	0.6000	0.5331
T40	29	1" Conduit (Lighting)	76.50 - 81.50	0.6000	0.5331
T40	31	1-1/4"	76.50 - 81.50	0.6000	0.5331
T40	33	7/8"	76.50 - 80.00	0.6000	0.5331
T40	34	7/8"	76.50 - 80.00	0.6000	0.5331
T40	35	7/8"	76.50 - 80.00	0.6000	0.5331
T40	36	10 mm	76.50 - 80.00	0.6000	0.5331
T40	37	0.795"	76.50 - 80.00	0.6000	0.5331
T40	38	7/8"	76.50 - 80.00	0.6000	0.5331
T41	1	1-5/8"	71.50 - 76.50	0.6000	0.4567
T41	4	7/16" Power	71.50 - 76.50	0.6000	0.4567
T41	6	3/8"	71.50 - 76.50	0.6000	0.4567
T41	7	7/8"	71.50 - 76.50	0.6000	0.4567
T41	9	7/8"	71.50 - 76.50	0.6000	0.4567
T41	11	1-5/8"	71.50 - 76.50	0.6000	0.4567
T41	13	1-5/8"	71.50 - 76.50	0.6000	0.4567
T41	15	7/8"	71.50 - 76.50	0.6000	0.4567
T41	17	7/8"	71.50 - 76.50	0.6000	0.4567
T41	19	1" Conduit (Lighting)	71.50 - 76.50	0.6000	0.4567
T41	21	7/16" Power	71.50 - 76.50	0.6000	0.4567
T41	23	7/16" Power	71.50 - 76.50	0.6000	0.4567
T41	25	1/4" fiber	71.50 - 76.50	0.6000	0.4567
T41	27	7/8"	71.50 - 76.50	0.6000	0.4567
T41	29	1" Conduit (Lighting)	71.50 - 76.50	0.6000	0.4567
T41	31	1-1/4"	71.50 - 76.50	0.6000	0.4567
T41	33	7/8"	71.50 - 76.50	0.6000	0.4567
T41	34	7/8"	71.50 - 76.50	0.6000	0.4567
T41	35	7/8"	71.50 - 76.50	0.6000	0.4567
T41	36	10 mm	71.50 - 76.50	0.6000	0.4567
T41	37	0.795"	71.50 - 76.50	0.6000	0.4567
T41	38	7/8"	71.50 - 76.50	0.6000	0.4567
T42	1	1-5/8"	66.50 - 71.50	0.6000	0.4693
T42	4	7/16" Power	66.50 - 71.50	0.6000	0.4693
T42	6	3/8"	66.50 - 71.50	0.6000	0.4693
T42	7	7/8"	66.50 - 71.50	0.6000	0.4693
T42	9	7/8"	66.50 - 71.50	0.6000	0.4693
T42	11	1-5/8"	66.50 - 71.50	0.6000	0.4693
T42	13	1-5/8"	66.50 - 71.50	0.6000	0.4693
T42	15	7/8"	66.50 - 71.50	0.6000	0.4693
T42	17	7/8"	66.50 - 71.50	0.6000	0.4693
T42	19	1" Conduit (Lighting)	66.50 - 71.50	0.6000	0.4693
T42	21	7/16" Power	66.50 - 71.50	0.6000	0.4693
T42	23	7/16" Power	66.50 - 71.50	0.6000	0.4693
T42	25	1/4" fiber	66.50 - 71.50	0.6000	0.4693
T42	27	7/8"	66.50 - 71.50	0.6000	0.4693
T42	29	1" Conduit (Lighting)	66.50 - 71.50	0.6000	0.4693
T42	31	1-1/4"	66.50 - 71.50	0.6000	0.4693
T42	33	7/8"	66.50 - 71.50	0.6000	0.4693
T42	34	7/8"	66.50 - 71.50	0.6000	0.4693
T42	35	7/8"	66.50 - 71.50	0.6000	0.4693
T42	36	10 mm	66.50 - 71.50	0.6000	0.4693
T42	37	0.795"	66.50 - 71.50	0.6000	0.4693
T42	38	7/8"	66.50 - 71.50	0.6000	0.4693
T43	1	1-5/8"	61.50 - 66.50	0.6000	0.4714
T43	4	7/16" Power	61.50 - 66.50	0.6000	0.4714
T43	6	3/8"	61.50 - 66.50	0.6000	0.4714
T43	7	7/8"	61.50 - 66.50	0.6000	0.4714
T43	9	7/8"	61.50 - 66.50	0.6000	0.4714
T43	11	1-5/8"	61.50 - 66.50	0.6000	0.4714
T43	13	1-5/8"	61.50 - 66.50	0.6000	0.4714

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T43	15	7/8"	61.50 - 66.50	0.6000	0.4714
T43	17	7/8"	61.50 - 66.50	0.6000	0.4714
T43	19	1" Conduit (Lighting)	61.50 - 66.50	0.6000	0.4714
T43	21	7/16" Power	61.50 - 66.50	0.6000	0.4714
T43	23	7/16" Power	61.50 - 66.50	0.6000	0.4714
T43	25	1/4" fiber	61.50 - 66.50	0.6000	0.4714
T43	27	7/8"	61.50 - 66.50	0.6000	0.4714
T43	29	1" Conduit (Lighting)	61.50 - 66.50	0.6000	0.4714
T43	31	1-1/4"	61.50 - 66.50	0.6000	0.4714
T43	33	7/8"	61.50 - 66.50	0.6000	0.4714
T43	34	7/8"	61.50 - 66.50	0.6000	0.4714
T43	35	7/8"	61.50 - 66.50	0.6000	0.4714
T43	36	10 mm	61.50 - 66.50	0.6000	0.4714
T43	37	0.795"	61.50 - 66.50	0.6000	0.4714
T43	38	7/8"	61.50 - 66.50	0.6000	0.4714
T44	1	1-5/8"	56.50 - 61.50	0.6000	0.4941
T44	4	7/16" Power	56.50 - 61.50	0.6000	0.4941
T44	6	3/8"	56.50 - 61.50	0.6000	0.4941
T44	7	7/8"	56.50 - 61.50	0.6000	0.4941
T44	9	7/8"	56.50 - 61.50	0.6000	0.4941
T44	11	1-5/8"	56.50 - 61.50	0.6000	0.4941
T44	13	1-5/8"	56.50 - 61.50	0.6000	0.4941
T44	15	7/8"	56.50 - 61.50	0.6000	0.4941
T44	17	7/8"	56.50 - 61.50	0.6000	0.4941
T44	19	1" Conduit (Lighting)	56.50 - 61.50	0.6000	0.4941
T44	21	7/16" Power	56.50 - 61.50	0.6000	0.4941
T44	23	7/16" Power	56.50 - 61.50	0.6000	0.4941
T44	25	1/4" fiber	56.50 - 61.50	0.6000	0.4941
T44	27	7/8"	56.50 - 61.50	0.6000	0.4941
T44	29	1" Conduit (Lighting)	56.50 - 61.50	0.6000	0.4941
T44	31	1-1/4"	56.50 - 61.50	0.6000	0.4941
T44	33	7/8"	56.50 - 61.50	0.6000	0.4941
T44	34	7/8"	56.50 - 61.50	0.6000	0.4941
T44	35	7/8"	56.50 - 61.50	0.6000	0.4941
T44	36	10 mm	56.50 - 61.50	0.6000	0.4941
T44	37	0.795"	56.50 - 61.50	0.6000	0.4941
T44	38	7/8"	56.50 - 61.50	0.6000	0.4941
T45	1	1-5/8"	51.50 - 56.50	0.6000	0.4966
T45	4	7/16" Power	51.50 - 56.50	0.6000	0.4966
T45	6	3/8"	51.50 - 56.50	0.6000	0.4966
T45	7	7/8"	51.50 - 56.50	0.6000	0.4966
T45	9	7/8"	51.50 - 56.50	0.6000	0.4966
T45	11	1-5/8"	51.50 - 56.50	0.6000	0.4966
T45	13	1-5/8"	51.50 - 56.50	0.6000	0.4966
T45	15	7/8"	51.50 - 56.50	0.6000	0.4966
T45	17	7/8"	51.50 - 56.50	0.6000	0.4966
T45	19	1" Conduit (Lighting)	51.50 - 56.50	0.6000	0.4966
T45	21	7/16" Power	51.50 - 56.50	0.6000	0.4966
T45	23	7/16" Power	51.50 - 56.50	0.6000	0.4966
T45	25	1/4" fiber	51.50 - 56.50	0.6000	0.4966
T45	27	7/8"	51.50 - 56.50	0.6000	0.4966
T45	29	1" Conduit (Lighting)	51.50 - 56.50	0.6000	0.4966
T45	31	1-1/4"	51.50 - 56.50	0.6000	0.4966
T45	33	7/8"	51.50 - 56.50	0.6000	0.4966
T45	34	7/8"	51.50 - 56.50	0.6000	0.4966
T45	35	7/8"	51.50 - 56.50	0.6000	0.4966
T45	36	10 mm	51.50 - 56.50	0.6000	0.4966
T45	37	0.795"	51.50 - 56.50	0.6000	0.4966
T45	38	7/8"	51.50 - 56.50	0.6000	0.4966
T46	1	1-5/8"	46.50 - 51.50	0.6000	0.4994
T46	4	7/16" Power	46.50 - 51.50	0.6000	0.4994
T46	6	3/8"	46.50 - 51.50	0.6000	0.4994

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T46	7	7/8"	46.50 - 51.50	0.6000	0.4994
T46	9	7/8"	46.50 - 51.50	0.6000	0.4994
T46	11	1-5/8"	46.50 - 51.50	0.6000	0.4994
T46	13	1-5/8"	46.50 - 51.50	0.6000	0.4994
T46	15	7/8"	46.50 - 51.50	0.6000	0.4994
T46	17	7/8"	46.50 - 51.50	0.6000	0.4994
T46	19	1" Conduit (Lighting)	46.50 - 51.50	0.6000	0.4994
T46	21	7/16" Power	46.50 - 51.50	0.6000	0.4994
T46	23	7/16" Power	46.50 - 51.50	0.6000	0.4994
T46	25	1/4" fiber	46.50 - 51.50	0.6000	0.4994
T46	27	7/8"	46.50 - 51.50	0.6000	0.4994
T46	29	1" Conduit (Lighting)	46.50 - 51.50	0.6000	0.4994
T46	31	1-1/4"	46.50 - 51.50	0.6000	0.4994
T46	33	7/8"	46.50 - 51.50	0.6000	0.4994
T46	34	7/8"	46.50 - 51.50	0.6000	0.4994
T46	35	7/8"	46.50 - 51.50	0.6000	0.4994
T46	36	10 mm	46.50 - 51.50	0.6000	0.4994
T46	37	0.795"	46.50 - 51.50	0.6000	0.4994
T46	38	7/8"	46.50 - 51.50	0.6000	0.4994
T47	1	1-5/8"	41.50 - 46.50	0.6000	0.4918
T47	4	7/16" Power	41.50 - 46.50	0.6000	0.4918
T47	6	3/8"	41.50 - 46.50	0.6000	0.4918
T47	7	7/8"	41.50 - 46.50	0.6000	0.4918
T47	9	7/8"	41.50 - 46.50	0.6000	0.4918
T47	11	1-5/8"	41.50 - 46.50	0.6000	0.4918
T47	13	1-5/8"	41.50 - 46.50	0.6000	0.4918
T47	15	7/8"	41.50 - 46.50	0.6000	0.4918
T47	17	7/8"	41.50 - 46.50	0.6000	0.4918
T47	19	1" Conduit (Lighting)	41.50 - 46.50	0.6000	0.4918
T47	21	7/16" Power	41.50 - 46.50	0.6000	0.4918
T47	23	7/16" Power	41.50 - 46.50	0.6000	0.4918
T47	25	1/4" fiber	41.50 - 46.50	0.6000	0.4918
T47	27	7/8"	41.50 - 46.50	0.6000	0.4918
T47	29	1" Conduit (Lighting)	41.50 - 46.50	0.6000	0.4918
T47	31	1-1/4"	41.50 - 46.50	0.6000	0.4918
T47	33	7/8"	41.50 - 46.50	0.6000	0.4918
T47	34	7/8"	41.50 - 46.50	0.6000	0.4918
T47	35	7/8"	41.50 - 46.50	0.6000	0.4918
T47	36	10 mm	41.50 - 46.50	0.6000	0.4918
T47	37	0.795"	41.50 - 46.50	0.6000	0.4918
T47	38	7/8"	41.50 - 46.50	0.6000	0.4918
T48	1	1-5/8"	36.50 - 41.50	0.6000	0.4951
T48	4	7/16" Power	36.50 - 41.50	0.6000	0.4951
T48	6	3/8"	36.50 - 41.50	0.6000	0.4951
T48	7	7/8"	36.50 - 41.50	0.6000	0.4951
T48	9	7/8"	36.50 - 41.50	0.6000	0.4951
T48	11	1-5/8"	36.50 - 41.50	0.6000	0.4951
T48	13	1-5/8"	36.50 - 41.50	0.6000	0.4951
T48	15	7/8"	36.50 - 41.50	0.6000	0.4951
T48	17	7/8"	36.50 - 41.50	0.6000	0.4951
T48	19	1" Conduit (Lighting)	36.50 - 41.50	0.6000	0.4951
T48	21	7/16" Power	36.50 - 41.50	0.6000	0.4951
T48	23	7/16" Power	36.50 - 41.50	0.6000	0.4951
T48	25	1/4" fiber	36.50 - 41.50	0.6000	0.4951
T48	27	7/8"	36.50 - 41.50	0.6000	0.4951
T48	29	1" Conduit (Lighting)	36.50 - 41.50	0.6000	0.4951
T48	31	1-1/4"	36.50 - 41.50	0.6000	0.4951
T48	33	7/8"	36.50 - 41.50	0.6000	0.4951
T48	34	7/8"	36.50 - 41.50	0.6000	0.4951
T48	35	7/8"	36.50 - 41.50	0.6000	0.4951
T48	36	10 mm	36.50 - 41.50	0.6000	0.4951
T48	37	0.795"	36.50 - 41.50	0.6000	0.4951

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T48	38	7/8"	36.50 - 41.50	0.6000	0.4951
T49	1	1-5/8"	31.50 - 36.50	0.6000	0.4989
T49	4	7/16" Power	31.50 - 36.50	0.6000	0.4989
T49	6	3/8"	31.50 - 36.50	0.6000	0.4989
T49	7	7/8"	31.50 - 36.50	0.6000	0.4989
T49	9	7/8"	31.50 - 36.50	0.6000	0.4989
T49	11	1-5/8"	31.50 - 36.50	0.6000	0.4989
T49	13	1-5/8"	31.50 - 36.50	0.6000	0.4989
T49	15	7/8"	31.50 - 36.50	0.6000	0.4989
T49	17	7/8"	31.50 - 36.50	0.6000	0.4989
T49	19	1" Conduit (Lighting)	31.50 - 36.50	0.6000	0.4989
T49	21	7/16" Power	31.50 - 36.50	0.6000	0.4989
T49	23	7/16" Power	31.50 - 36.50	0.6000	0.4989
T49	25	1/4" fiber	31.50 - 36.50	0.6000	0.4989
T49	27	7/8"	31.50 - 36.50	0.6000	0.4989
T49	29	1" Conduit (Lighting)	31.50 - 36.50	0.6000	0.4989
T49	31	1-1/4"	31.50 - 36.50	0.6000	0.4989
T49	33	7/8"	31.50 - 36.50	0.6000	0.4989
T49	34	7/8"	31.50 - 36.50	0.6000	0.4989
T49	35	7/8"	31.50 - 36.50	0.6000	0.4989
T49	36	10 mm	31.50 - 36.50	0.6000	0.4989
T49	37	0.795"	31.50 - 36.50	0.6000	0.4989
T49	38	7/8"	31.50 - 36.50	0.6000	0.4989
T49	40	7/16" Power	31.50 - 33.00	0.6000	0.4989
T50	1	1-5/8"	6.50 - 31.50	0.6000	0.5668
T50	4	7/16" Power	6.50 - 31.50	0.6000	0.5668
T50	6	3/8"	6.50 - 31.50	0.6000	0.5668
T50	7	7/8"	6.50 - 31.50	0.6000	0.5668
T50	9	7/8"	6.50 - 31.50	0.6000	0.5668
T50	11	1-5/8"	6.50 - 31.50	0.6000	0.5668
T50	13	1-5/8"	6.50 - 31.50	0.6000	0.5668
T50	15	7/8"	6.50 - 31.50	0.6000	0.5668
T50	17	7/8"	6.50 - 31.50	0.6000	0.5668
T50	19	1" Conduit (Lighting)	6.50 - 31.50	0.6000	0.5668
T50	21	7/16" Power	6.50 - 31.50	0.6000	0.5668
T50	23	7/16" Power	6.50 - 31.50	0.6000	0.5668
T50	25	1/4" fiber	6.50 - 31.50	0.6000	0.5668
T50	27	7/8"	6.50 - 31.50	0.6000	0.5668
T50	29	1" Conduit (Lighting)	6.50 - 31.50	0.6000	0.5668
T50	31	1-1/4"	6.50 - 31.50	0.6000	0.5668
T50	33	7/8"	6.50 - 31.50	0.6000	0.5668
T50	34	7/8"	6.50 - 31.50	0.6000	0.5668
T50	35	7/8"	6.50 - 31.50	0.6000	0.5668
T50	36	10 mm	6.50 - 31.50	0.6000	0.5668
T50	37	0.795"	6.50 - 31.50	0.6000	0.5668
T50	38	7/8"	6.50 - 31.50	0.6000	0.5668
T50	40	7/16" Power	6.50 - 31.50	0.6000	0.5668
T50	42	7/16" Power	6.50 - 8.50	0.6000	0.5668
T51	1	1-5/8"	0.00 - 6.50	0.4678	0.3708
T51	4	7/16" Power	0.00 - 6.50	0.4678	0.3708
T51	6	3/8"	0.00 - 6.50	0.4678	0.3708
T51	7	7/8"	0.00 - 6.50	0.4678	0.3708
T51	9	7/8"	0.00 - 6.50	0.4678	0.3708
T51	11	1-5/8"	0.00 - 6.50	0.4678	0.3708
T51	13	1-5/8"	0.00 - 6.50	0.4678	0.3708
T51	15	7/8"	0.00 - 6.50	0.4678	0.3708
T51	17	7/8"	0.00 - 6.50	0.4678	0.3708
T51	19	1" Conduit (Lighting)	0.00 - 6.50	0.4678	0.3708
T51	21	7/16" Power	0.00 - 6.50	0.4678	0.3708
T51	23	7/16" Power	0.00 - 6.50	0.4678	0.3708
T51	25	1/4" fiber	0.00 - 6.50	0.4678	0.3708
T51	27	7/8"	0.00 - 6.50	0.4678	0.3708

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T51	29	1" Conduit (Lighting)	0.00 - 6.50	0.4678	0.3708
T51	31	1-1/4"	0.00 - 6.50	0.4678	0.3708
T51	33	7/8"	0.00 - 6.50	0.4678	0.3708
T51	34	7/8"	0.00 - 6.50	0.4678	0.3708
T51	35	7/8"	0.00 - 6.50	0.4678	0.3708
T51	36	10 mm	0.00 - 6.50	0.4678	0.3708
T51	37	0.795"	0.00 - 6.50	0.4678	0.3708
T51	38	7/8"	0.00 - 6.50	0.4678	0.3708
T51	40	7/16" Power	0.00 - 6.50	0.4678	0.3708
T51	42	7/16" Power	0.00 - 6.50	0.4678	0.3708

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Shively 68010	C	From Leg	0.00	0.0000	325.00	No Ice	22.30	22.30	354.00
			0.00			1/2" Ice	40.14	40.14	460.20
			5.00			1" Ice	57.98	57.98	566.40
***									
2SCH40x60"	B	From Leg	0.00	0.0000	303.00	No Ice	1.19	1.19	18.00
			0.00			1/2" Ice	1.50	1.50	27.07
			0.00			1" Ice	1.81	1.81	39.59
***									
10" x 8" x 4.25" Box	C	From Leg	5.50	0.0000	287.00	No Ice	0.67	0.35	10.00
			0.00			1/2" Ice	0.77	0.44	15.83
			0.00			1" Ice	0.88	0.53	23.29
7.5" Ø x 3.5' Omni	C	From Leg	5.50	0.0000	287.00	No Ice	1.24	1.24	25.00
			0.00			1/2" Ice	1.92	1.92	43.94
			3.00			1" Ice	2.17	2.17	65.94
Stand-off Arm	C	From Leg	2.75	0.0000	287.00	No Ice	3.50	3.50	100.00
			0.00			1/2" Ice	4.20	4.20	125.00
			0.00			1" Ice	5.00	5.00	150.00
***									
2.36" Ø x 20' (4) Element Dipole	A	From Leg	0.00	0.0000	288.00	No Ice	4.72	4.72	35.00
			0.00			1/2" Ice	6.75	6.75	70.23
			2.00			1" Ice	8.79	8.79	118.07
***									
DB413-B	B	From Leg	1.25	0.0000	273.00	No Ice	2.55	2.55	32.00
			0.00			1/2" Ice	4.59	4.59	41.60
			7.00			1" Ice	6.63	6.63	51.20
Stand-off Arm	B	From Leg	0.63	0.0000	273.00	No Ice	3.50	3.50	100.00
			0.00			1/2" Ice	4.20	4.20	125.00
			0.00			1" Ice	5.00	5.00	150.00
***									
25' x 1.62" Ø Broadcast Antenna	A	From Leg	0.00	0.0000	260.00	No Ice	4.05	4.05	65.00
			0.00			1/2" Ice	6.57	6.57	97.55
			0.00			1" Ice	9.11	9.11	145.69
***									
2.3" Ø x 20' Omni	A	From Leg	3.50	0.0000	239.00	No Ice	4.60	4.60	35.00
			0.00			1/2" Ice	6.63	6.63	69.49

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			7.00			1" Ice	8.67	8.67	116.58
Stand-off Arm	A	From Leg	1.75	0.0000	239.00	No Ice	3.50	3.50	100.00
			0.00			1/2" Ice	4.20	4.20	125.00
			0.00			1" Ice	5.00	5.00	150.00
***									
2.3" Ø x 20' Omni	B	From Leg	3.00	0.0000	237.00	No Ice	4.60	4.60	35.00
			0.00			1/2" Ice	6.63	6.63	69.49
			7.00			1" Ice	8.67	8.67	116.58
Stand-off Arm	B	From Leg	1.50	0.0000	237.00	No Ice	3.50	3.50	100.00
			0.00			1/2" Ice	4.20	4.20	125.00
			0.00			1" Ice	5.00	5.00	150.00
***									
L-810 Side Light	A	From Leg	0.00	0.0000	223.00	No Ice	0.20	0.20	3.00
			0.00			1/2" Ice	0.28	0.28	5.93
			0.00			1" Ice	0.36	0.36	8.86
L-810 Side Light	C	From Leg	0.00	0.0000	223.00	No Ice	0.20	0.20	3.00
			0.00			1/2" Ice	0.28	0.28	5.93
			0.00			1" Ice	0.36	0.36	8.86
***									
26.5" x 15" Conduit Box	B	From Leg	0.00	0.0000	183.00	No Ice	3.31	1.42	10.00
			0.00			1/2" Ice	3.55	1.60	32.52
			0.00			1" Ice	3.79	1.78	58.32
***									
10" x 10" x 1.25" Detuner Box	B	From Leg	0.00	0.0000	169.00	No Ice	0.83	0.12	10.00
			0.00			1/2" Ice	0.95	0.19	14.77
			0.00			1" Ice	1.07	0.26	21.12
***									
14.875"x15.125"x0.5" Flat Panel	A	From Leg	0.00	0.0000	145.50	No Ice	1.87	0.10	10.00
			0.00			1/2" Ice	2.05	0.20	18.80
			0.00			1" Ice	2.22	0.30	29.77
***									
2SCH40 x 43"	C	From Leg	0.00	0.0000	141.00	No Ice	0.74	0.74	20.00
			0.00			1/2" Ice	0.96	0.96	26.58
			0.00			1" Ice	1.19	1.19	35.75
***									
L-810 Side Light	A	From Leg	0.00	0.0000	135.00	No Ice	0.20	0.20	3.00
			0.00			1/2" Ice	0.28	0.28	5.93
			0.00			1" Ice	0.36	0.36	8.86
L-810 Side Light	C	From Leg	0.00	0.0000	135.00	No Ice	0.20	0.20	3.00
			0.00			1/2" Ice	0.28	0.28	5.93
			0.00			1" Ice	0.36	0.36	8.86
***									
19" x 15" x 10.5" Squid	A	From Leg	0.00	0.0000	104.50	No Ice	2.38	1.66	10.00
			0.00			1/2" Ice	2.57	1.83	32.28
			0.00			1" Ice	2.77	2.01	57.64
19" x 15" x 10.5" Squid	B	From Leg	0.00	0.0000	104.00	No Ice	2.38	1.66	10.00
			0.00			1/2" Ice	2.57	1.83	32.28
			0.00			1" Ice	2.77	2.01	57.64
(2) CSS X7C-FRO-660-0 w MP	A	From Leg	3.00	0.0000	101.00	No Ice	9.67	7.99	51.73
			0.00			1/2" Ice	10.18	9.07	131.37
			1.50			1" Ice	10.69	9.94	219.19
(2) CSS X7C-FRO-660-0 w MP	B	From Leg	3.00	0.0000	101.00	No Ice	9.67	7.99	51.73
			0.00			1/2" Ice	10.18	9.07	131.37
			1.50			1" Ice	10.69	9.94	219.19
(2) CSS X7C-FRO-660-0 w MP	C	From Leg	3.00	0.0000	101.00	No Ice	9.67	7.99	51.73
			0.00			1/2" Ice	10.18	9.07	131.37
			1.50			1" Ice	10.69	9.94	219.19

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(2) Amphenol WWX063X19G00 w/ MP	A	From Leg	3.00	0.0000	101.00	No Ice	8.81	7.57	73.23
			0.00			1/2" Ice	9.35	8.61	147.28
			1.50			1" Ice	9.88	9.52	230.42
(2) Amphenol WWX063X19G00 w/ MP	B	From Leg	3.00	0.0000	101.00	No Ice	8.81	7.57	73.23
			0.00			1/2" Ice	9.35	8.61	147.28
			1.50			1" Ice	9.88	9.52	230.42
(2) Amphenol WWX063X19G00 w/ MP	C	From Leg	3.00	0.0000	101.00	No Ice	8.81	7.57	73.23
			0.00			1/2" Ice	9.35	8.61	147.28
			1.50			1" Ice	9.88	9.52	230.42
25" x 12" x 8.25" Radio	A	From Leg	3.00	0.0000	101.00	No Ice	2.50	1.75	20.00
			0.00			1/2" Ice	2.71	1.93	41.11
			1.50			1" Ice	2.93	2.12	65.35
16.5" x 17" x 10.25" Radio	C	From Leg	3.00	0.0000	101.00	No Ice	2.34	1.41	20.00
			0.00			1/2" Ice	2.53	1.56	41.67
			1.50			1" Ice	2.72	1.72	66.37
Sector Mount [SM 303-3]	C	None		0.0000	101.00	No Ice	43.57	43.57	1879.50
						1/2" Ice	61.82	61.82	2704.43
						1" Ice	80.07	80.07	3529.36
***									
CCI HPA-65R-BUU-H6 with Mount Pipe	A	From Face	0.00	0.0000	80.00	No Ice	9.90	8.11	76.55
			0.00			1/2" Ice	10.47	9.30	158.03
			1.50			1" Ice	11.01	10.21	247.79
CCI HPA-65R-BUU-H6 with Mount Pipe	A	From Face	0.00	0.0000	80.00	No Ice	9.90	8.11	76.55
			0.00			1/2" Ice	10.47	9.30	158.03
			1.50			1" Ice	11.01	10.21	247.79
CCI HPA-65R-BUU-H6 with Mount Pipe	C	From Face	0.00	0.0000	80.00	No Ice	9.90	8.11	76.55
			0.00			1/2" Ice	10.47	9.30	158.03
			1.50			1" Ice	11.01	10.21	247.79
(2) CCI OPA-65R-LCUU-H6 w/ MP	A	From Face	0.00	0.0000	80.00	No Ice	9.95	7.53	113.53
			0.00			1/2" Ice	10.50	8.56	193.76
			1.50			1" Ice	11.04	9.45	283.09
(2) CCI OPA-65R-LCUU-H6 w/ MP	B	From Face	0.00	0.0000	80.00	No Ice	9.95	7.53	113.53
			0.00			1/2" Ice	10.50	8.56	193.76
			1.50			1" Ice	11.04	9.45	283.09
(2) CCI OPA-65R-LCUU-H6 w/ MP	C	From Face	0.00	0.0000	80.00	No Ice	9.95	7.53	113.53
			0.00			1/2" Ice	10.50	8.56	193.76
			1.50			1" Ice	11.04	9.45	283.09
CCI DTMABP7819VG12A	A	From Face	0.00	0.0000	80.00	No Ice	0.98	0.34	19.18
			0.00			1/2" Ice	1.10	0.42	26.48
			1.50			1" Ice	1.23	0.51	35.63
CCI DTMABP7819VG12A	B	From Face	0.00	0.0000	80.00	No Ice	0.98	0.34	19.18
			0.00			1/2" Ice	1.10	0.42	26.48
			1.50			1" Ice	1.23	0.51	35.63
CCI DTMABP7819VG12A	C	From Face	0.00	0.0000	80.00	No Ice	0.98	0.34	19.18
			0.00			1/2" Ice	1.10	0.42	26.48
			1.50			1" Ice	1.23	0.51	35.63
Ericsson RRUS-11	A	From Face	0.00	0.0000	80.00	No Ice	2.52	1.07	50.00
			0.00			1/2" Ice	2.72	1.21	69.32
			1.50			1" Ice	2.92	1.36	91.56
Ericsson RRUS-11	B	From Face	0.00	0.0000	80.00	No Ice	2.52	1.07	50.00
			0.00			1/2" Ice	2.72	1.21	69.32
			1.50			1" Ice	2.92	1.36	91.56
Ericsson RRUS-11	C	From Face	0.00	0.0000	80.00	No Ice	2.52	1.07	50.00
			0.00			1/2" Ice	2.72	1.21	69.32
			1.50			1" Ice	2.92	1.36	91.56
Ericsson RRUS32 (AT&T)	A	From Face	0.00	0.0000	80.00	No Ice	3.31	2.42	77.00
			0.00			1/2" Ice	3.56	2.64	104.93

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			1.50			1" Ice	3.81	2.86	136.47
Ericsson RRUS32 (AT&T)	B	From Face	0.00	0.0000	80.00	No Ice	3.31	2.42	77.00
			0.00			1/2" Ice	3.56	2.64	104.93
			1.50			1" Ice	3.81	2.86	136.47
Ericsson RRUS32 (AT&T)	C	From Face	0.00	0.0000	80.00	No Ice	3.31	2.42	77.00
			0.00			1/2" Ice	3.56	2.64	104.93
			1.50			1" Ice	3.81	2.86	136.47
Raycap DC6-48-60-18-8C	C	From Face	0.00	0.0000	80.00	No Ice	0.92	0.92	20.00
			0.00			1/2" Ice	1.46	1.46	37.72
			1.50			1" Ice	1.64	1.64	57.92
Sector Mount [SM 103-3]	B	None		0.0000	80.00	No Ice	46.08	46.08	1539.00
						1/2" Ice	54.63	54.63	2160.00
						1" Ice	63.18	63.18	2781.00
Ericsson 4415 B25	A	From Leg	0.00	0.0000	80.00	No Ice	1.65	0.68	44.00
			0.00			1/2" Ice	1.81	0.79	56.47
			1.50			1" Ice	1.98	0.92	71.32
Ericsson 4415 B25	B	From Leg	0.00	0.0000	80.00	No Ice	1.65	0.68	44.00
			0.00			1/2" Ice	1.81	0.79	56.47
			1.50			1" Ice	1.98	0.92	71.32
Ericsson 4415 B25	C	From Leg	0.00	0.0000	80.00	No Ice	1.65	0.68	44.00
			0.00			1/2" Ice	1.81	0.79	56.47
			1.50			1" Ice	1.98	0.92	71.32
***									
26.5" x 15" Conduit Box	B	From Leg	0.00	0.0000	33.00	No Ice	3.31	1.42	10.00
			0.00			1/2" Ice	3.55	1.60	32.52
			0.00			1" Ice	3.79	1.78	58.32
***									
15" x 15" x 6.5" Detuner Box	B	From Face	0.00	0.0000	8.50	No Ice	1.88	0.81	10.00
			0.00			1/2" Ice	2.05	0.94	24.83
			0.00			1" Ice	2.22	1.07	42.21
***									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
3' x 5.5' Grid Dish	B	Grid	From Leg	0.00	0.0000		303.00	4.58	No Ice	16.47	40.00
				0.00					1/2" Ice	17.08	120.00
				0.00					1" Ice	17.68	210.00
***											
4' Grid Dish	C	Grid	From Leg	0.00	0.0000		141.00	4.00	No Ice	12.57	100.00
				0.00					1/2" Ice	13.10	150.00
				0.00					1" Ice	13.62	200.00
***											

Load Combinations

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

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	341.5 - 314.5	3.738	33	0.3333	0.2293
T1	314.5 - 310.5	2.130	33	0.0875	0.2351
T2	310.5 - 306.5	2.057	33	0.0842	0.2367
T3	306.5 - 281.5	1.984	33	0.0800	0.2472
T4	281.5 - 276.5	1.614	33	0.0650	0.2902
T5	276.5 - 271.5	1.546	33	0.0620	0.2818
T6	271.5 - 266.5	1.481	33	0.0587	0.3109
T7	266.5 - 261.5	1.419	33	0.0547	0.2975
T8	261.5 - 256.5	1.361	33	0.0501	0.3244
T9	256.5 - 251.5	1.308	33	0.0447	0.3089
T10	251.5 - 246.5	1.262	33	0.0382	0.3334
T11	246.5 - 241.5	1.223	33	0.0306	0.3295

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T12	241.5 - 236.5	1.196	33	0.0249	0.3675
T13	236.5 - 231.5	1.174	33	0.0205	0.3180
T14	231.5 - 226.5	1.156	33	0.0170	0.3676
T15	226.5 - 221.5	1.141	33	0.0141	0.3157
T16	221.5 - 216.5	1.129	37	0.0119	0.3613
T17	216.5 - 211.5	1.122	37	0.0100	0.3099
T18	211.5 - 206.5	1.117	37	0.0083	0.3560
T19	206.5 - 201.5	1.113	37	0.0066	0.3029
T20	201.5 - 196.5	1.110	37	0.0055	0.3492
T21	196.5 - 191.5	1.109	37	0.0061	0.2944
T22	191.5 - 186.5	1.111	37	0.0085	0.3411
T23	186.5 - 181.5	1.115	37	0.0117	0.2931
T24	181.5 - 176.5	1.129	37	0.0138	0.3439
T25	176.5 - 171.5	1.145	37	0.0153	0.2858
T26	171.5 - 166.5	1.161	37	0.0156	0.3373
T27	166.5 - 161.5	1.176	37	0.0150	0.2754
T28	161.5 - 156.5	1.189	37	0.0136	0.3345
T29	156.5 - 151.5	1.201	37	0.0117	0.2576
T30	151.5 - 146.5	1.210	37	0.0095	0.3208
T31	146.5 - 141.5	1.216	37	0.0071	0.2389
T32	141.5 - 136.5	1.218	37	0.0047	0.3068
T33	136.5 - 131.5	1.217	37	0.0033	0.2225
T34	131.5 - 106.5	1.213	37	0.0036	0.2951
T35	106.5 - 101.5	1.178	37	0.0322	0.1830
T36	101.5 - 96.5	1.145	37	0.0441	0.2758
T37	96.5 - 91.5	1.089	37	0.0559	0.1644
T38	91.5 - 86.5	1.019	37	0.0664	0.2594
T39	86.5 - 81.5	0.938	37	0.0755	0.1456
T40	81.5 - 76.5	0.849	37	0.0830	0.2421
T41	76.5 - 71.5	0.749	37	0.0877	0.1354
T42	71.5 - 66.5	0.644	37	0.0881	0.2317
T43	66.5 - 61.5	0.535	37	0.0839	0.1148
T44	61.5 - 56.5	0.431	37	0.0750	0.1992
T45	56.5 - 51.5	0.362	37	0.0661	0.1103
T46	51.5 - 46.5	0.301	37	0.0582	0.1998
T47	46.5 - 41.5	0.247	37	0.0512	0.0886
T48	41.5 - 36.5	0.198	37	0.0449	0.1929
T49	36.5 - 31.5	0.155	37	0.0391	0.0730
T50	31.5 - 6.5	0.118	37	0.0335	0.1828
T51	6.5 - 0	0.012	27	0.0037	0.0218

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
325.00	Shively 68010	33	2.566	0.1449	0.2337	4777
306.50	Guy	33	1.984	0.0800	0.2472	88917
303.00	3' x 5.5' Grid Dish	33	1.922	0.0765	0.2597	30739
288.00	2.36" Ø x 20' (4) Element Dipole	33	1.701	0.0680	0.2997	173703
287.00	10" x 8" x 4.25" Box	33	1.687	0.0676	0.2998	250180
273.00	DB413-B	33	1.500	0.0597	0.3051	82238
260.00	25' x 1.62" Ø Broadcast Antenna	33	1.345	0.0485	0.3213	55132
246.50	Guy	33	1.223	0.0306	0.3295	22627
239.00	2.3" Ø x 20' Omni	33	1.185	0.0226	0.3400	85898
237.00	2.3" Ø x 20' Omni	33	1.176	0.0209	0.3188	81173
223.00	L-810 Side Light	33	1.132	0.0125	0.3515	127801

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
186.50	Guy	37	1.115	0.0117	0.2931	29945
183.00	26.5" x 15" Conduit Box	37	1.124	0.0133	0.3375	53297
169.00	10" x 10" x 1.25" Detuner Box	37	1.169	0.0154	0.2936	154617
145.50	14.875"x15.125"x0.5" Flat Panel	37	1.216	0.0066	0.2405	84511
141.00	4' Grid Dish	37	1.218	0.0045	0.3046	77081
135.00	L-810 Side Light	37	1.216	0.0031	0.2257	188752
126.50	Guy	37	1.211	0.0053	0.3224	160734
104.50	19" x 15" x 10.5" Squid	37	1.167	0.0368	0.2376	15438
104.00	19" x 15" x 10.5" Squid	37	1.164	0.0380	0.2504	14516
101.00	(2) CSS X7C-FRO-660-0 w MP	37	1.141	0.0453	0.2689	12781
80.00	CCI HPA-65R-BUU-H6 with Mount Pipe	37	0.820	0.0848	0.2145	29864
61.50	Guy	37	0.431	0.0750	0.1992	8497
33.00	26.5" x 15" Conduit Box	37	0.129	0.0352	0.1256	51558
8.50	15" x 15" x 6.5" Detuner Box	27	0.017	0.0053	0.0397	89449

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	341.5 - 314.5	18.724	6	1.3136	0.6962
T1	314.5 - 310.5	12.217	6	0.4789	0.7302
T2	310.5 - 306.5	11.816	6	0.4675	0.7320
T3	306.5 - 281.5	11.415	6	0.4532	0.7429
T4	281.5 - 276.5	9.208	6	0.3873	0.8868
T5	276.5 - 271.5	8.800	6	0.3712	0.9101
T6	271.5 - 266.5	8.407	6	0.3526	0.9665
T7	266.5 - 261.5	8.037	6	0.3305	0.9771
T8	261.5 - 256.5	7.691	6	0.3046	1.0185
T9	256.5 - 251.5	7.371	6	0.2744	1.0216
T10	251.5 - 246.5	7.088	6	0.2391	1.0509
T11	246.5 - 241.5	6.842	6	0.1983	1.0482
T12	241.5 - 236.5	6.663	6	0.1652	1.1080
T13	236.5 - 231.5	6.513	6	0.1377	1.0608
T14	231.5 - 226.5	6.386	6	0.1171	1.1085
T15	226.5 - 221.5	6.283	6	0.1029	1.0530
T16	221.5 - 216.5	6.203	6	0.0913	1.0942
T17	216.5 - 211.5	6.139	6	0.0814	1.0338
T18	211.5 - 206.5	6.097	10	0.0725	1.0751
T19	206.5 - 201.5	6.074	10	0.0640	1.0087
T20	201.5 - 196.5	6.063	10	0.0551	1.0503
T21	196.5 - 191.5	6.064	10	0.0455	0.9779
T22	191.5 - 186.5	6.077	10	0.0391	1.0201
T23	186.5 - 181.5	6.105	10	0.0443	0.9479
T24	181.5 - 176.5	6.174	10	0.0537	1.0048
T25	176.5 - 171.5	6.258	10	0.0616	0.9241
T26	171.5 - 166.5	6.339	10	0.0641	0.9754
T27	166.5 - 161.5	6.417	10	0.0619	0.8901
T28	161.5 - 156.5	6.482	10	0.0556	0.9565
T29	156.5 - 151.5	6.547	10	0.0459	0.8444
T30	151.5 - 146.5	6.597	10	0.0335	0.9036
T31	146.5 - 141.5	6.629	10	0.0275	0.7879
T32	141.5 - 136.5	6.643	10	0.0351	0.8498
T33	136.5 - 131.5	6.634	10	0.0417	0.7371
T34	131.5 - 106.5	6.605	10	0.0462	0.8078

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T35	106.5 - 101.5	6.241	10	0.1860	0.6022
T36	101.5 - 96.5	6.044	10	0.2382	0.7051
T37	96.5 - 91.5	5.751	2	0.2896	0.5507
T38	91.5 - 86.5	5.401	2	0.3358	0.6457
T39	86.5 - 81.5	5.002	2	0.3757	0.4868
T40	81.5 - 76.5	4.567	2	0.4089	0.5845
T41	76.5 - 71.5	4.087	2	0.4305	0.4405
T42	71.5 - 66.5	3.582	2	0.4355	0.5431
T43	66.5 - 61.5	3.056	2	0.4221	0.3796
T44	61.5 - 56.5	2.548	2	0.3901	0.4654
T45	56.5 - 51.5	2.169	2	0.3560	0.3328
T46	51.5 - 46.5	1.821	2	0.3240	0.4316
T47	46.5 - 41.5	1.502	2	0.2934	0.2714
T48	41.5 - 36.5	1.211	2	0.2636	0.3909
T49	36.5 - 31.5	0.950	2	0.2338	0.2257
T50	31.5 - 6.5	0.719	2	0.2034	0.3498
T51	6.5 - 0	0.065	2	0.0222	0.0680

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
325.00	Shively 68010	6	14.102	0.6741	0.7225	1399
306.50	Guy	6	11.415	0.4532	0.7429	28054
303.00	3' x 5.5' Grid Dish	6	11.072	0.4407	0.7677	9229
288.00	2.36" Ø x 20' (4) Element Dipole	6	9.744	0.4038	0.8707	30588
287.00	10" x 8" x 4.25" Box	6	9.661	0.4015	0.8750	36191
273.00	DB413-B	6	8.523	0.3585	0.9517	14296
260.00	25' x 1.62" Ø Broadcast Antenna	6	7.591	0.2960	1.0185	9947
246.50	Guy	6	6.842	0.1983	1.0482	4560
239.00	2.3" Ø x 20' Omni	6	6.585	0.1509	1.0762	13369
237.00	2.3" Ø x 20' Omni	6	6.527	0.1402	1.0599	12714
223.00	L-810 Side Light	6	6.225	0.0946	1.0835	16609
186.50	Guy	10	6.105	0.0443	0.9479	7124
183.00	26.5" x 15" Conduit Box	10	6.150	0.0508	0.9992	11307
169.00	10" x 10" x 1.25" Detuner Box	10	6.379	0.0636	0.9149	35064
145.50	14.875"x15.125"x0.5" Flat Panel	10	6.634	0.0291	0.7792	15125
141.00	4' Grid Dish	10	6.643	0.0359	0.8455	13441
135.00	L-810 Side Light	10	6.627	0.0431	0.7296	19070
126.50	Guy	10	6.572	0.0540	0.8285	33009
104.50	19" x 15" x 10.5" Squid	10	6.172	0.2064	0.6653	3685
104.00	19" x 15" x 10.5" Squid	10	6.153	0.2117	0.6803	3488
101.00	(2) CSS X7C-FRO-660-0 w MP	10	6.018	0.2434	0.6946	3103
80.00	CCI HPA-65R-BUU-H6 with Mount Pipe	2	4.427	0.4169	0.5448	7340
61.50	Guy	2	2.548	0.3901	0.4654	2192
33.00	26.5" x 15" Conduit Box	2	0.785	0.2130	0.2836	8784
8.50	15" x 15" x 6.5" Detuner Box	2	0.091	0.0321	0.1016	12425

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
L1	341.5 - 314.5	Pole	P8x.322 (8" std)	1	-1343.75	264577.00	48.9	Pass
T1	314.5 - 310.5	Leg	2 1/2	4	-13053.30	143512.00	9.1	Pass
T2	310.5 - 306.5	Leg	2 1/2	12	-16298.50	143512.00	11.4	Pass
							37.8 (b)	
T3	306.5 - 281.5	Leg	2 1/2	20	-20908.80	112599.00	18.6	Pass
T4	281.5 - 276.5	Leg	2 1/2	54	-22949.50	186647.00	12.3	Pass
T5	276.5 - 271.5	Leg	2 1/2	65	-24997.60	186647.00	13.4	Pass
T6	271.5 - 266.5	Leg	2 1/2	78	-28378.40	112599.00	25.2	Pass
T7	266.5 - 261.5	Leg	2 1/2	86	-31247.00	112599.00	27.8	Pass
T8	261.5 - 256.5	Leg	2 1/2	96	-35482.20	112599.00	31.5	Pass
T9	256.5 - 251.5	Leg	2 1/2	104	-39248.60	112599.00	34.9	Pass
T10	251.5 - 246.5	Leg	2 1/2	114	-44747.90	112599.00	39.7	Pass
T11	246.5 - 241.5	Leg	2 1/2	122	-45855.10	186647.00	24.6	Pass
T12	241.5 - 236.5	Leg	2 1/2	135	-42490.30	186647.00	22.8	Pass
T13	236.5 - 231.5	Leg	2 1/2	147	-38879.90	186647.00	20.8	Pass
							32.6 (b)	
T14	231.5 - 226.5	Leg	2 1/2	159	-35741.90	186647.00	19.1	Pass
T15	226.5 - 221.5	Leg	2 1/2	171	-33993.60	186647.00	18.2	Pass
T16	221.5 - 216.5	Leg	2 1/2	184	-32147.90	186647.00	17.2	Pass
T17	216.5 - 211.5	Leg	2 1/2	196	-32082.50	186647.00	17.2	Pass
T18	211.5 - 206.5	Leg	2 1/2	208	-32310.40	186647.00	17.3	Pass
							27.1 (b)	
T19	206.5 - 201.5	Leg	2 1/2	220	-32513.50	186647.00	17.4	Pass
T20	201.5 - 196.5	Leg	2 1/2	232	-33320.20	186647.00	17.9	Pass
T21	196.5 - 191.5	Leg	2 1/2	243	-33908.10	186647.00	18.2	Pass
T22	191.5 - 186.5	Leg	2 1/2	256	-35143.80	186647.00	18.8	Pass
T23	186.5 - 181.5	Leg	2 1/2	268	-39268.80	186647.00	21.0	Pass
							32.9 (b)	
T24	181.5 - 176.5	Leg	2 1/4	280	-38296.50	77870.40	49.2	Pass
T25	176.5 - 171.5	Leg	2 1/4	289	-38741.40	77870.40	49.8	Pass
T26	171.5 - 166.5	Leg	2 1/4	296	-39492.40	77870.40	50.7	Pass
T27	166.5 - 161.5	Leg	2 1/4	307	-40671.70	77870.40	52.2	Pass
T28	161.5 - 156.5	Leg	2 1/4	315	-41991.10	77870.40	53.9	Pass
T29	156.5 - 151.5	Leg	2 1/4	324	-42723.40	145326.00	29.4	Pass
T30	151.5 - 146.5	Leg	2 1/4	336	-43758.10	145326.00	30.1	Pass
T31	146.5 - 141.5	Leg	2 1/4	348	-43875.20	77870.40	56.3	Pass
T32	141.5 - 136.5	Leg	2 1/4	357	-44221.50	77870.40	56.8	Pass
T33	136.5 - 131.5	Leg	2 1/4	366	-43831.90	77870.40	56.3	Pass
T34	131.5 - 106.5	Leg	2 1/4	375	-58287.00	77870.40	74.9	Pass
T35	106.5 - 101.5	Leg	2 1/4	408	-59783.90	77870.40	76.8	Pass
T36	101.5 - 96.5	Leg	2 1/4	417	-62917.80	145326.00	43.3	Pass
T37	96.5 - 91.5	Leg	2 1/4	429	-61636.90	77870.40	79.2	Pass
T38	91.5 - 86.5	Leg	2 1/4	438	-60095.60	77870.40	77.2	Pass
T39	86.5 - 81.5	Leg	2 1/4	446	-58189.90	77870.40	74.7	Pass
T40	81.5 - 76.5	Leg	2 1/4	455	-58606.70	77870.40	75.3	Pass
T41	76.5 - 71.5	Leg	2 1/4	464	-58256.90	145326.00	40.1	Pass
T42	71.5 - 66.5	Leg	2 1/4	476	-61898.30	145326.00	42.6	Pass
T43	66.5 - 61.5	Leg	2 1/4	488	-67282.70	145326.00	46.3	Pass
T44	61.5 - 56.5	Leg	2 1/4	500	-72435.50	145326.00	49.8	Pass
							60.7 (b)	
T45	56.5 - 51.5	Leg	2 1/4	512	-72017.60	145326.00	49.6	Pass
T46	51.5 - 46.5	Leg	2 1/4	524	-71519.80	145326.00	49.2	Pass
T47	46.5 - 41.5	Leg	2 1/4	536	-71481.70	145326.00	49.2	Pass
T48	41.5 - 36.5	Leg	2 1/4	548	-71372.20	145326.00	49.1	Pass
T49	36.5 - 31.5	Leg	2 1/4	560	-71703.10	145326.00	49.3	Pass
							60.1 (b)	
T50	31.5 - 6.5	Leg	2 1/4	574	-75187.10	77870.40	96.6	Pass
T51	6.5 - 0	Leg	W8x40	606	-74592.20	350999.00	26.8	Pass
T1	314.5 - 310.5	Diagonal	2L2x2x1/4x3/8	8	-2411.25	32962.50	7.3	Pass
							13.4 (b)	
T2	310.5 - 306.5	Diagonal	VSi-HSS1.5X0.125	19	-2443.24	9138.82	26.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	øP$_{allow}$ lb	% Capacity	Pass Fail
T3	306.5 - 281.5	Diagonal	VSi-HSS1.5X0.125	26	-1812.62	6855.93	26.4	Pass
T4	281.5 - 276.5	Diagonal	VSi-HSS1.5X0.125	61	-1777.70	6855.93	25.9	Pass
T5	276.5 - 271.5	Diagonal	VSi-HSS1.5X0.125	71	-2275.14	6855.93	33.2	Pass
T6	271.5 - 266.5	Diagonal	VSi-PIPE1-1/2SCH40	83	-2788.07	15436.60	18.1	Pass
							22.4 (b)	
T7	266.5 - 261.5	Diagonal	VSi-PIPE1-1/2SCH40	92	-2949.72	15436.60	19.1	Pass
							23.7 (b)	
T8	261.5 - 256.5	Diagonal	VSi-PIPE1-1/2SCH40	101	-3230.49	15436.60	20.9	Pass
							26.0 (b)	
T9	256.5 - 251.5	Diagonal	VSi-Pipe1-1/2SCH80	110	-3475.15	19831.40	17.5	Pass
							28.0 (b)	
T10	251.5 - 246.5	Diagonal	VSi-Pipe1-1/2SCH80	119	-3660.79	19831.40	18.5	Pass
							29.5 (b)	
T11	246.5 - 241.5	Diagonal	2L2x2x1/4x3/8	129	-4207.18	31030.50	13.6	Pass
							21.4 (b)	
T12	241.5 - 236.5	Diagonal	2L2x2x1/4x3/8	141	-3431.61	31030.50	11.1	Pass
							16.3 (b)	
T13	236.5 - 231.5	Diagonal	2L2x2x1/4x3/8	154	-2563.23	31030.50	8.3	Pass
							11.4 (b)	
T14	231.5 - 226.5	Diagonal	2L2x2x1/4x3/8	166	-2283.02	31030.50	7.4	Pass
							9.7 (b)	
T15	226.5 - 221.5	Diagonal	VSi-PIPE1-1/2SCH40	178	-1858.27	15436.60	12.0	Pass
							15.0 (b)	
T16	221.5 - 216.5	Diagonal	VSi-PIPE1-1/2SCH40	190	-1445.80	15436.60	9.4	Pass
							11.6 (b)	
T17	216.5 - 211.5	Diagonal	VSi-PIPE1-1/2SCH40	202	-1207.80	15436.60	7.8	Pass
							9.7 (b)	
T18	211.5 - 206.5	Diagonal	VSi-PIPE1-1/2SCH40	212	-907.79	15436.60	5.9	Pass
							7.3 (b)	
T19	206.5 - 201.5	Diagonal	VSi-PIPE1-1/2SCH40	225	-942.91	15436.60	6.1	Pass
							7.6 (b)	
T20	201.5 - 196.5	Diagonal	VSi-PIPE1-1/2SCH40	237	-1350.28	15436.60	8.7	Pass
							10.9 (b)	
T21	196.5 - 191.5	Diagonal	VSi-PIPE1-1/2SCH40	249	-1724.31	15436.60	11.2	Pass
							13.9 (b)	
T22	191.5 - 186.5	Diagonal	VSi-PIPE1-1/2SCH40	261	-2041.35	15436.60	13.2	Pass
							16.4 (b)	
T23	186.5 - 181.5	Diagonal	VSi-PIPE1-1/2SCH40	272	-3327.18	15436.60	21.6	Pass
							26.8 (b)	
T24	181.5 - 176.5	Diagonal	VSi-HSS1.5X0.125	284	-3007.58	6805.05	44.2	Pass
T25	176.5 - 171.5	Diagonal	VSi-PIPE1-1/2SCH40	295	-2761.02	15282.00	18.1	Pass
							22.2 (b)	
T26	171.5 - 166.5	Diagonal	VSi-PIPE1-1/2SCH40	302	-2513.95	15282.00	16.5	Pass
							20.2 (b)	
T27	166.5 - 161.5	Diagonal	2L2x2x1/4x3/8	313	-2194.58	30924.60	7.1	Pass
							9.9 (b)	
T28	161.5 - 156.5	Diagonal	VSi-HSS1.5X0.125	320	-1963.44	6754.74	29.1	Pass
T29	156.5 - 151.5	Diagonal	VSi-HSS1.5X0.125	331	-1585.01	6754.74	23.5	Pass
T30	151.5 - 146.5	Diagonal	VSi-HSS1.5X0.125	341	-1464.11	6754.74	21.7	Pass
T31	146.5 - 141.5	Diagonal	VSi-HSS1.5X0.125	355	-1040.38	6754.74	15.4	Pass
T32	141.5 - 136.5	Diagonal	VSi-HSS1.5X0.125	363	-1136.05	6754.74	16.8	Pass
T33	136.5 - 131.5	Diagonal	VSi-HSS1.5X0.125	372	-1567.70	6754.74	23.2	Pass
T34	131.5 - 106.5	Diagonal	VSi-HSS1.5X0.125	398	-4607.23	6754.74	68.2	Pass
T35	106.5 - 101.5	Diagonal	VSi-HSS1.5X0.125	413	-3421.46	6754.74	50.7	Pass
T36	101.5 - 96.5	Diagonal	VSi-HSS1.5X0.125	423	-2387.19	6754.74	35.3	Pass
T37	96.5 - 91.5	Diagonal	VSi-HSS1.5X0.125	435	-3294.54	6754.74	48.8	Pass
T38	91.5 - 86.5	Diagonal	VSi-HSS1.5X0.125	444	-3609.80	6754.74	53.4	Pass
T39	86.5 - 81.5	Diagonal	VSi-HSS1.5X0.125	453	-3627.60	6754.74	53.7	Pass
T40	81.5 - 76.5	Diagonal	VSi-PIPE1-1/2SCH40	463	-7111.09	15282.00	46.5	Pass
							57.2 (b)	
T41	76.5 - 71.5	Diagonal	VSi-PIPE1-1/2SCH40	471	-8892.74	25483.60	34.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	øP$_{allow}$ lb	% Capacity	Pass Fail
							71.6 (b)	
T42	71.5 - 66.5	Diagonal	VSi-HSS1.5X0.125	483	-9044.28	15467.80	58.5	Pass
							81.8 (b)	
T43	66.5 - 61.5	Diagonal	VSi-HSS1.5X0.125	495	-9502.20	15467.80	61.4	Pass
							85.0 (b)	
T44	61.5 - 56.5	Diagonal	VSi-HSS1.5X0.125	506	-2470.47	6754.74	36.6	Pass
T45	56.5 - 51.5	Diagonal	VSi-HSS1.5X0.125	518	-2309.58	6754.74	34.2	Pass
T46	51.5 - 46.5	Diagonal	VSi-HSS1.5X0.125	530	-2031.02	6754.74	30.1	Pass
T47	46.5 - 41.5	Diagonal	VSi-PIPE1-1/2SCH40	542	-1797.46	15282.00	11.8	Pass
							14.5 (b)	
T48	41.5 - 36.5	Diagonal	VSi-PIPE1-1/2SCH40	554	-1496.97	15282.00	9.8	Pass
							12.0 (b)	
T49	36.5 - 31.5	Diagonal	VSi-PIPE1-1/2SCH40	566	-1296.05	15282.00	8.5	Pass
							10.4 (b)	
T50	31.5 - 6.5	Diagonal	VSi-PIPE1-1/2SCH40	579	-2580.34	15282.00	16.9	Pass
							20.8 (b)	
T2	310.5 - 306.5	Horizontal	VSi-HSS1.5X0.125	14	-334.99	15283.70	2.2	Pass
							3.2 (b)	
T3	306.5 - 281.5	Horizontal	VSi-HSS1.5X0.125	25	3591.43	20410.50	17.6	Pass
							34.4 (b)	
T4	281.5 - 276.5	Horizontal	VSi-HSS1.5X0.125	56	-556.50	15283.70	3.6	Pass
							5.3 (b)	
T5	276.5 - 271.5	Horizontal	VSi-HSS1.5X0.125	68	-606.16	15283.70	4.0	Pass
							5.8 (b)	
T6	271.5 - 266.5	Horizontal	VSi-HSS1.5X0.125	80	-688.14	15283.70	4.5	Pass
							6.6 (b)	
T7	266.5 - 261.5	Horizontal	VSi-HSS1.5X0.125	89	-757.70	15283.70	5.0	Pass
							7.3 (b)	
T8	261.5 - 256.5	Horizontal	VSi-HSS1.5X0.125	98	-860.40	15283.70	5.6	Pass
							8.2 (b)	
T9	256.5 - 251.5	Horizontal	VSi-HSS1.5X0.125	107	-951.73	15283.70	6.2	Pass
							9.1 (b)	
T10	251.5 - 246.5	Horizontal	VSi-HSS1.5X0.125	116	-1085.08	15283.70	7.1	Pass
							10.4 (b)	
T11	246.5 - 241.5	Horizontal	VSi-HSS1.5X0.125	127	5314.36	20410.50	26.0	Pass
							50.9 (b)	
T12	241.5 - 236.5	Horizontal	VSi-HSS1.5X0.125	137	-1111.93	15283.70	7.3	Pass
							10.7 (b)	
T13	236.5 - 231.5	Horizontal	VSi-HSS1.5X0.125	149	-1030.34	15283.70	6.7	Pass
							9.9 (b)	
T14	231.5 - 226.5	Horizontal	VSi-HSS1.5X0.125	161	-942.79	15283.70	6.2	Pass
							9.0 (b)	
T15	226.5 - 221.5	Horizontal	VSi-HSS1.5X0.125	173	-866.70	15283.70	5.7	Pass
							8.3 (b)	
T16	221.5 - 216.5	Horizontal	VSi-HSS1.5X0.125	185	-824.30	15283.70	5.4	Pass
							7.9 (b)	
T17	216.5 - 211.5	Horizontal	VSi-HSS1.5X0.125	198	-779.54	15283.70	5.1	Pass
							7.5 (b)	
T18	211.5 - 206.5	Horizontal	VSi-HSS1.5X0.125	210	-783.48	15283.70	5.1	Pass
							7.5 (b)	
T19	206.5 - 201.5	Horizontal	VSi-HSS1.5X0.125	223	-788.41	15283.70	5.2	Pass
							7.6 (b)	
T20	201.5 - 196.5	Horizontal	VSi-HSS1.5X0.125	234	-807.97	15283.70	5.3	Pass
							7.7 (b)	
T21	196.5 - 191.5	Horizontal	VSi-HSS1.5X0.125	245	-822.23	15283.70	5.4	Pass
							7.9 (b)	
T22	191.5 - 186.5	Horizontal	VSi-HSS1.5X0.125	258	-852.19	15283.70	5.6	Pass
							8.2 (b)	
T23	186.5 - 181.5	Horizontal	VSi-HSS1.5X0.125	271	3382.36	20410.50	16.6	Pass
							32.4 (b)	
T24	181.5 - 176.5	Horizontal	VSi-HSS1.5X0.125	282	-1007.26	15283.70	6.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
							9.6 (b)	
T25	176.5 - 171.5	Horizontal	VSi-HSS1.5X0.125	291	-1018.96	15217.60	6.7	Pass
							9.8 (b)	
T26	171.5 - 166.5	Horizontal	VSi-HSS1.5X0.125	299	-1038.71	15217.60	6.8	Pass
							9.9 (b)	
T27	166.5 - 161.5	Horizontal	VSi-HSS1.5X0.125	309	-1069.73	15217.60	7.0	Pass
							10.2 (b)	
T28	161.5 - 156.5	Horizontal	VSi-HSS1.5X0.125	317	-1104.43	15217.60	7.3	Pass
							10.6 (b)	
T29	156.5 - 151.5	Horizontal	VSi-HSS1.5X0.125	326	-1123.69	15217.60	7.4	Pass
							10.8 (b)	
T30	151.5 - 146.5	Horizontal	VSi-HSS1.5X0.125	338	-1150.90	15217.60	7.6	Pass
							11.0 (b)	
T31	146.5 - 141.5	Horizontal	VSi-HSS1.5X0.125	350	-1153.98	15217.60	7.6	Pass
							11.1 (b)	
T32	141.5 - 136.5	Horizontal	VSi-HSS1.5X0.125	359	-1163.09	15217.60	7.6	Pass
							11.1 (b)	
T33	136.5 - 131.5	Horizontal	VSi-HSS1.5X0.125	368	-1163.09	15217.60	7.6	Pass
							11.1 (b)	
T34	131.5 - 106.5	Horizontal	VSi-HSS1.5X0.125	403	3421.75	20410.50	16.8	Pass
							32.8 (b)	
T35	106.5 - 101.5	Horizontal	VSi-HSS1.5X0.125	410	-1572.41	15217.60	10.3	Pass
							15.1 (b)	
T36	101.5 - 96.5	Horizontal	VSi-HSS1.5X0.125	419	-1654.83	15217.60	10.9	Pass
							15.9 (b)	
T37	96.5 - 91.5	Horizontal	VSi-HSS1.5X0.125	431	-1654.83	15217.60	10.9	Pass
							15.9 (b)	
T38	91.5 - 86.5	Horizontal	VSi-HSS1.5X0.125	441	-1621.14	15217.60	10.7	Pass
							15.5 (b)	
T39	86.5 - 81.5	Horizontal	VSi-HSS1.5X0.125	449	-1580.61	15217.60	10.4	Pass
							15.1 (b)	
T40	81.5 - 76.5	Horizontal	VSi-HSS1.5X0.125	458	-1541.45	15217.60	10.1	Pass
							14.8 (b)	
T41	76.5 - 71.5	Horizontal	VSi-HSS1.5X0.125	467	-1541.45	15217.60	10.1	Pass
							14.8 (b)	
T42	71.5 - 66.5	Horizontal	VSi-HSS1.5X0.125	479	-1628.02	15217.60	10.7	Pass
							15.6 (b)	
T43	66.5 - 61.5	Horizontal	VSi-HSS1.5X0.125	491	-1769.64	15217.60	11.6	Pass
							17.0 (b)	
T44	61.5 - 56.5	Horizontal	VSi-HSS1.5X0.125	504	5867.56	20410.50	28.7	Pass
							56.2 (b)	
T45	56.5 - 51.5	Horizontal	VSi-HSS1.5X0.125	515	-1905.16	15217.60	12.5	Pass
							18.2 (b)	
T46	51.5 - 46.5	Horizontal	VSi-HSS1.5X0.125	527	-1894.17	15217.60	12.4	Pass
							18.1 (b)	
T47	46.5 - 41.5	Horizontal	VSi-HSS1.5X0.125	539	-1881.08	15217.60	12.4	Pass
							18.0 (b)	
T48	41.5 - 36.5	Horizontal	VSi-HSS1.5X0.125	551	-1880.08	15217.60	12.4	Pass
							18.0 (b)	
T49	36.5 - 31.5	Horizontal	VSi-HSS1.5X0.125	563	-1885.90	15217.60	12.4	Pass
							18.1 (b)	
T50	31.5 - 6.5	Horizontal	VSi-HSS1.5X0.125	575	-1885.90	15217.60	12.4	Pass
							18.1 (b)	
T4	281.5 - 276.5	Secondary Horizontal	1	62	-556.50	9881.44	5.6	Pass
							7.0 (b)	
T5	276.5 - 271.5	Secondary Horizontal	1	76	-606.16	9881.44	6.1	Pass
T11	246.5 - 241.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	131	-1111.93	24783.10	4.5	Pass
							14.0 (b)	
T12	241.5 - 236.5	Secondary Horizontal	VSi-2L2-1/2X2X1/4X3/8	143	-1030.34	46329.80	2.2	Pass
							6.5 (b)	
T13	236.5 - 231.5	Secondary Horizontal	VSi-2L2-1/2X2X1/4X3/8	156	-942.79	46329.80	2.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
							5.9 (b)	
T14	231.5 - 226.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	167	-866.70	24783.10	3.5	Pass
							10.9 (b)	
T15	226.5 - 221.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	179	-824.30	24783.10	3.3	Pass
							10.4 (b)	
T16	221.5 - 216.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	193	-779.54	24783.10	3.1	Pass
							9.8 (b)	
T17	216.5 - 211.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	204	-777.96	24783.10	3.1	Pass
							9.8 (b)	
T18	211.5 - 206.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	216	-783.48	24783.10	3.2	Pass
							9.9 (b)	
T19	206.5 - 201.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	228	-788.41	24783.10	3.2	Pass
							9.9 (b)	
T20	201.5 - 196.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	240	-807.97	24783.10	3.3	Pass
							10.2 (b)	
T21	196.5 - 191.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	252	-822.23	24783.10	3.3	Pass
							10.3 (b)	
T22	191.5 - 186.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	265	-852.19	24783.10	3.4	Pass
							10.7 (b)	
T23	186.5 - 181.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	276	-952.22	24783.10	3.8	Pass
T29	156.5 - 151.5	Secondary Horizontal	1	332	-1123.69	9735.59	11.5	Pass
							14.1 (b)	
T30	151.5 - 146.5	Secondary Horizontal	1	345	-1150.90	9735.59	11.8	Pass
T36	101.5 - 96.5	Secondary Horizontal	1	425	-1654.83	9735.59	17.0	Pass
T41	76.5 - 71.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	473	-1532.24	24661.40	6.2	Pass
T42	71.5 - 66.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	487	-1628.02	24661.40	6.6	Pass
T43	66.5 - 61.5	Secondary Horizontal	VSi-L2-1/2X2X1/4	497	-1769.64	24661.40	7.2	Pass
							22.3 (b)	
T44	61.5 - 56.5	Secondary Horizontal	1	509	-1905.16	9735.59	19.6	Pass
							24.0 (b)	
T45	56.5 - 51.5	Secondary Horizontal	1	521	-1894.17	9735.59	19.5	Pass
							23.8 (b)	
T46	51.5 - 46.5	Secondary Horizontal	1	533	-1881.08	9735.59	19.3	Pass
							23.7 (b)	
T47	46.5 - 41.5	Secondary Horizontal	1	545	-1880.08	9735.59	19.3	Pass
							23.6 (b)	
T48	41.5 - 36.5	Secondary Horizontal	1	557	-1877.20	9735.59	19.3	Pass
							23.6 (b)	
T49	36.5 - 31.5	Secondary Horizontal	1	569	-1885.90	9735.59	19.4	Pass
T1	314.5 - 310.5	Top Girt	L2x2x1/4	6	-0.09	20649.80	0.2	Pass
T51	6.5 - 0	Top Girt	W16x50	609	630.69	476280.00	3.6	Pass
T3	306.5 - 281.5	Guy A@306.5	11/16	613	14233.20	30000.00	47.4	Pass
T11	246.5 - 241.5	Guy A@246.5	7/8	616	17001.70	47820.00	35.6	Pass
T23	186.5 - 181.5	Guy A@186.5	9/16	619	9085.75	21000.00	43.3	Pass
T34	131.5 - 106.5	Guy A@126.5	5/8	622	11274.70	25440.00	44.3	Pass
T44	61.5 - 56.5	Guy A@61.5	11/16	625	12784.50	30000.00	42.6	Pass
T3	306.5 - 281.5	Guy B@306.5	11/16	612	14285.80	30000.00	47.6	Pass
T11	246.5 - 241.5	Guy B@246.5	7/8	615	17023.50	47820.00	35.6	Pass
T23	186.5 - 181.5	Guy B@186.5	9/16	618	9127.81	21000.00	43.5	Pass
T34	131.5 - 106.5	Guy B@126.5	5/8	621	11355.30	25440.00	44.6	Pass
T44	61.5 - 56.5	Guy B@61.5	11/16	624	13127.50	30000.00	43.8	Pass
T3	306.5 - 281.5	Guy C@306.5	11/16	611	14208.40	30000.00	47.4	Pass
T11	246.5 - 241.5	Guy C@246.5	7/8	614	16959.40	47820.00	35.5	Pass
T23	186.5 - 181.5	Guy C@186.5	9/16	617	9067.61	21000.00	43.2	Pass
T34	131.5 - 106.5	Guy C@126.5	5/8	620	11277.20	25440.00	44.3	Pass
T44	61.5 - 56.5	Guy C@61.5	11/16	623	12817.00	30000.00	42.7	Pass
							Summary	
							Pole (L1) 48.9	Pass
							Leg (T50) 96.6	Pass
							Diagonal (T43) 85.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Horizontal (T44)	56.2	Pass
						Secondary Horizontal (T44)	24.0	Pass
						Top Girt (T51)	3.6	Pass
						Guy A (T3)	47.4	Pass
						Guy B (T3)	47.6	Pass
						Guy C (T3)	47.4	Pass
						Bolt Checks	85.0	Pass
						RATING =	**96.6**	**Pass**

PAD AND PIER FOUNDATION DESIGN
SELF-SUPPORTING POLE STRUCTURE
ANSI/TIA-222-G-2-2009 & ACI 318-05

Job No.: STR18-00909-10
Date: 2/8/2018
Calculated by: BDM

INPUT

- Reactions:

$M_u := 90.9 \cdot kip \cdot ft$ = overturning moment at top of pier, factored

$P_u := 121 \cdot kip$ = axial load at top of pier

$V_u := 2 \cdot kip$ = shear load at top of pier

- Concrete:

$B_{pad} := 13.0 \cdot ft$ = pad width (and length)

$B_{pier} := 6.0 \cdot ft$ = existing pier diameter

Pier_Shape := Circular / Square

$H := 1.6 \cdot ft$ = distance from top of pier to top of grade

$z_{pad} := (5 + 4.5 - 1.6) \cdot ft$ = pad depth

$t_{pad} := 4.5 \cdot ft$ = pad thickness

$\gamma_c := 150 \cdot pcf$ = density of concrete

$f'_c := 3000 \cdot psi$ = design compressive strength of concrete

- Rebar: (unknown, assumed temperature and shrinkage steel)

$f_y := 60 \cdot ksi$ = specified minimum yield strength of rebar

Tie := "#5" = size of tie rebar in pier

$s_{tie} := 12 \cdot in$ = spacing of tie rebar in pier

Vert := "#9" = size of vertical rebar in pier

$n_{vert} := 44$ = number of vertical rebar in pier

$L_{vert\_ext} := 21 \cdot in$ = length of vertical rebar exension in pad (assumed)

$cover_{top} := 3.0 \cdot in$ = cover from top edge of vertical to top of concrete in pier

$cover_{side} := 3.0 \cdot in$ = cover from outside edge of tie to edge of concrete in pier

Top_Horiz := #6 / #7 / #8 / #9 / #10

$s_{h\_top} := 10.29 \cdot in$ = size / max spacing of horizontal rebar in top of pad

Bot_Horiz := #6 / #7 / #8 / #9 / #10

$s_{h\_bot} := 10.29 \cdot in$ = size / max spacing of horizontal rebar in bottom of pad

$cover_{tb\_pad} := 3.0 \cdot in$ = cover from outside edge of outside top/bottom horizontal to edge of concrete in pad

$cover_{end\_pad} := 3.0 \cdot in$ = cover from outside end of horizontal to edge of concrete in pad

- Anchor Rods:

$d_{AR} := 2.25 \cdot in$ = diameter of anchor rod

$BC := 60.0 \cdot in$ = bolt-circle diameter for anchor rods

$d_{template} := 6.0 \cdot in$ = anchor rod template width

$L_{AR} := 84.0 \cdot in$ = total length of anchor rod

$proj_{AR} := 12.0 \cdot in$ = projection of anchor rod above top of concrete

- Pier Strength:

$\phi M_{n\_pier} := 0.9 \cdot (1 \cdot kip \cdot in)$ = design flexural strength of pier (w/ applied axial comp. rxn) [Pier.lpd]

$\phi M_{n\_pier} = 0 \cdot kip \cdot ft$

- Soil:

$\gamma_s := 120 \cdot pcf$ = density of soil

$q'_{all} := 10000 \cdot psf$ = net allowable bearing pressure

$\psi_{input} := 0.35$ = coefficient of friction per GEO (-or- for clay: assumed per TBL 8.3; for sand: = 0 if to be calc'd

$\phi := 0 \cdot deg$ = friction angle of soil (= 0 if ψ is input or if soil is clay)

$GW := 10.0 \cdot ft$ = ground water depth

- Constants:

$\gamma_w \equiv 62.4 \cdot pcf$ = unit weight of water

$E \equiv 29000 \cdot ksi$ = modulus of elasticity of rebar steel

$\varepsilon_{cu} \equiv 0.003 \cdot \frac{in}{in}$ = max usable strain at extreme conc. comp. fiber

$\phi_s \equiv 0.75$ = resistance factor for soil strength

$\phi_v \equiv 0.75$ = strength reduction factor for shear

$\phi_t \equiv 0.90$ = strength reduction factor for tension

OUTPUT

GEOMETRY, DEAD LOADS & REBAR

SOIL RESISTANCE - SIDE

SOIL RESISTANCE - DIAGONAL

PAD STRUCTURE FORCES

PAD FLEXURAL STRENGTH - DESIGN

Pad Rebar

- Top:	- Bottom:	
$n_{h\_top} = 16$	$n_{h\_bot} = 16$	= number of pad horizontal rebar at input spacing
$s_{h\_top\_req'd} = -133.17 \cdot in$	$s_{h\_bot\_req'd} = -239.09 \cdot in$	= spacing required for input rebar size
Top_Horiz_Req'd = "#3"	Bot_Horiz_Req'd = "#3"	= size of rebar required for current #/spacing

PAD FLEXURAL STRENGTH - ANALYSIS

PAD SHEAR STRENGTH

PIER STRUCTURE STRENGTH

PAD & PIER STRUCTURE DETAILING

Results Summary

- Soil:

$$result_{Soil} := \begin{pmatrix} r_{q'} \\ r_{OTM} \\ r_{H} \end{pmatrix} \qquad result_{Soil} = \begin{pmatrix} 10 \\ 6 \\ 3 \end{pmatrix} \cdot \%$$

$$result_{Soil\_About\_Diag} := \begin{pmatrix} r_{q'\_diag} \\ r_{OTM\_diag} \end{pmatrix} \qquad result_{Soil\_About\_Diag} = \begin{pmatrix} 11 \\ 4 \end{pmatrix} \cdot \%$$

- Structure - Pad:

$$result_{Pad\_Top\_Str} := \begin{pmatrix} r_{f\_top} \\ r_{v\_top} \end{pmatrix} \qquad result_{Pad\_Top\_Str} = \begin{pmatrix} -1 \\ 0 \end{pmatrix} \cdot \%$$

$$result_{As\_Max\_Top} := Check_{As\_max\_top} \qquad result_{As\_Max\_Top} = \text{"OK"}$$

$$result_{Pad\_Bot\_Str} := \begin{pmatrix} r_{f\_bot} \\ r_{v\_bot\_br} \\ r_{v\_bot\_1way} \\ r_{v\_bot\_2way} \end{pmatrix} \qquad result_{Pad\_Bot\_Str} = \begin{pmatrix} 2 \\ 0 \\ -1 \\ 1 \end{pmatrix} \cdot \%$$

$$result_{As\_Max\_Bot} := Check_{As\_max\_bot} \qquad result_{As\_Max\_Bot} = \text{"OK"}$$

$$result_{As\_min\_pad} := Check_{As\_min\_pad} \qquad result_{As\_min\_pad} = \text{"OK"}$$

- Structure - Pier:

$$result_{Pier\_Str\_Strength} := \begin{pmatrix} r_{f\_pier} \\ r_{v\_pier} \end{pmatrix} \qquad result_{Pier\_Str\_Strength} = \begin{pmatrix} 134533 \\ 0 \end{pmatrix} \cdot \%$$

$$result_{As\_Min\_Pier} := r_{As\_pier} \qquad result_{As\_Min\_Pier} = \text{"OK"}$$

- Detailing - Pad & Pier:

$$result_{Size} := result_{z.pad\_MIN} \qquad result_{Size} = \text{"OK"}$$

$$result_{Detailing\_AR\_PullOut} := \begin{cases} \begin{pmatrix} result_{ld\_AR} \\ result_{ldh\_AR} \end{pmatrix} & \text{if } Shear_{Plane\_45} = \text{"In Pier"} \\ result_{ld\_horiz\_AR} & \text{if } Shear_{Plane\_45} = \text{"In Pad"} \end{cases} \qquad result_{Detailing\_AR\_PullOut} = \text{"NG"}$$

$$result_{Horiz\_ld} := \begin{pmatrix} result_{ld\_horiz\_top} \\ result_{ld\_horiz\_bot} \end{pmatrix} \qquad result_{Horiz\_ld} = \begin{pmatrix} \text{"NG"} \\ \text{"OK"} \end{pmatrix}$$

$$result_{Vert} := \begin{pmatrix} result_{Lvert\_ext} \\ result_{ldh} \end{pmatrix} \qquad result_{Vert} = \begin{pmatrix} \text{"OK"} \\ \text{"OK"} \end{pmatrix}$$

$$result_{Flowable\_Concrete} := r_{conc\_pier} \qquad result_{Flowable\_Concrete} = \text{"NG"}$$

$$result_{As\_TS\_spacing} := \begin{pmatrix} Check_{As\_TS\_spacing\_top} \\ Check_{As\_TS\_spacing\_bot} \end{pmatrix} \qquad result_{As\_TS\_spacing} = \begin{pmatrix} \text{"OK"} \\ \text{"OK"} \end{pmatrix}$$

Max_Utilization_Soil = 11·%

IGNORE STRUCTURE AND DETAILING OUTPUT, REINFORCEMENT UNKNOWN

Project: STR18-00909-10 **Ref:** ANSI/TIA-222-G-2009

Date: 5/8/2017

Description: Inner Anchors-Lower Block

Anchor Block Design

Design For:

Uplift = 18 *k*

Lateral Load = 15.8

Soil Properties:

g_s = 120 *pcf*

f = 35 ^{o}

q_L = 2039 *psf*

Concrete Properties:

r_c= 150 *pcf*

f'_c = 3000 *psi*

Dimension:

Width (W) = 16 *ft*

Length (L) = 6

Height (H) = 2.5

Depth (D) = 3.25

Resistance of Concrete:

Wc= 36 *k*

Soil Resistance:

A_1 = 96 ft^2

A_2 = 216.8

V_s = 495.2 ft^3

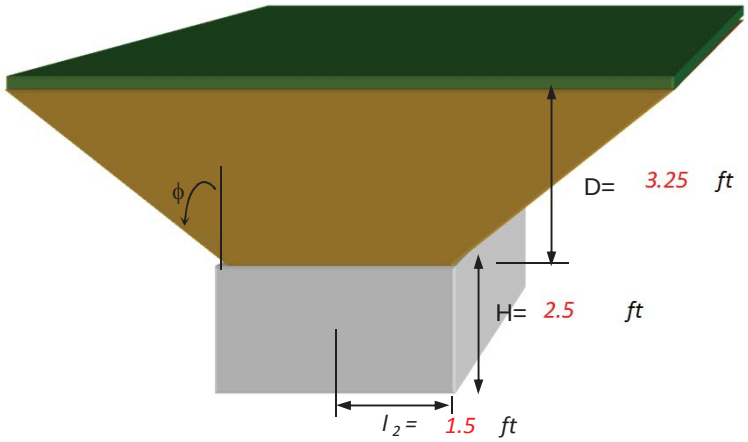
W_s = 59.4 *k*

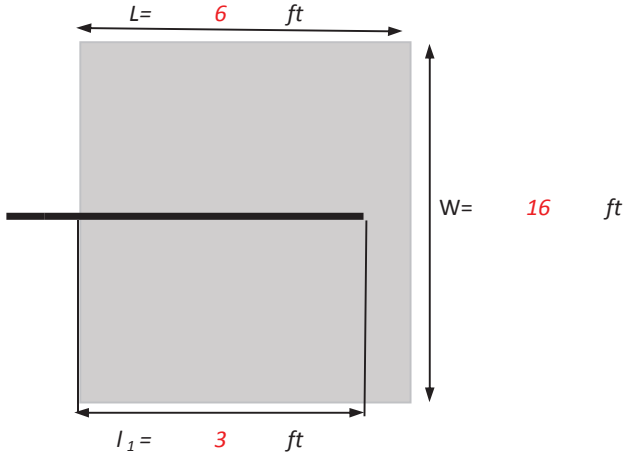
Total Uplift Resitance:

U_{res} = 71.6 k

Total Lateral Resistance:

Lat. Res.(P_{res})= 61.17 *k*





Top View

Summary:

Uplift (U) =	18 *k*	U_{res} =	71.6 *k*	U/U_{res} =	25%
Lateral Load (P) =	15.8 *k*	*Lat. Res.*(P_{res})=	61.17 *k*	P/P_{res} =	26%

Design okay

Project: STR18-00909-10 **Ref:** ANSI/TIA-222-G-2009

Date: 5/8/2017

Description: Outer Anchors-Lower Block

Anchor Block Design

Design For:

Uplift = 31 k

Lateral Load = 22

Soil Properties:

g_s = 120 pcf

f = 35 °

q_L = 2666 psf

Concrete Properties:

r_c = 150 pcf

f'_c = 3000 psi

Dimension:

Width (W) = 16 ft

Length (L) = 6

Height (H) = 2.5

Depth (D) = 5

Resistance of Concrete:

Wc= 36 k

Soil Resistance:

A_1 = 96 ft^2

A_2 = 299.1

V_s = 940.9 ft^3

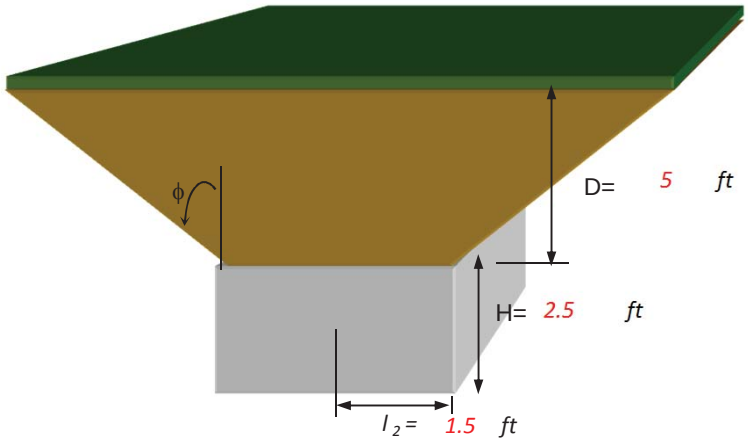
W_s = 112.9 k

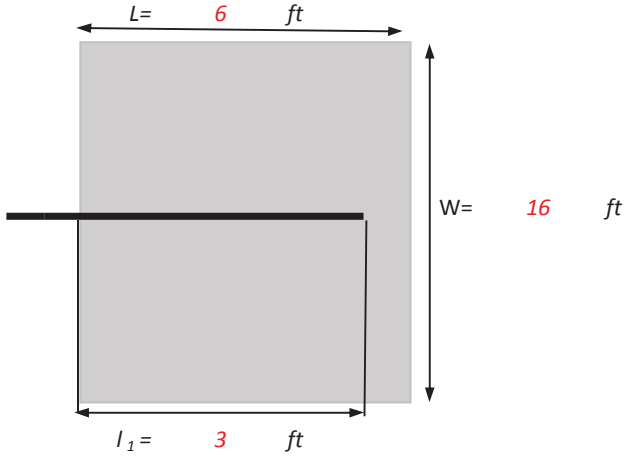
Total Uplift Resitance:

U_{res} = 111.7 k

Total Lateral Resistance:

Lat. Res.(P_{res})= 79.98 k





Top View

Summary:

Uplift (U) =	31 k	U_{res} =	111.7 k	U/U_{res} =	28%
Lateral Load (P) =	22 k	Lat. Res.(P_{res})=	79.98 k	P/P_{res} =	28%

Design okay

CTI TOWERS

Site License Application - ver. 4/17

The application determines the loading for the corresponding structural analysis. Any discrepancies between the application and construction drawings will result in a $1500 administrative fee. All re-runs of structural analyses due to discrepancies or changes in loading will be the responsibility of the company submitting the application. In the event of any discrepancies in the lease documentation, the equipment listed in the application as lease exhibit will be the agreed upon equipment. Submission of this application acknowledges your agreement with these terms.

Site Information	EXPIRES 6 MONTHS FROM RECEIPT & IS SUBJECT TO RE-SUBMISSION FEE AFTERWARDS		
CTI Site Name/Number	Norwalk	52010	Application Submission Date: 1/4/2018
Customer Site Name/Number	CT2138		
Street Address, City, State, Zip	6 Shirley Street, Norwalk, CT 06850		Proposed On Air/Change Out Date: 03/12/2018
Latitude/Longitude	41.11555555	-73.43444444	

Customer Contact Information	Name	Title	Telephone	Email	Address
Applicant Contact Information	MARK ROBERTS	SITE ACQ CONSULTANT	860-670-9068	Mark.Roberts@QCDevelopme	PO BOX 916, STORRS, CT 06268
Real Estate Manager					
RF Engineer Manager					
Construction Manager					
Site Acquisition Manager					
Emergency Contact					
Accounts Payable Contact					
Signatory Information					
Other					

Billing Information	
Licensed Entity Name	NEW CINGULAR WIRELESS PCS, LLC
State of Incorporation	DELAWARE
Notification Address	ATTN. NETWORK REAL ESTATE ADMINISTRATION, 575 MOROSGO DRIVE, ATLANTA, GA 30324
Billing Address	

	Existing/Leased Antenna Configuration			Proposed Final Antenna Configuration		
Antenna Space and Equipment	Sector 1	Sector 2	Sector 3	Sector 1	Sector 2	Sector 3
Status (Leased/Existing/Proposed/)				EXISTING	EXISTING	EXISTING
RAD Center AGL						
Antenna Mount Height						
Antenna Quantity						
Antenna Manufacturer						
Antenna Type (Panel, Omni, etc.)						
Antenna Model #						
Antenna Dimensions (indicate inches-H" x W" x D")						
Antenna Weight (per antenna in LB's)						
Direction of Radiation (Azimuth)						
TX Frequency						
RX Frequency						
TMA Quantity						
TMA Manufacturer & Model						

TMA Dimensions						
TMA Weight						
Diplexer Quantity						
Diplexer Manufacturer & Model						
Diplexer Dimensions						
Diplexer Weight						
RRU Quantity	3 (SWAP 1)	3 (SWAP 1)	3 (SWAP 1)	3	3	3
RRU Manufacturer & Model	(1) RRUS-11; (1) RRUS-32; (1) RRUS-E2	(1) RRUS-11; (1) RRUS-32; (1) RRUS-E2	(1) RRUS-11; (1) RRUS-32; (1) RRUS-E2	(1) RRUS-11; (1) RRUS-32; (1) RRUS-4415 B25	(1) RRUS-11; (1) RRUS-32; (1) RRUS-4415 B25	(1) RRUS-11; (1) RRUS-32; (1) RRUS-4415 B25
RRU Dimensions	19.7" x 17" x 7.2" / 26.7 x 12.1" x 6.7" / 20.4" x 18.5" x 7.5"	19.7" x 17" x 7.2" / 26.7 x 12.1" x 6.7" / 20.4" x 18.5" x 7.5"	19.7" x 17" x 7.2" / 26.7 x 12.1" x 6.7" / 20.4" x 18.5" x 7.5"	19.7" x 17" x 7.2" / 26.7 x 12.1" x 6.7" / 15.0" x 13.2" x 5.4"	19.7" x 17" x 7.2" / 26.7 x 12.1" x 6.7" / 15.0" x 13.2" x 5.4"	19.7" x 17" x 7.2" / 26.7 x 12.1" x 6.7" / 15.0" x 13.2" x 5.4"
RRU Weight	50 lbs / 60 lbs / 60 lbs	50 lbs / 60 lbs / 60 lbs	50 lbs / 60 lbs / 60 lbs	50 lbs / 60 lbs / 44 /bs	50 lbs / 60 lbs / 44 /bs	50 lbs / 60 lbs / 44 /bs
Other Equipment Quantity						
Other Equipment Manufacturer & Model						
Other Equipment Dimensions						
Other Equipment Weight						
# of Coax Cables Per Sector						
Diameter of Coax Cables						
# of Fiber Cables Per Sector						
Diameter of Fiber Cables						
# of Hybrid Cables Per Sector						
Diameter of Hybrid Cables						
# of RET Cables Per Sector						
Diameter of RET Cables						
Receive or Transmit						
TX Frequency						
RX Frequency						
Type of Service (LTE, CDMA, GSM, Broadcast, etc.)						
Mounts						
Mount Analysis Requested (Y/N)						
Mount Specs/As Builts in Possession (Y/N)						
Mount Analysis Requested w/ Tower Climb?						
	Existing/Leased Microwave Configuration			**Proposed Final Microwave Configuration**		
Microwave Space and Equipment	**Sector 1**	**Sector 2**	**Sector 3**	**Sector 1**	**Sector 2**	**Sector 3**
Status (Leased/Existing/Proposed/)						
MW RAD Center AGL						
MW Mount Height						
MW Quantity						
MW Manufacturer						
MW Model #						

MW Dimensions (indicate inches-H" x W" x D")						
MW Weight (per unit in LB's)						
MW Direction of Radiation (Azimuth)						
ODU Quantity						
ODU Manufacturer & Model						
ODU Dimensions						
ODU Weight						
# of Coax Cables Per MW						
Diameter of Coax Cables						
# of Fiber Cables Per MW						
Diameter of Fiber Cables						
TX Frequency						
RX Frequency						

Brief Description of Work to be Performed

Building/Shelter Space and Equipment	Existing/Leased Space and Equipment	Proposed Final Space and Equipment
Status (existing/proposed)		
Type of Enclosure (shelter, cabinets, etc.)		
Leased Ground Space Dimensions (W'x L'x H')		
Concrete Pad Dimensions (W'x L'x H')		
Shelter/Cabinet Dimensions (W'x L'x H')		
Shelter/Cabinet Manufacturer/Model/Quantity		
Generator Leased Ground Dimensions (W'x L'x H')		
Generator Make & Model		
Generator Fuel Type		
Generator Fuel Tank Ground Dimensions (W'x L'x H')		
Fuel Tank Type (above ground, underground, integrated w/ generator)		
Fuel Tank Location		
Fuel Tank Capacity (gallons)		
Telco/Interconnect Requirements		
Base Station Equipment Manufacturer		
Type and Model		
Type of Service		
Average Monthly Power Consumption (kw)		
Electric Service Required (Amps/Volts)		
Batteries to be Installed within Ground Lease Area		
Quantity & Type Batteries (lead acid, dry cell)		

For CTI Use - Account Manager						
Lease Type (MLA, SLA, AMD, REW)						
Application Fee:						

Monthly Lease Rate:						
Monthly Amendment Increase Rate:						
Commencement Date:						
Annual Escalator:						
Initial Term:						
Renewal Term:						
For CTI Use - Operations						
Structural Analysis						
Tower Mapping Exists (Y/N)						
Mount Analysis						
RF Study (SSIS)						
LL Consent						
Notice of LL						
ROFR						
Rev Share						
Approval Conditions						
Collocation Specialist Approval:			**Phone #**		**Date:**	

SHIRLEY ST

Location	SHIRLEY ST	**Mblu**	5/ 58/ 43/ 0/
Acct#	20292	**Owner**	CTI TOWERS ASSETS II LLC
Assessment	$1,129,280	**Appraisal**	$1,613,260
PID	20292	**Building Count**	1

Assessing Distr...

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$673,840	$939,420	$1,613,260
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$471,690	$657,590	$1,129,280

Owner of Record

Owner	CTI TOWERS ASSETS II LLC	**Sale Price**	$1,062,373
Co-Owner		**Certificate**	
Address	38 POND ST SUITE 305	**Book & Page**	8425/253
	FRANKLIN, MA 02038	**Sale Date**	10/24/2016
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
CTI TOWERS ASSETS II LLC	$1,062,373		8425/253		10/24/2016
CONNOISSEUR MEDIA OF CONNECTICUT LLC	$896,700		7826/111		05/15/2013
COMMODORE MEDIA OF NORWALK INC	$0		3225/304	25	06/27/1996
C R B OF NORWALK INC	$0		3225/304		06/27/1996
HANSON COMMUNICATIONS INC	$0		0/0		

Building Information

Building 1 : Section 1

Year Built:	1948
Living Area:	602
Replacement Cost:	$35,380

Building Photo

Building Percent Good: 61

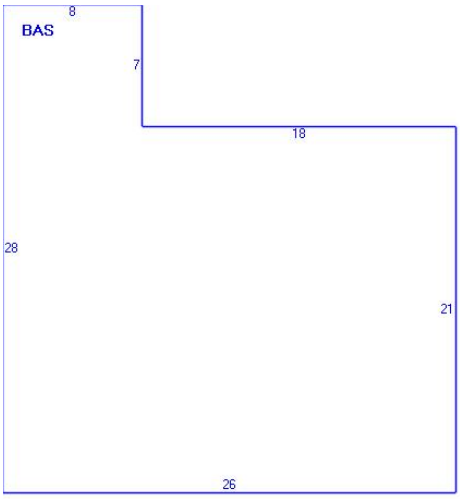
Replacement Cost Less Depreciation: $21,580

Building Photo

(http://images.vgsi.com/photos/NorwalkCTPhotos//E:\DCIM\100

Building Attributes	
Field	**Description**
STYLE	Warehouse
MODEL	Industrial
Stories:	1.00
Occupancy	1.00
Exterior Wall 1	Concrete
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Arch. Shingles
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air
AC Percent	100
Heat Percent	100
Bldg Use	Utility
Total Rooms	0
Bedrooms	0
FBM Area	
Heat/AC	Heat/AC Pkg
Frame	Masonry
Plumbing	Average
Foundation	Poured Conc
Partitions	Average
Wall Height	7.00
% Sprinkler	0.00

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	602	602
		602	602

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 401
Description Utility

Land Line Valuation

Size (Acres) 6.39
Frontage

Zone	B	**Depth**	
Neighborhood	C344	**Assessed Value**	$657,590
		Appraised Value	$939,420

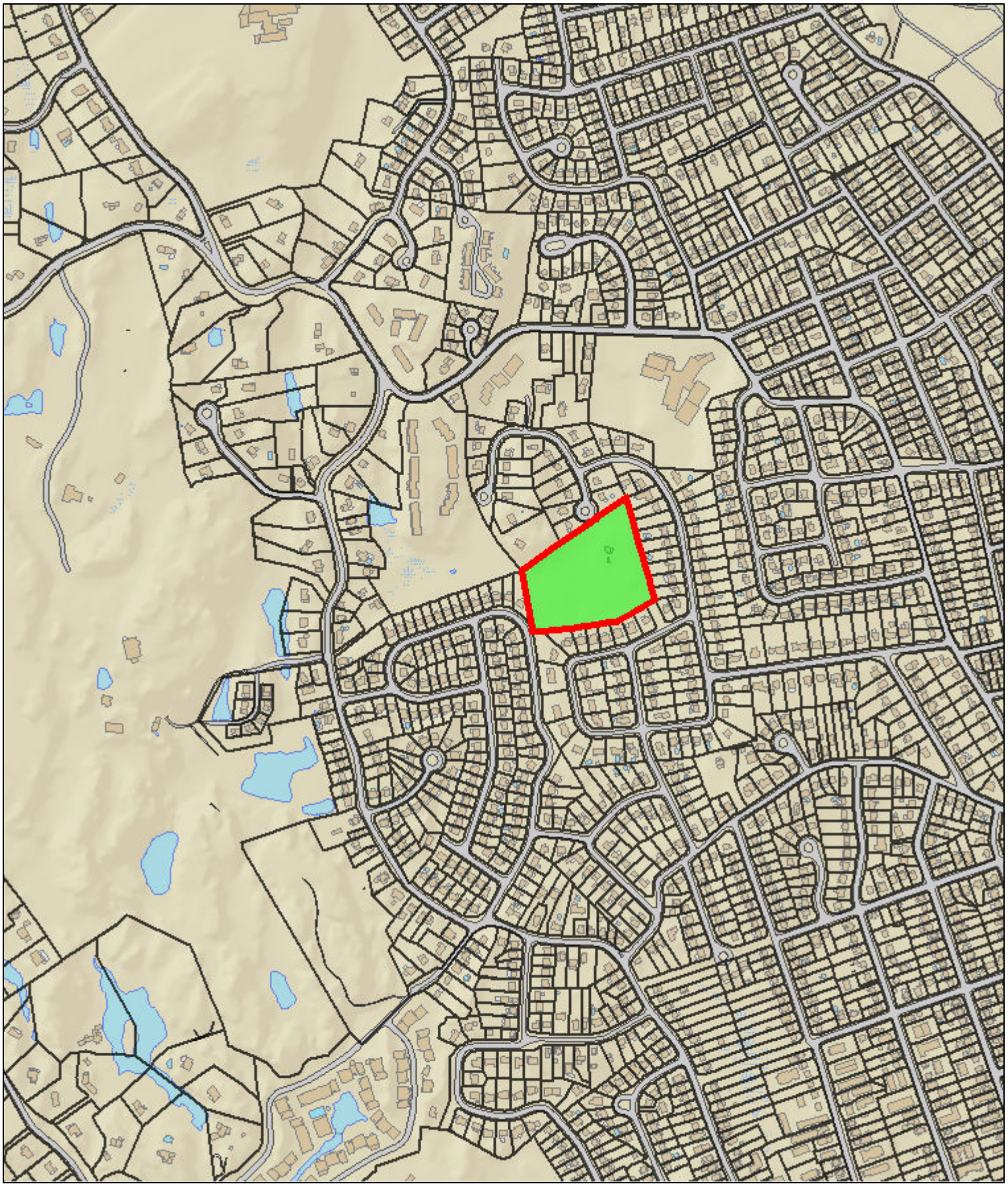
Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN6	Fence 6'			2700.00 L.F.	$18,900	1
SHD4	Cell Equip	FR	Frame	260.00 S.F.	$13,000	1
SHD4	Cell Equip	FR	Frame	180.00 S.F.	$9,000	1
CELL	Cell Site Carrier			3.00 UNITS	$240,000	1
CELL	Cell Site Carrier			12.00 UNITS	$45,360	1
ANTS	Self Sup Tower			1.00 L.F.	$326,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$673,840	$939,420	$1,613,260
2014	$302,480	$939,420	$1,241,900
2013	$302,480	$939,420	$1,241,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$471,690	$657,590	$1,129,280
2014	$211,740	$657,590	$869,330
2013	$211,740	$657,590	$869,330



Norwalk, CT

N
W E
S

0 550 1,100 2,200 Feet

1 inch = 845 feet

SEAL OF THE CITY OF NORWALK
E PLURIBUS UNUM
INCORPORATED 1913

E-Mail from the Norwalk Planning & Zoning Department

Zoning Permit Not Found in Records

From: "Bova, Jim" <jbova@norwalkct.org>
To: "'sllevine@snet.net'" <sllevine@snet.net>
Sent: Thursday, November 10, 2016 3:26 PM
Subject: 6 Shirley St

Steve,

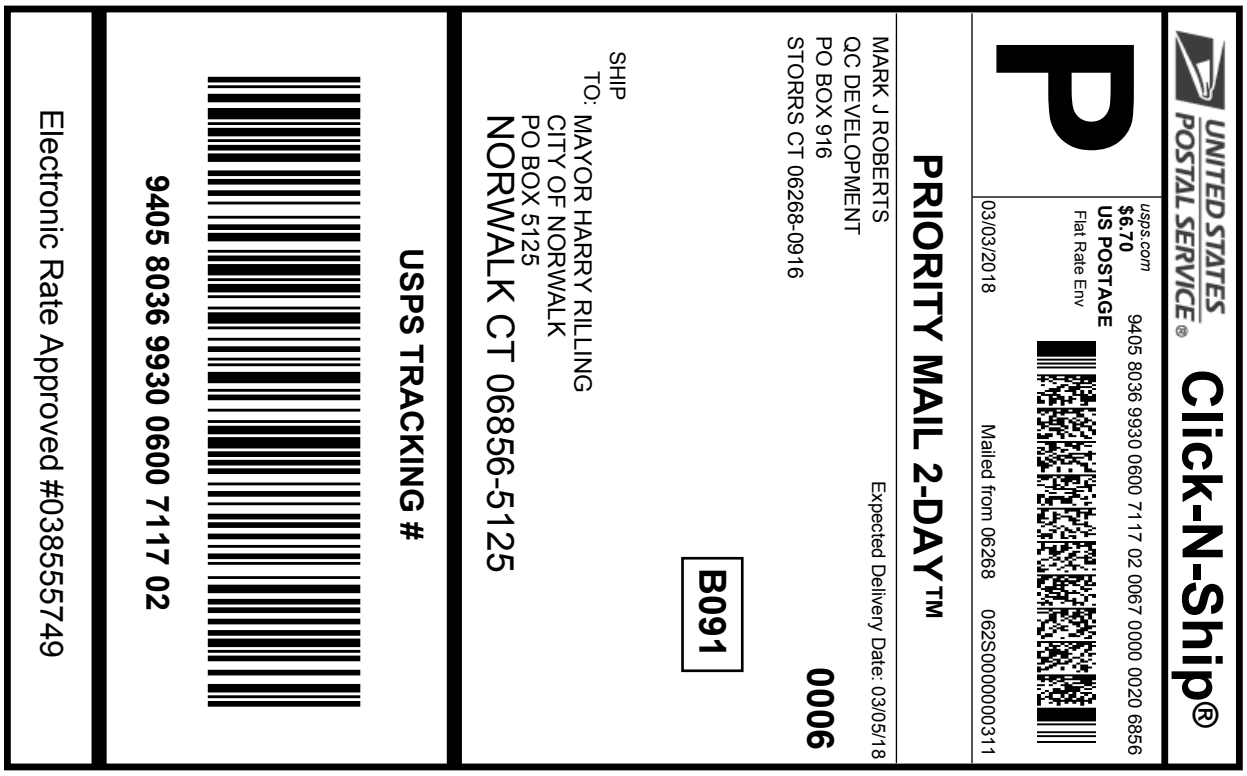
We spoke today concerning permit information for a Telecom Tower located on 6 Shirley St. I was not able to find a permit for this work within the 1959, 1972, 1980s or the present day field card. While there was reference to this tower being located on the parcel, a permit number was not found. If you have any further questions feel free to contact me.

-Jim Bova

Assistant Zoning Officer

City of Norwalk

Planning and Zoning



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # / Insurance Number:
9405 8036 9930 0600 7117 02

Trans. #:	428911728
Print Date:	03/02/2018
Ship Date:	03/03/2018
Expected Delivery Date:	03/05/2018
Insured Value:	$50.00

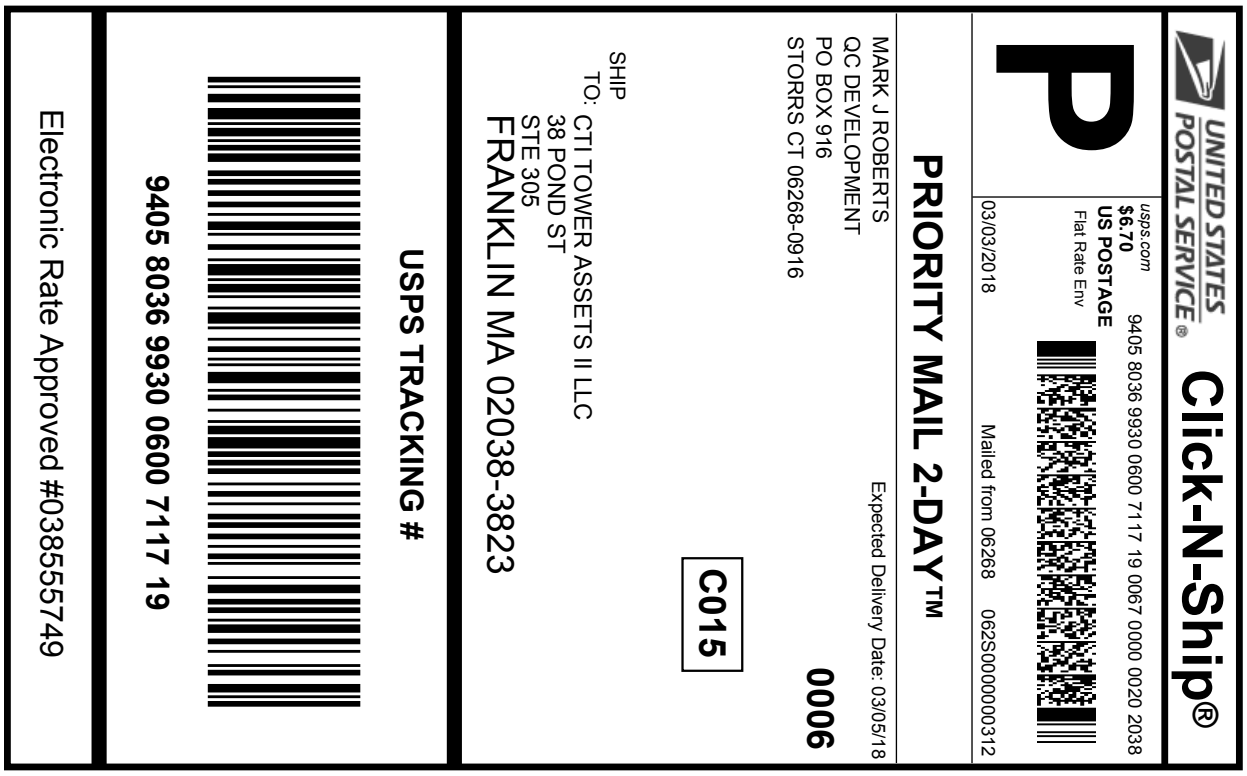
Priority Mail® Postage:	**$6.70**
Insurance Fee	**$0.00**
Total	**$6.70**

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

To: MAYOR HARRY RILLING
CITY OF NORWALK
PO BOX 5125
NORWALK CT 06856-5125

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



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Click-N-Ship® Label Record

USPS TRACKING # / Insurance Number:
9405 8036 9930 0600 7117 19

Trans. #:	428911728
Print Date:	03/02/2018
Ship Date:	03/03/2018
Expected Delivery Date:	03/05/2018
Insured Value:	$50.00

Priority Mail® Postage:	**$6.70**
Insurance Fee	**$0.00**
Total	**$6.70**

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

To: CTI TOWER ASSETS II LLC
38 POND ST
STE 305
FRANKLIN MA 02038-3823

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com