

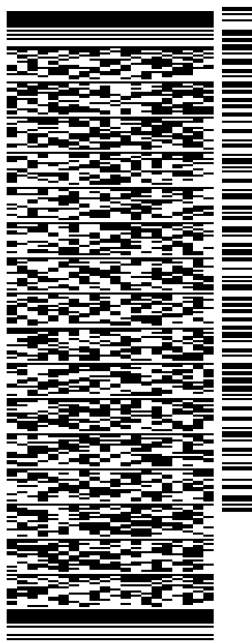
ORIGIN ID:FOXA (781) 392-7547
KATIE ADAMS
NB+C
100 APOLLO DRIVE
SUITE 303
CHELMSFORD, MA 01824
UNITED STATES US

SHIP DATE: 30SEP22
ACTWG/ST: 3.00 LB
CAD: 256217876/INET4530
BILL SENDER

TO **MELANIE A. BACHMAN**
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE

NEW BRITAIN CT 06051

(860) 827-2935 REF: 100788
INV/ PO: DEPT:



581J1/EC8C/FE2D

TRK# 7700 8220 9145
0201
MON - 03 OCT 4:30P
STANDARD OVERNIGHT

XE BDLA
06051
CT-US BDL

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

September 27th, 2022

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

RE: **Notice of Exempt Modification for AT&T
Crown Site ID#841793; AT&T Site ID#CTL01137
50 Pine Lane, Windsor, CT 06095
Latitude: 41.819842 / Longitude: -72.667189**

Dear Ms. Bachman:

AT&T currently maintains (9) antennas at the 130 -foot mounts on the existing 148-foot Monopole Tower located at **50 Pine Lane, Windsor**. The property is owned by The Town of Windsor, and the Tower by Crown Castle. AT&T now intends to replace six (6) antennas. This modification/proposal includes hardware that is both 4G(LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Planned Modifications:

Tower:

REMOVE AND REPLACE

- (2) Quintel QS66512-2 antennas (**REMOVE**), (1) CCI OPA65R-BU8DA antennas (**REMOVE**),
- (3) Ericsson AIR6449 B77D & (3) Ericsson AIR6419 B77G antennas (stacked)(**REPLACE**)
- (2) CCI OPA65R-BU6DA antennas (**REMOVE**), (1) CCI TPA-65R-LCUUU-H8 antenna (**REMOVE**), (2) Quintel QD6616-7 antennas (**REPLACE**), (1) Quintel QD8616-7 antenna (**REPLACE**)
- (6) Ericsson RRUS-32 B2 Radios (**REMOVE**) (3) Ericsson 4415 B25 Radios (**REPLACE**)
- (2) Raycap DC6-48-60-0-8F Squid (**REMOVE**) (2) Raycap DC6-48-60-18-8F Squid (**REMOVE**) (3) Raycap DC9-48-60-24-8C-EV Squid (**REPLACE**)
- (2) 8AWG Power Cables (**REMOVE**) (2) Fiber Cables (**REMOVE**) (3) 6AWG Power cables (**REPLACE**), (3) 3/8" 24-pair Fiber Cables (**REPLACE**)
- (6) coax cables (1 5/8") (**REMOVE**)

RELOCATE

- (3) Ericsson – RRUS-32 B30 Radios
- (3) Ericsson - RRUS-32 B66A Radios
- (3) Ericsson – RRUS-E2 B29 RRUs
- (3) Ericsson – 4449 B5/B12
- (3) Ericsson – 4478 B14 RRUS

INSTALL

- (9) Y cables



1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

Ground:

REMOVE:

(1) UMTS Cabinet
Batteries

INSTALL:

(1) 6648 W/ Xcede
(1) Raycap DC12-48-60-RM Squid
(2) Rectifiers
(2) Battery Strings
(1) Battery Rack

The facility was approved by The Windsor Town Planner and Zoning Commission on October 10th, 2000 by way of Special Use Permit #547. This approval was given without conditions.

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 Mr. Peter Souza, Town Manager for the Town of Windsor, and Mr. Eric Barz, Town Planner for the Town of Windsor. The town owns the property.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification 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 Communication 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-reference telecommunications facility constitutes an exempt modification under R.C.S.A. §16-50j-72(b)(2).



1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

Sincerely,

Katie Adams

Katie Adams
Crown Castle, Agent for AT&T
kadams@nbcllc.com
(781) 392-7547

cc:

Peter Souza, Town Manager
Town Manager's Office
275 Broad Street
Windsor, CT 06095
(Via Fedex)

Eric Barz, AICP, Town Planner
Planning Department
275 Broad Street
Windsor, CT 06095
(Via Fedex)



1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

Phone: (314) 513-0147
www.crowncastle.com

Katie Adams

From: TrackingUpdates@fedex.com
Sent: Wednesday, September 28, 2022 12:30 PM
To: Katie Adams
Subject: FedEx Shipment 770048880710: Your package has been delivered



Hi. Your package was
delivered Wed, 09/28/2022 at
12:23pm.

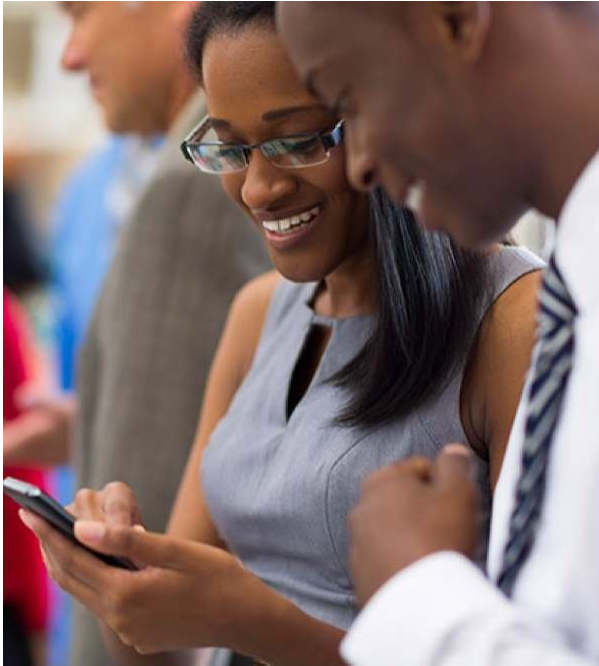


Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by E.BARZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	770048880710
FROM	NB+C 100 Apollo Drive Suite 303 CHELMSFORD, MA, US, 01824
TO	Town of Windsor Eric Barz, Town Planner 275 Broad Street WINDSOR, CT, US, 06095
REFERENCE	100788 CSC 1

SHIPPER REFERENCE 100788 CSC
SHIP DATE Tue 9/27/2022 07:05 PM
DELIVERED TO Receptionist/Front Desk
PACKAGING TYPE FedEx Pak
ORIGIN CHELMSFORD, MA, US, 01824
DESTINATION WINDSOR, CT, US, 06095
SPECIAL HANDLING Deliver Weekday
NUMBER OF PIECES 1
TOTAL SHIPMENT WEIGHT 1.00 LB
SERVICE TYPE FedEx Standard Overnight



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All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

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Thank you for your business.

Katie Adams

From: TrackingUpdates@fedex.com
Sent: Wednesday, September 28, 2022 12:30 PM
To: Katie Adams
Subject: FedEx Shipment 770048838830: Your package has been delivered



Hi. Your package was
delivered Wed, 09/28/2022 at
12:23pm.

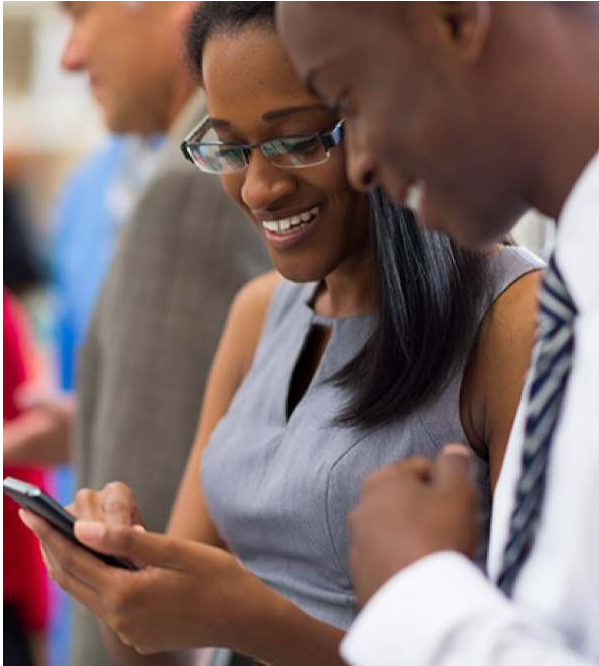


Delivered to 275 BROAD ST, WINDSOR, CT 06095
Received by E.BARZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	770048838830
FROM	NB+C 100 Apollo Drive Suite 303 CHELMSFORD, MA, US, 01824
TO	Town of Windsor Peter Souza, Town Manager 275 Broad Street WINDSOR, CT, US, 06095
REFERENCE	100788 CSC 1

SHIPPER REFERENCE	100788 CSC
SHIP DATE	Tue 9/27/2022 07:05 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Pak
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	WINDSOR, CT, US, 06095
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Standard Overnight



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Thank you for your business.

Exhibit A

Original Facility Approval



RECEIVED

SEP 08 2000

TOWN OF WINDSOR
PLANNING DEPT.

SU#547

AM
TTC
10:10:00

Application for a
Special Use

Town Planning and Zoning Commission

Your Name Town of Windsor Your Phone # 860-285-1877
AT&T Wireless PCS, LLC 203-831-4011

Your Address 275 Broad Street, Windsor, Connecticut 06095
149 Water Street, Norwalk, Connecticut 06854

Are You the.... Owner Optionee Buyer Agent Other
If Other please explain Lessee

Owner's Name (If other than applicant) Town of Windsor Owner's Phone # 860-285-1877

Owner's Address 275 Broad Street, Windsor, Connecticut 06095

Address of Subject Parcel(s) 50 Pine Lane

Size of Subject Parcel(s) 258,311 Sq. Ft. Zone of Subject Parcel(s) NZ

Please describe the Special Use Wilson Firehouse Municipal Tower Facility/Wireless Facility Co-location

Applicable Section(s) of Zoning Regulations 12.2 & 2.2.19E(1)

Please describe how the Special Use will benefit the Town of Windsor (feel free to use the other side).
Additional material to be supplied.

Your Signature *Christopher B. Fisher*
Christopher B. Fisher
Attorney for the Applicant

September 5, 2000
Date

Owner's Signature *Patricia J. Mahon*

9/6/00
Date

Office Use Only *****
Fee Paid _____ Application# _____ Application Received By _____
Date of Action _____ Approved _____ Disapproved _____
Approved \$/mo _____



Town Hall • Windsor, CT 06095-2994

BUILDING PERMIT APPLICATION

PERMIT #: B-041172

ADDRESS OF WORK LOCATION: 50 PINE LANE WINDSOR, CT

TYPE OF PERMIT (Check One)

BUILDING (List size or sq. ft.)
 Foundation 12' x 20'
 Addition NA
 Acc. Structure 12' x 20'
 Deck NA
 Roofing/Siding (# Squares) NA
 Pool: Aboveground: NA Inground: NA
 Other NA

- ELECTRICAL**
- S. Change
- New Residential
- New Commercial
- Addition
- Pool Wiring
- Temporary Service
- Low Voltage
- Other
- PLUMBING**
- New Residential
- New Commercial
- Addition
- Fire Suppression
- Water Heater
- Other
- HVAC**
- New Residential
- New Commercial
- Addition
- Central Air
- Replace/Repair
- Other

New Residential (Total Gross Square Feet) NA
 Residential Renovation NA
 New Commercial (Total Gross Square Feet) 240 SQ FT
 Commercial Renovation (Square Feet of Renovated Space) NA
 Signs (size & type) NA

Copy to FMO

DESCRIPTION OF WORK (must fill out for all permits): Addition of Cingular Wireless antennas and pre-fab concrete equipment shelter to existing ATT Wireless monopole and compound.

Retail Market Value \$ 40,500 Fee: 550 Work Start Date: 5-24-04
 Owner: ATT WIRELESS (land), of Windsor (land) Applicant: CINGULAR WIRELESS (TIM BURKS)
 Address: (ATT) 15 East Midland Ave Address: 500 Enterprise Drive Suite 3A
5th Floor PARAMUS, NJ Zip 07652 ROCKY HILL, CT Zip 06067
 Phone # (Days): 201-576-2416 Phone # (Days): 860 513 7218
 License #: MCO 900137 Type: MAJOR CONTRACTOR Exp.: 6-30-04
CFM CONSTRUCTION ✓ OK

I understand that applying for this permit does not guarantee that it will be issued, and no work shall be done prior to the issuance of said permit or the approval of the **Building Official**. I agree to be in compliance with all applicable codes, standards, statutes, and ordinances which may pertain.

Applicant's Signature: Timothy M. Burks Print Name: TIMOTHY M. BURKS Date: 5/12/04

STAFF MEMBER Check Pertinent Items and initial:
 Zoning 3-1 On Modification OK - TP-2 Taxes Exempt/OK Worker's Comp. OK - CFM Wetlands OK - 4/15/04
 Other: _____ Septic _____ Sewer _____ Letter of Authorization ✓ T.O.W.
 Use Group: S-1 Construction Type: 2-C

Fee: Check Cash Transaction/Receipt #: 1172 Blanket Not Electrical
 Special Conditions or Comments: All Work Per '99 Ct State Bldg Code Regmts Incl. Section 114 Threshold Structures & Section 1705 Spec Insp. All Elect/Mech Work Reg's Super Permits. Call For Inspections Noted - Allow 48HR Notice. Completion Letters + Documentation Req'd. for C&O Prior to Use. This is Cingular Colocate.

Reviewed & Issued By: Stephen Dupre CBO Date: June 17, 2004

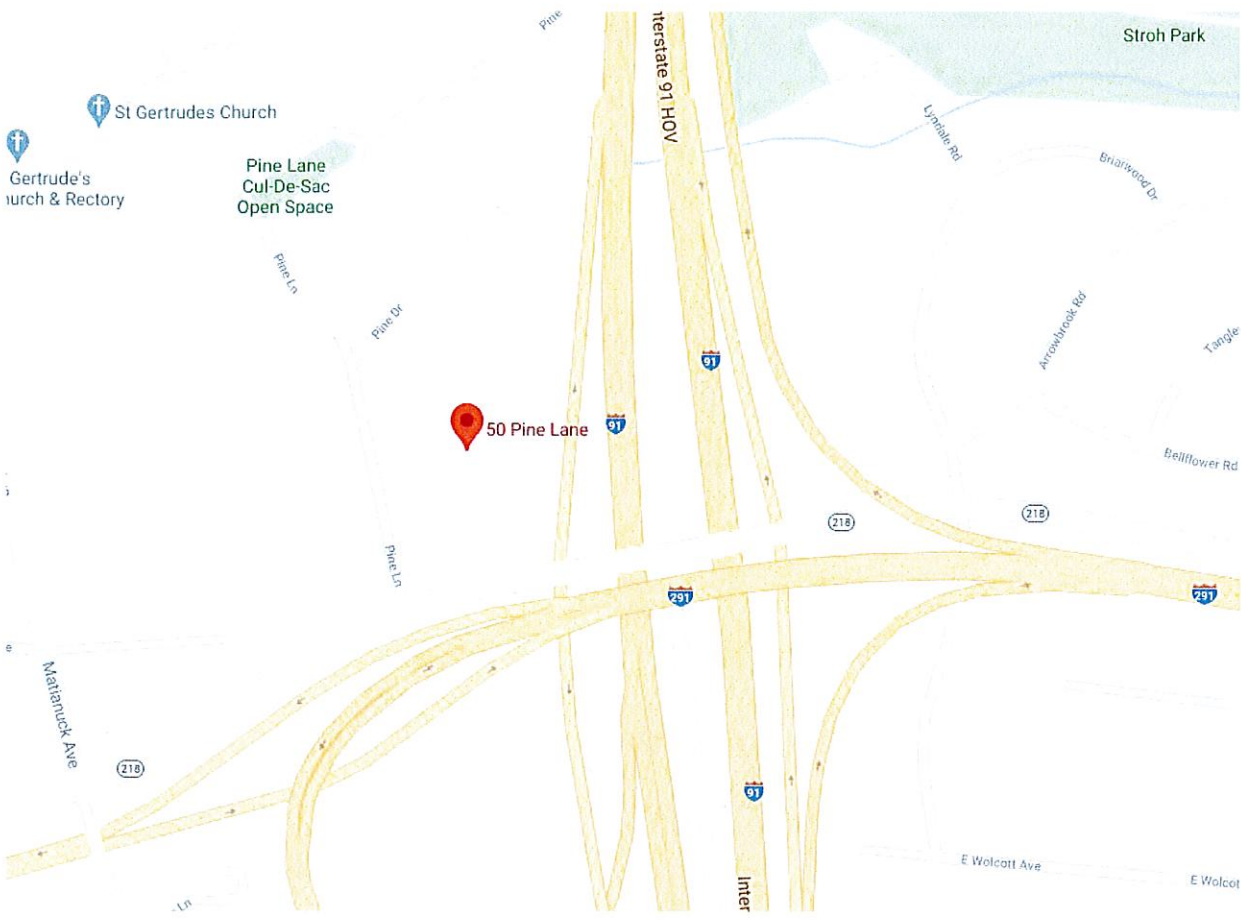
Exhibit B

Property Card

CONSTRUCTION DETAIL		CONSTRUCTION DETAIL (CONTINUED)	
Element	Description	Element	Description
94 100	Outbuildings Vacant		
CONDO DATA			
Parcel Id	C	Ownr	S
Adjust Type	Code	Description	Factor%
Condo Fir			
Condo Unit			
COST / MARKET VALUATION			
Building Value New		0	
Year Built		0	
Effective Year Built			
Depreciation Code			
Remodel Rating			
Year Remodeled			
Depreciation %		0	
Functional Obsol		0	
External Obsol		0	
Trend Factor		1	
Condition			
Condition %			
Percent Good			
Cns Sect Rcnld			
Dep % Ovr			
Dep Ovr Comment			
Misc Imp Ovr			
Misc Imp Ovr Comment			
Cost to Cure Ovr			
Cost to Cure Ovr Comment			

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)												
Code	Descript	Sub	Sub Tv	L/B	Units	Unit Pric	Yr Bilt	Cond. C	% Gd	Grade	Grade A	Appr. V
CB3	PerCast	L			360	350.00	2001		95		0.00	119.70
CB3	PerCast	L			240	350.00	2004		100		0.00	84.000
BUILDING SUB-AREA SUMMARY SECTION												
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value						
Ttl Gross Liv / Lease Area		0	0	0								0

No Sketch



St Gertrudes Church
Gertrude's Church & Rectory

Pine Lane Cul-De-Sac Open Space

Stroh Park

50 Pine Lane

Interstate 91 HOV

91

91

91

Inter

218

218

291

291

210

Mattanuck Ave

E Wolcott Ave

E Wolcot

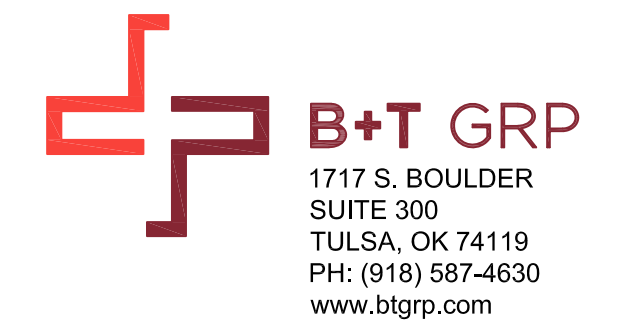
Exhibit C

Construction Drawings



AT&T SITE NUMBER: CTL01137
AT&T SITE NAME: WINDSOR PINE LANE
AT&T FA CODE: 10042353
AT&T PACE NUMBER: MRCTB057937, MRCTB057637, MRCTB052205, MRCTB051441, MRCTB052205
AT&T PROJECT: 5G NR ACTIVATION, 1SR CBAND

BUSINESS UNIT #: 841793
SITE ADDRESS: 50 PINE LANE WINDSOR, CT 06095
COUNTY: HARTFORD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 148'-0"



AT&T
SITE NUMBER: CTL01137
 BU #: 841793
WINDSOR PINE LANE
 50 PINE LANE
 WINDSOR, CT 06095
 EXISTING
 148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/02/21	GAC	PRELIMINARY REVIEW	JHW
B	3/17/22	GAC	PRELIMINARY REVIEW	MTJ
C	4/28/22	GAC	PRELIMINARY REVIEW	MTJ
D	7/15/22	JTS	PRELIMINARY REVIEW	MTJ
0	9/12/22	JTS	CONSTRUCTION	MTJ

SITE INFORMATION

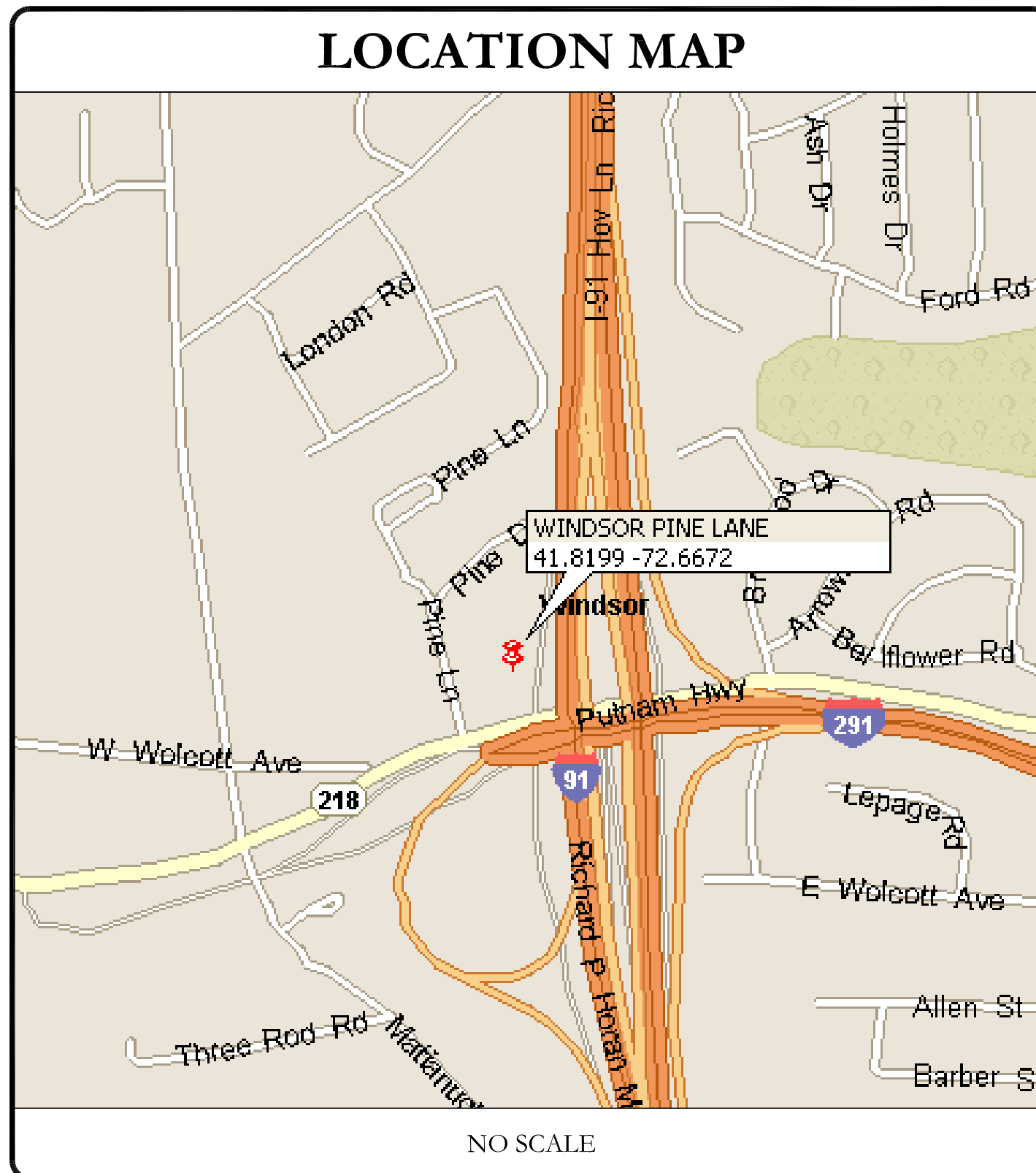
CROWN CASTLE USA INC.	WINDSOR PINE LANE
SITE NAME:	
SITE ADDRESS:	50 PINE LANE WINDSOR, CT 06095
COUNTY:	HARTFORD
MAP/PARCEL #:	735
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.819842
LONGITUDE:	-72.667189
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	88'
CURRENT ZONING:	NZ
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	WINDSOR TOWN OF 275 BROAD ST. WINDSOR, CT 06095
TOWER OWNER:	CROWN CASTLE USA INC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 575 MOROSGO DRIVE ATLANTA, GA 30324-3300
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER (860) 947-2000
TELCO PROVIDER:	COMCAST (800) 934-6489

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING & FINAL EQUIPMENT PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	FINAL EQUIPMENT SCHEDULE
C-4	EQUIPMENT MOUNTING DETAILS
C-5	EQUIPMENT SPECS
G-1	GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS
ATTACHED	PLUMBING DIAGRAM

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL CONNECTICUT ONE CALL (800) 922-4455 CBVD.COM CALL 2 WORKING DAYS BEFORE YOU DIG!



PROJECT TEAM

A&E FIRM:	B+T GROUP 1717 S. BOULDER AVE. TULSA, OK 74119 MARVIN PHILLIPS marvin.phillips@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065 PAUL PEDICONE - PROJECT MANAGER PAUL.PEDICONE@CROWNCastle.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.D'AMICO@CROWNCastle.COM

NOTE:
 PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:

- REMOVE (2) QUINTEL - QS66512-2 ANTENNAS
- REMOVE (2) CCI - OPA65R-BU6DA ANTENNAS
- REMOVE (1) CCI - OPA65R-BU8DA ANTENNA
- REMOVE (1) CCI ANTENNAS - TPA-65R-LCUUUU-H8 ANTENNA
- REMOVE (6) ERICSSON - RRUS-32 B2 RADIOS
- REMOVE (2) RAYCAP - DC6-48-60-08F SQUIDS
- REMOVE (2) RAYCAP - DC6-48-60-18-8F SQUIDS
- REMOVE (6) COAX CABLES (1-5/8")
- REMOVE (2) 8AWG
- REMOVE (2) FIBER CABLES
- RELOCATE (3) ERICSSON - RRUS-32 B30 RADIOS
- RELOCATE (3) ERICSSON - 4478 B14 RADIOS
- RELOCATE (3) ERICSSON - RRUS-32 B66A RADIOS
- RELOCATE (3) ERICSSON - 4449 B5/B12 RADIOS
- RELOCATE (3) ERICSSON - RRUS-E2 B29 RADIOS
- INSTALL NEW MOUNT PER MOUNT REPLACEMENT ANALYSIS BY B+T GROUP DATED 11/12/21
- INSTALL (6) ERICSSON - AIR6449 B77D (BELOW) + AIR6419 B77G (ABOVE) STACKED ANTENNAS
- INSTALL (2) QUINTEL - QD6616-7 ANTENNAS
- INSTALL (1) QUINTEL - QD8616-7 ANTENNA
- INSTALL (3) ERICSSON - 4415 B25 RADIOS
- INSTALL (3) Y CABLES FOR DUAL BAND RADIOS

GROUND SCOPE OF WORK:

- REMOVE BATTERIES
- REMOVE UMTS CABINET
- INSTALL (1) 6648 W/ XCEDE
- INSTALL (1) RAYCAP - DC12-48-60-RM SQUID
- INSTALL (2) RECTIFIERS
- INSTALL (2) BATTERY STRINGS
- INSTALL BATTERY RACK

INSTALL (3) RAYCAP - DC9-48-60-24-8C-EV SQUIDS

- INSTALL (3) 0.965" 6AWG POWER CABLES
- INSTALL (3) 3/8" 24-PAIR FIBER CABLES
- INSTALL (6) Y CABLES

NOTE:
 THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. AT&T IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2015 IBC W/ AMENDMENTS
MECHANICAL	2015 IMC W/ AMENDMENTS
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: BLACK & VEATCH
 DATED: 11/18/21

MOUNT REPLACEMENT ANALYSIS: B+T GROUP
 DATED: 11/12/21

AC ELECTRICAL POWER DESIGN: BY OTHERS
 DATED:

RFDS REVISION: PRELIMINARY
 DATED: 5/5/22

ORDER ID: 556506
 REVISION: 1

PROFESSIONAL ENGINEER
 No. 23924
 LICENSED
 9/12/22

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/1/23

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

SHEET NUMBER: T-1	REVISION: 0
------------------------------------	------------------------------

141992.011.01_WINDSOR_PINE_LANE.dwg - Sheet1-1 - User: m.jones - Sep 12, 2022 - 11:35am

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED-- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED-STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS." IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR 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.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GREENFIELD GROUNDING NOTES:

- 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.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- 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.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTI-OXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (I.E., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: AT&T
TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR 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 CROWN CASTLE.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
- CONTRACTOR 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.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE--THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
#4 BARS AND SMALLER.....40 ksi
#5 BARS AND LARGER.....60 ksi
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 BARS AND LARGER.....2"
#5 BARS AND SMALLER.....1-1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLAB AND WALLS.....3/4"
BEAMS AND COLUMNS.....1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIG MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL THE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SIZING FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOULD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (I.E. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
	A PHASE	BLACK
120/208V, 3Ø	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
	A PHASE	BROWN
277/480V, 3Ø	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
	POS (+)	RED**
DC VOLTAGE	NEG (-)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

ABBREVIATIONS:

- ANT ANTENNA
- (E) EXISTING
- FIF FACILITY INTERFACE FRAME
- GEN GENERATOR
- GPS GLOBAL POSITIONING SYSTEM
- GSM GLOBAL SYSTEM FOR MOBILE
- LTE LONG TERM EVOLUTION
- MGB MASTER GROUND BAR
- MW MICROWAVE
- (N) NEW
- NEC NATIONAL ELECTRIC CODE
- (P) PROPOSED
- PP POWER PLANT
- QTY QUANTITY
- RECT RECTIFIER
- RBS RADIO BASE STATION
- RET REMOTE ELECTRIC TILT
- RFDS RADIO FREQUENCY DATA SHEET
- RRH REMOTE RADIO HEAD
- RRU REMOTE RADIO UNIT
- SIAD SMART INTEGRATED DEVICE
- TMA TOWER MOUNTED AMPLIFIER
- TYP TYPICAL
- UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
- W.P. WORK POINT

APWA UNIFORM COLOR CODE:


- WHITE PROPOSED EXCAVATION
- PINK TEMPORARY SURVEY MARKINGS
- RED ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
- YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
- ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
- BLUE POTABLE WATER
- PURPLE RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
- GREEN SEWERS AND DRAIN LINES



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



3 CORPORATE PARK DRIVE, SUITE 101
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TULSA, OK 74119
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AT&T
SITE NUMBER: **CTL01137**


BU #: **841793**
WINDSOR PINE LANE

50 PINE LANE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/02/21	GAC	PRELIMINARY REVIEW	JHW
B	3/17/22	GAC	PRELIMINARY REVIEW	MTJ
C	4/28/22	GAC	PRELIMINARY REVIEW	MTJ
D	7/15/22	JTS	PRELIMINARY REVIEW	MTJ
0	9/12/22	JTS	CONSTRUCTION	MTJ



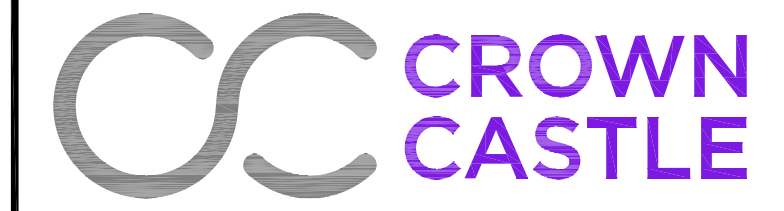
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SHEET NUMBER: **T-2** REVISION: **0**



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WINDSOR PINE LANE

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EXISTING
148'-0" MONOPOLE

ISSUED FOR:

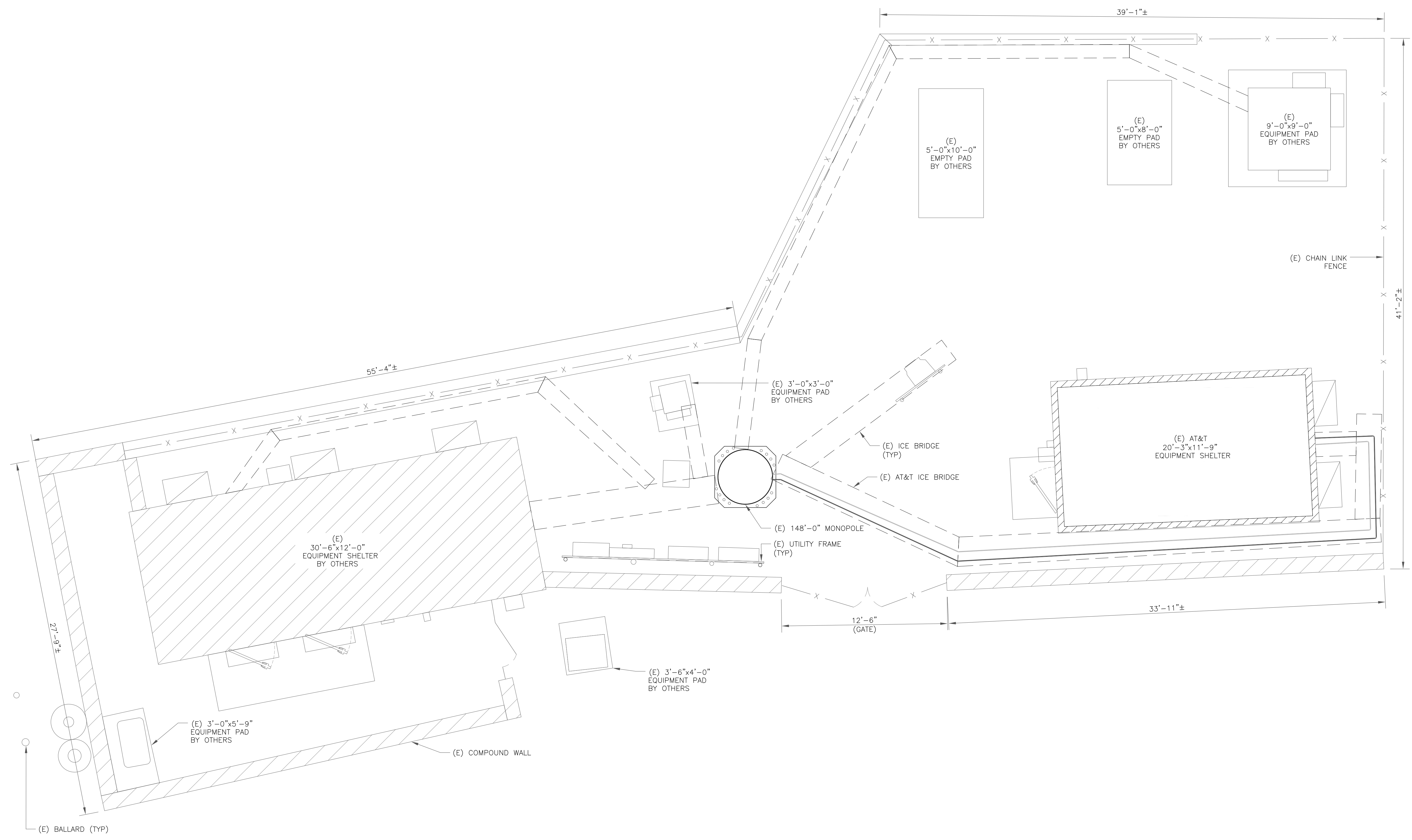
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0	9/12/22	JTS	CONSTRUCTION	MTJ



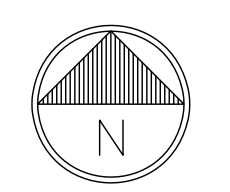
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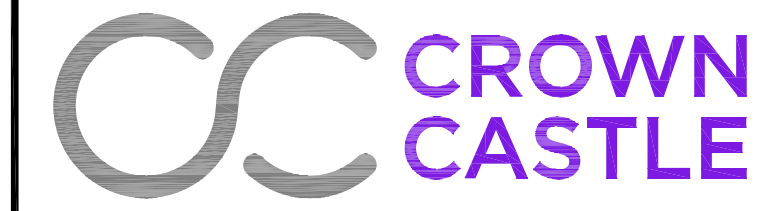
1 SITE PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)



141992.011.01_WINDSOR_PINE_LANE.dwg - Sheet: C-1.1 - User: mjones - Sep 12, 2022 - 11:37am



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065



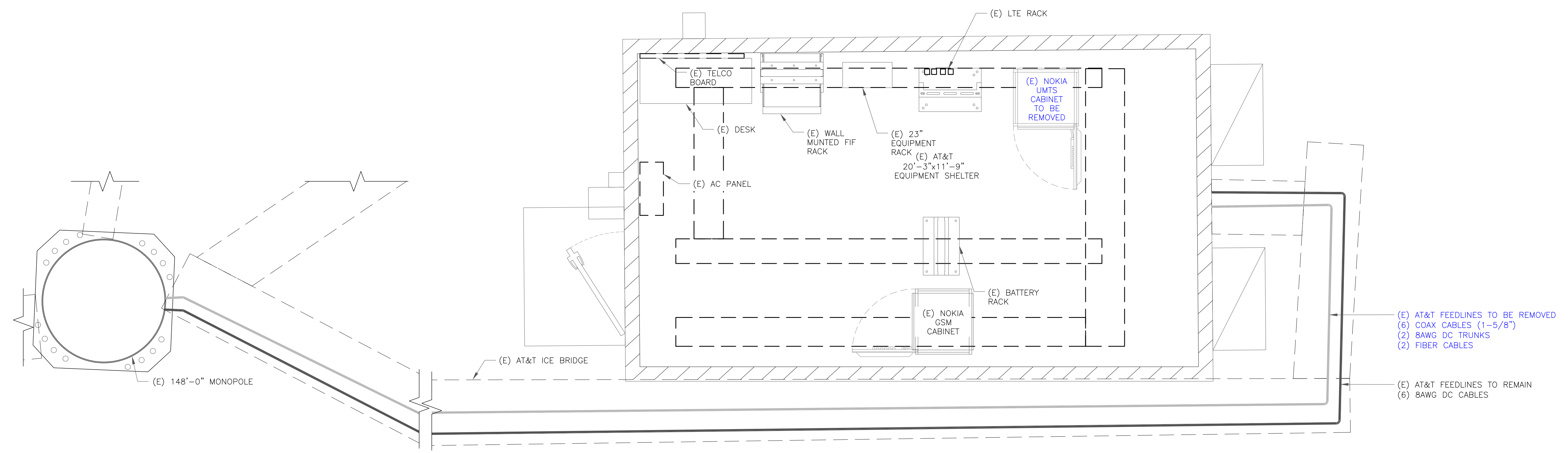
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SITE NUMBER: CTL01137

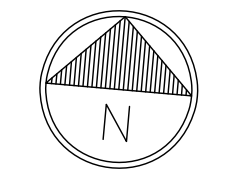
BU #: 841793
WINDSOR PINE LANE

50 PINE LANE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE



1 EXISTING EQUIPMENT PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)

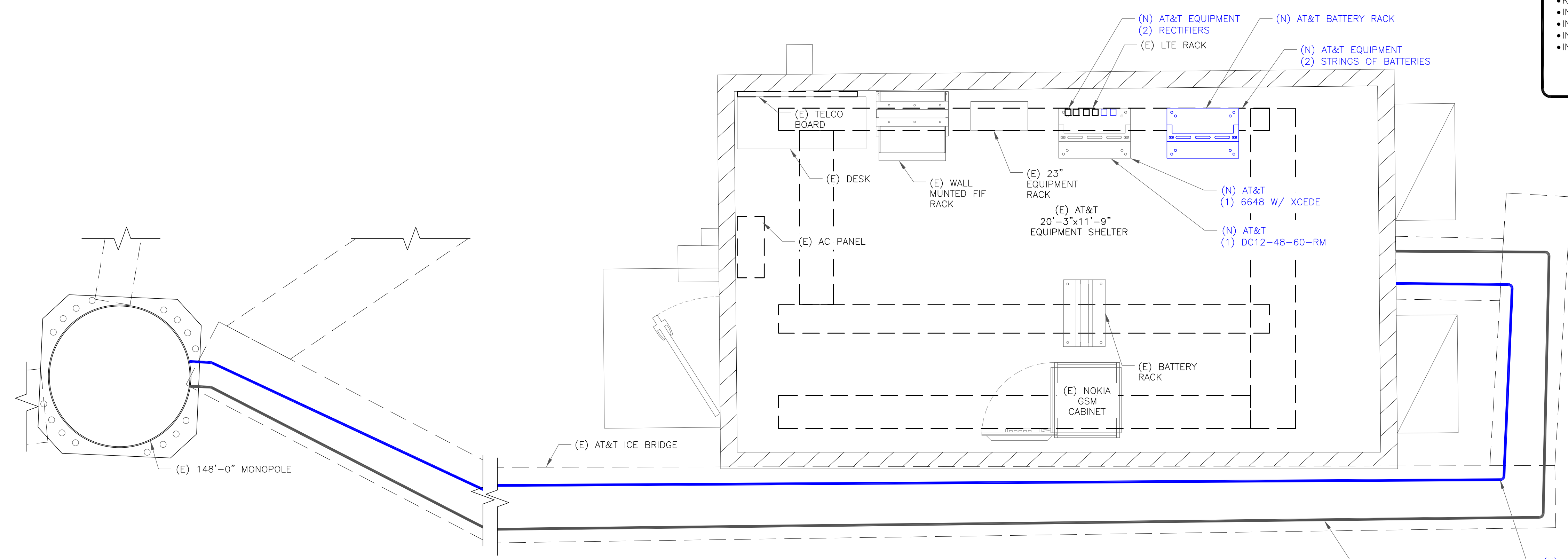


- (E) AT&T FEEDLINES TO BE REMOVED
- (6) COAX CABLES (1-5/8")
- (2) 8AWG DC TRUNKS
- (2) FIBER CABLES
- (E) AT&T FEEDLINES TO REMAIN
- (6) 8AWG DC CABLES

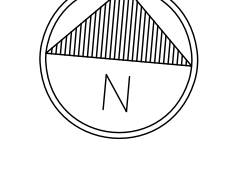
- GROUND SCOPE OF WORK:
- REMOVE BATTERIES
 - REMOVE UMTS CABINET
 - INSTALL (1) 6648 W/ XCEDE
 - INSTALL (1) RAYCAP - DC12-48-60-RM SQUID
 - INSTALL (2) STRINGS OF BATTERIES
 - INSTALL (2) RECTIFIERS

ISSUED FOR:

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0	9/12/22	JTS	CONSTRUCTION	MTJ



2 FINAL EQUIPMENT PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



- (E) AT&T FEEDLINES
- (6) 8AWG DC CABLES
- (N) AT&T FEEDLINES
- (3) 0.965" 6AWG DC CABLES
- (3) 3/8" 24-PAIR FIBER CABLES

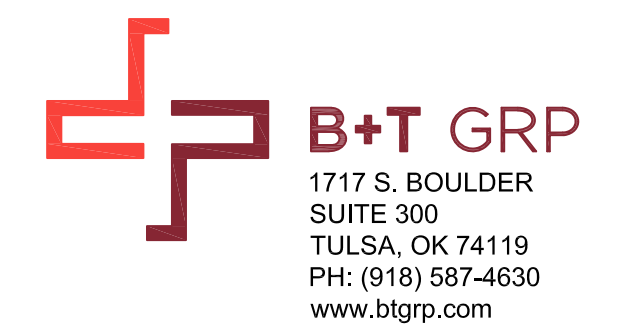


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REVISION: 0

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AT&T
SITE NUMBER: **CTL01137**

BU #: **841793**
WINDSOR PINE LANE

50 PINE LANE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

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0	9/12/22	JTS	CONSTRUCTION	MTJ



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SHEET NUMBER: **C-3** REVISION: **0**

FINAL ANTENNA AND FEEDLINE SCHEDULE

POS.	TECH	STATUS	AZIMUTH	ANTENNA TYPE	ANTENNA RAD CENTER	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	MAIN COAX SIZE	MAIN COAX LENGTH	COAX QTY	TMA QTY AND MODEL	SURGE PROTECTION	DC/FIBER CABLES	RRHs QTY & MODEL ON TOWER	LOCATION	DIPLEXER ON TOWER	DIPLEXER ON GROUND	RET CABLE
ALPHA SECTOR																		
A1	-	-	-	-	-	-	-	-	-	-	-	-	-	(1) ERICSSON - RRUS-E2 B29 (1) ERICSSON - 4415 B25	TOWER	N	N	N
A2	LTE700/LTE 1900/LTE AWS/5G1900 /5GAWS	NEW	23°	QUINTEL - QD6616-7	130'-0"	0°	3°/2°/3°/3°/3°/3°/3°	-	-	-	-	(1) (N) DC9-48-60-24 -8C-EV	(2) (E) 8AWG DC (1) (N) 6AWG DC (1) (N) 24 PAIR FIBER	(1) ERICSSON - 4478 B14 (1) ERICSSON - RRUS-32 B66A	TOWER	N	N	N
A3	CBAND	NEW	23°	ERICSSON - AIR6419 B77D + AIR6449 B77G STACKED	131'-9" 128'-3"	0°	0°	-	-	-	-	-	-	-	TOWER	N	N	N
A4	LTE 700 / 5G 850 / LTE WCS	EXISTING	23°	CCI - DMP65R-BU6DA	130'-0"	0°	2°/2°/2°	-	-	-	-	-	(2) (N) Y CABLES	(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - RRUS-32 B30	TOWER	N	N	N
BETA SECTOR																		
B1	-	-	-	-	-	-	-	-	-	-	-	-	-	(1) ERICSSON - RRUS-E2 B29 (1) ERICSSON - 4415 B25	TOWER	N	N	N
B2	LTE700/LTE 1900/LTE AWS/5G1900 /5GAWS	NEW	143°	QUINTEL - QD8616-7	130'-0"	0°	3°/4°/5°/5°/5°/5°/5°	-	-	-	-	(1) (N) DC9-48-60-24 -8C-EV	(2) (E) 8AWG DC (1) (N) 6AWG DC (1) (N) 24 PAIR FIBER	(1) ERICSSON - 4478 B14 (1) ERICSSON - RRUS-32 B66A	TOWER	N	N	N
B3	CBAND	NEW	143°	ERICSSON - AIR6419 B77D + AIR6449 B77G STACKED	131'-9" 128'-3"	0°	0°	-	-	-	-	-	-	-	TOWER	N	N	N
B4	LTE 700 / 5G 850 / LTE WCS	EXISTING	143°	CCI - DMP65R-BU8DA	130'-0"	0°	4°/4°/0°	-	-	-	-	-	(2) (N) Y CABLES	(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - RRUS-32 B30	TOWER	N	N	N
GAMMA SECTOR																		
C1	-	-	-	-	-	-	-	-	-	-	-	-	-	(1) ERICSSON - RRUS-E2 B29 (1) ERICSSON - 4415 B25	TOWER	N	N	N
C2	LTE700/LTE 1900/LTE AWS/5G1900 /5GAWS	NEW	263°	QUINTEL - QD6616-7	130'-0"	0°	3°/2°/6°/6°/6°/3°/6°/6°	-	-	-	-	(1) (N) DC9-48-60-24 -8C-EV	(2) (E) 8AWG DC (1) (N) 6AWG DC (1) (N) 24 PAIR FIBER	(1) ERICSSON - 4478 B14 (1) ERICSSON - RRUS-32 B66A	TOWER	N	N	N
C3	CBAND	NEW	263°	ERICSSON - AIR6419 B77D + AIR6449 B77G STACKED	131'-9" 128'-3"	0°	0°	-	-	-	-	-	-	-	TOWER	N	N	N
C4	LTE 700 / 5G 850 / LTE WCS	EXISTING	263°	CCI - DMP65R-BU6DA	130'-0"	0°	2°/2°/2°	-	-	-	-	-	(2) (N) Y CABLES	(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - RRUS-32 B30	TOWER	N	N	N

NOTE: BOLD DENOTES NEW EQUIPMENT

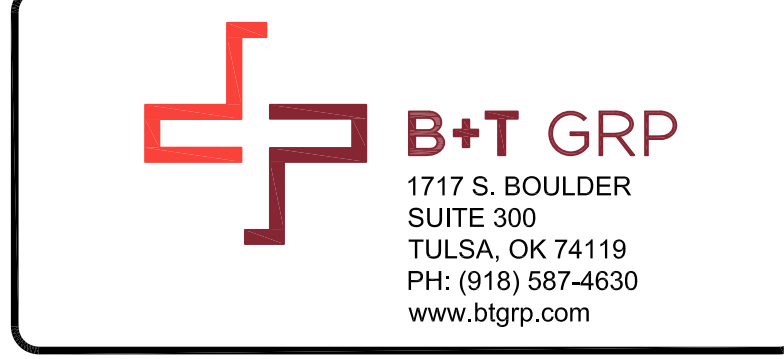
1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065



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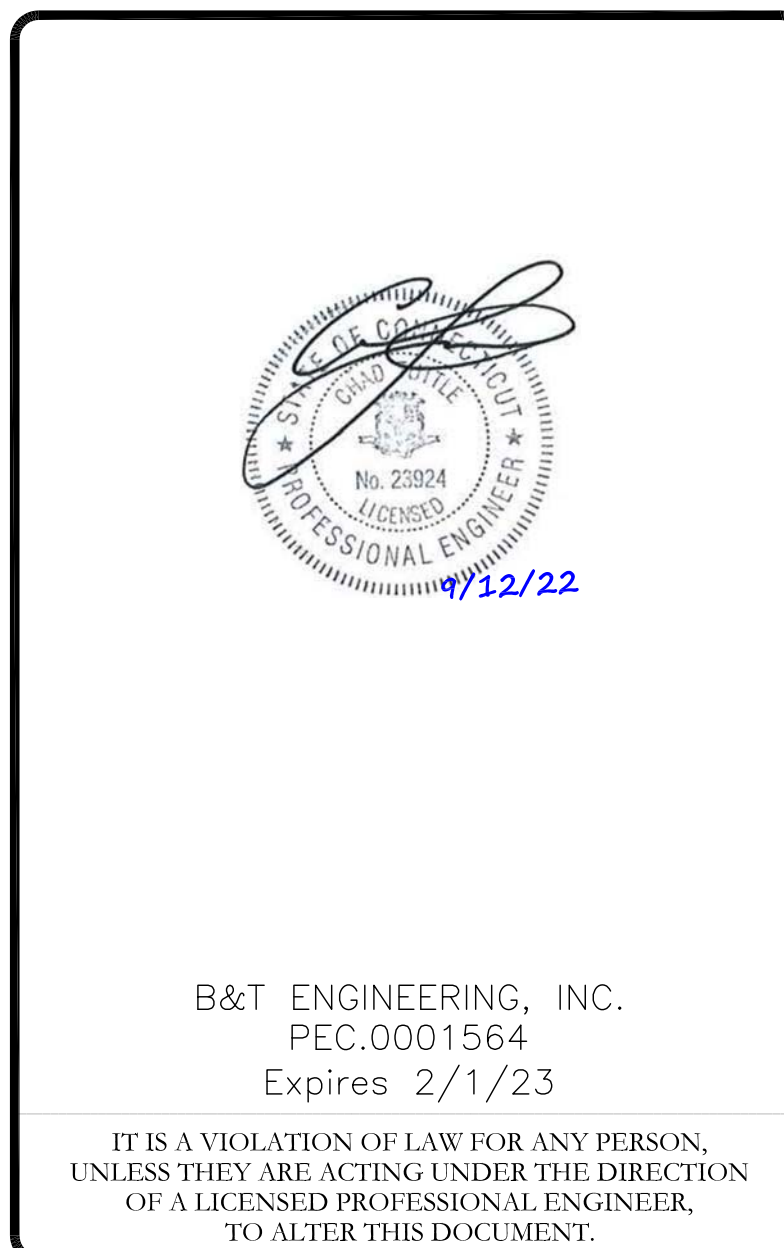
BU #: **841793**
WINDSOR PINE LANE

50 PINE LANE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

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D	7/15/22	JTS	PRELIMINARY REVIEW	MTJ
0	9/12/22	JTS	CONSTRUCTION	MTJ



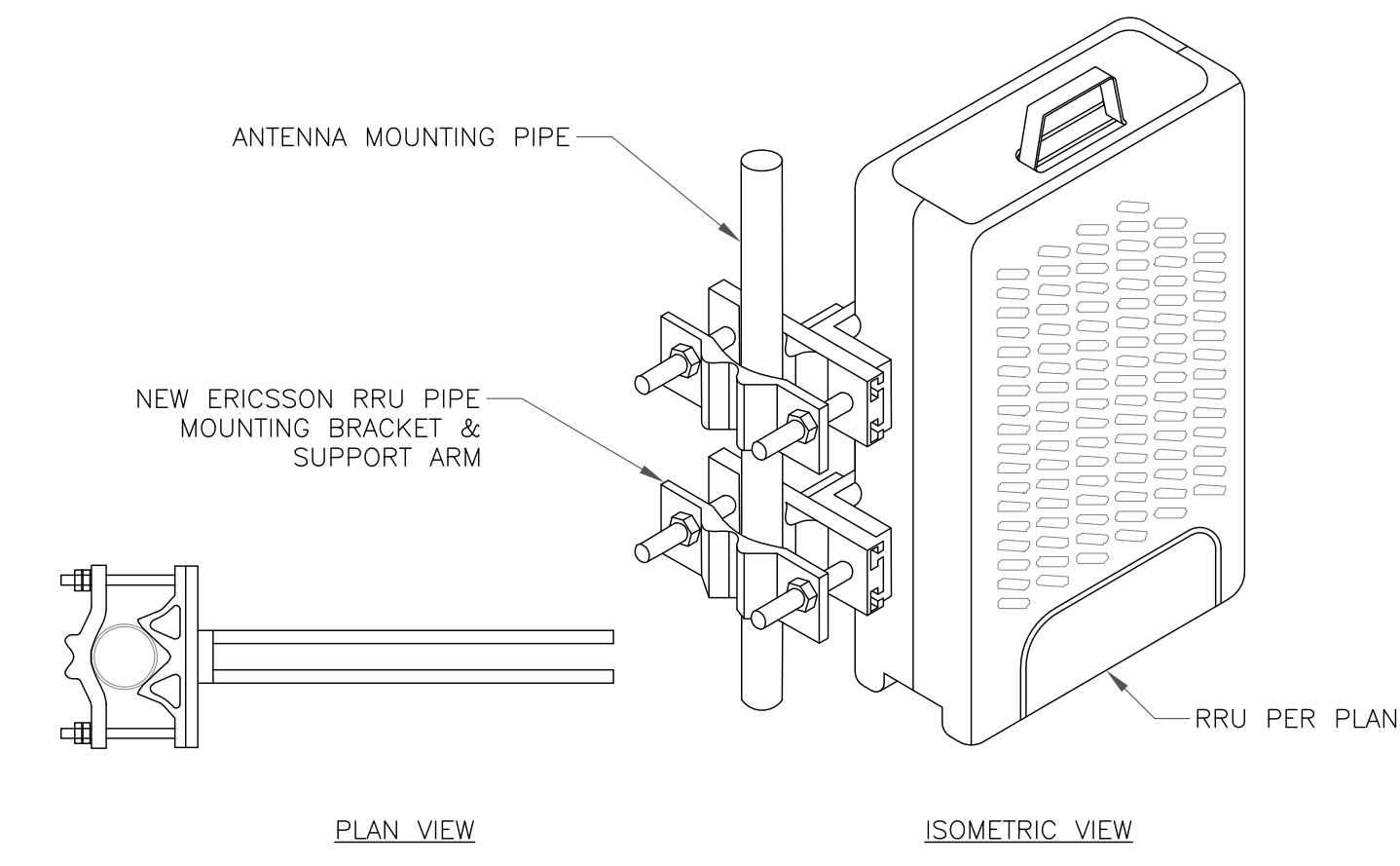
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SHEET NUMBER: **C-4** REVISION: **0**

ERICSSON RRU MOUNTING KIT:
SXX 107 2839/1: SINGLE RRU SUPPORT KIT (PART # 5335) (OR ENGINEER APPROVED EQUIVALENT)
SXX 107 2839/2: EXPANSION KIT (PART # 5336) (OR ENGINEER APPROVED EQUIVALENT)

MOUNTING NOTES:
REFER TO PRODUCT SPECS FOR BOLT SIZE & PIPE DIAMETER TOLERANCES. THE PART NO. SXX107-2839/2 IS REQUIRED FOR (2) RRU'S.

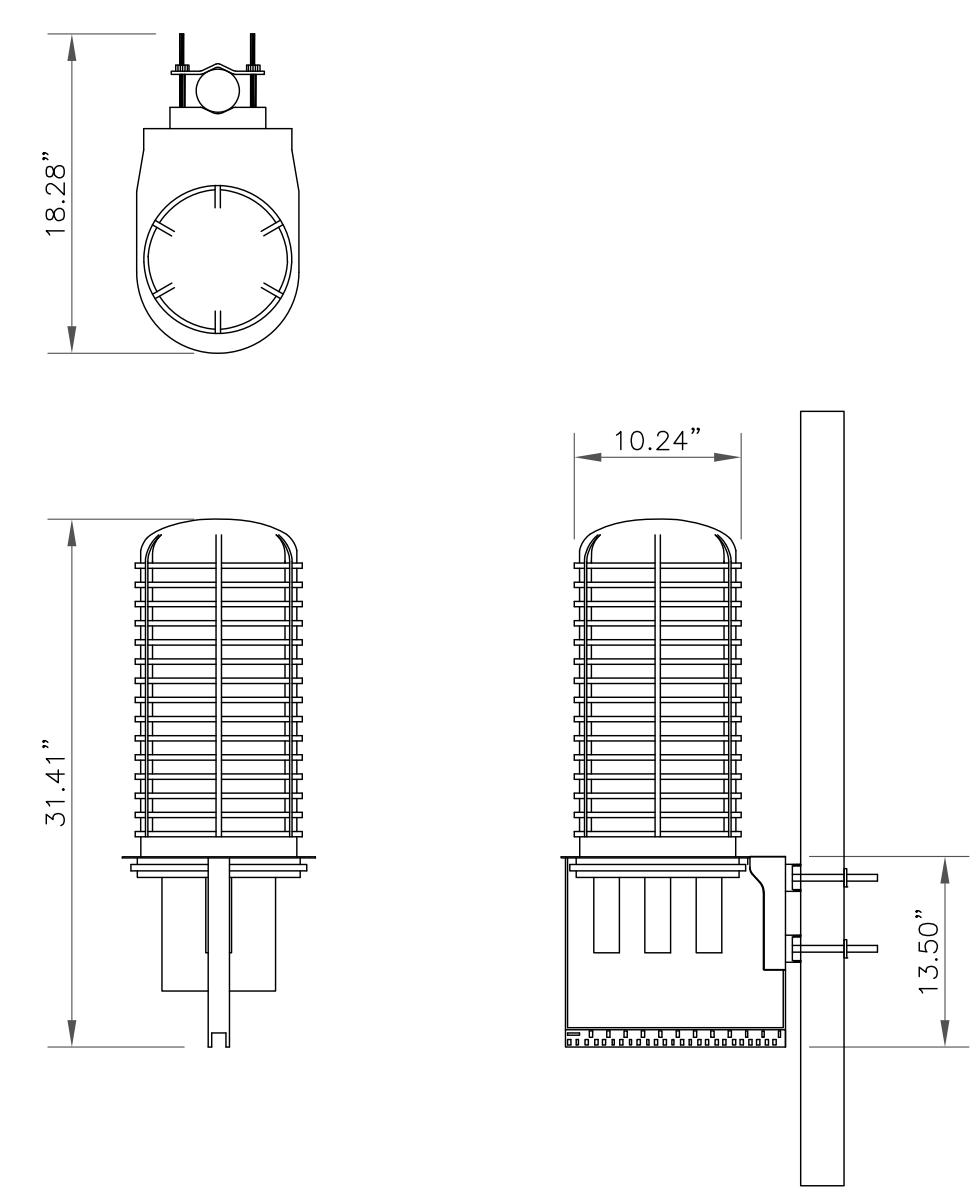


2 ERICSSON - SXX 107 2839
SCALE: NOT TO SCALE

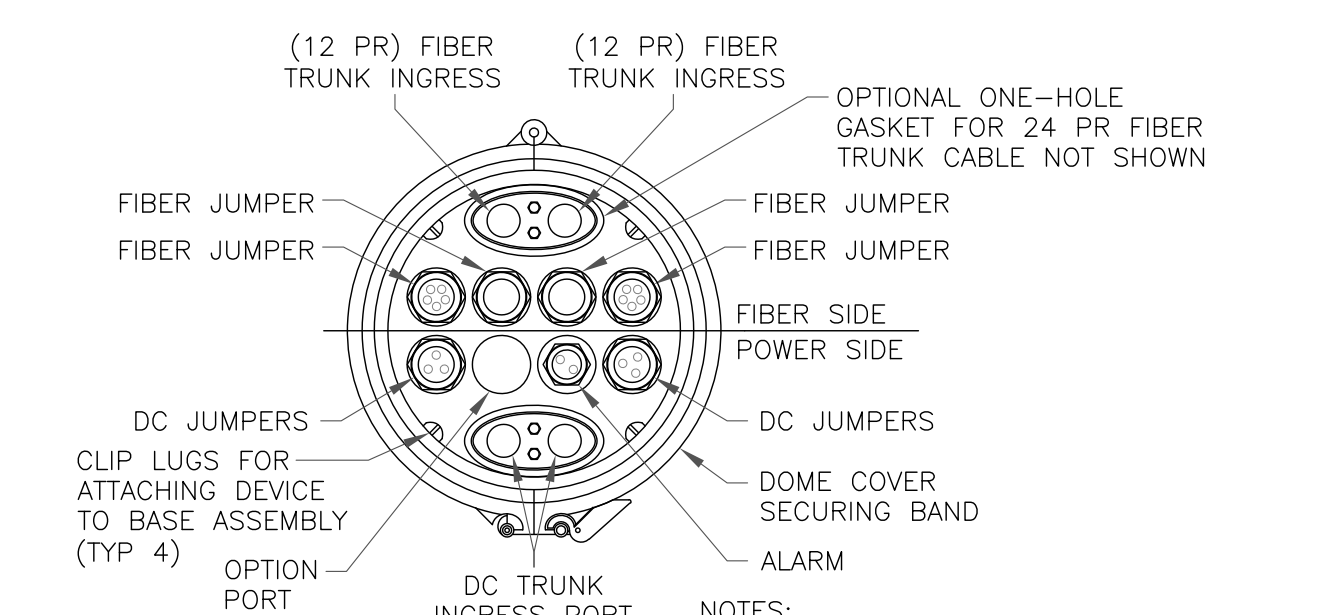
3 NOT USED
SCALE: NOT TO SCALE

RAYCAP
DC9-48-60-24-8C-EV

RAYCAP - DC9-48-60-24-8C-EV
SIZE: 10.24x31.40 IN.
WEIGHT: 26.2 LBS
NOMINAL OPERATING VOLTAGE: 48 VDC
VOLTAGE PROTECTION RATING: 330 V
WIND LOADING: 150 MPH SUSTAINED (105.7 LBS)
WIND LOADING: 195 MPH GUST (213.6 LBS)



CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION



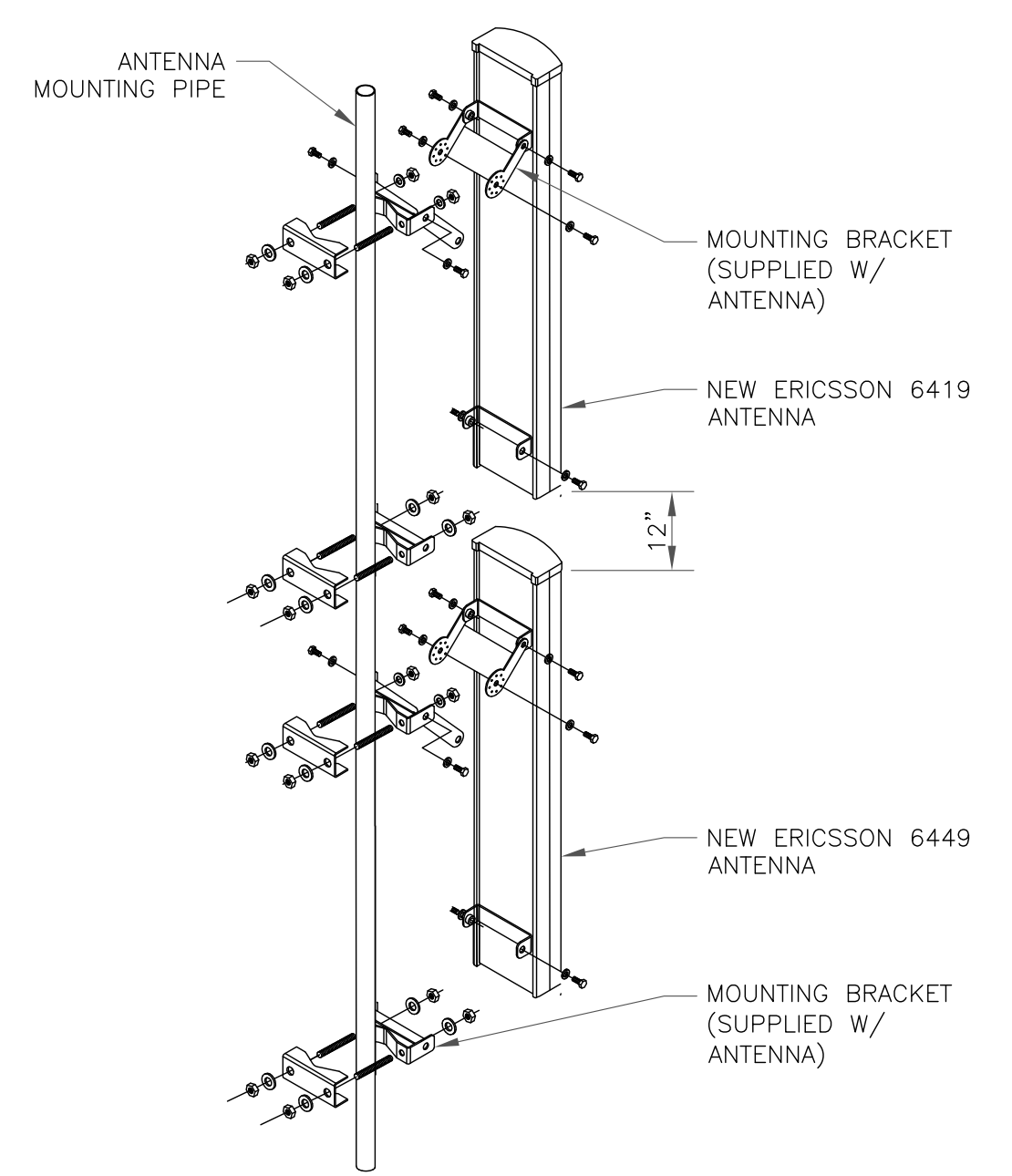
NOTES:
1. REMOVE CABLE SEALING GLAND AND INSTALL M3x1.5 METRIC-TO-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE

1 NOT USED
SCALE: NOT TO SCALE

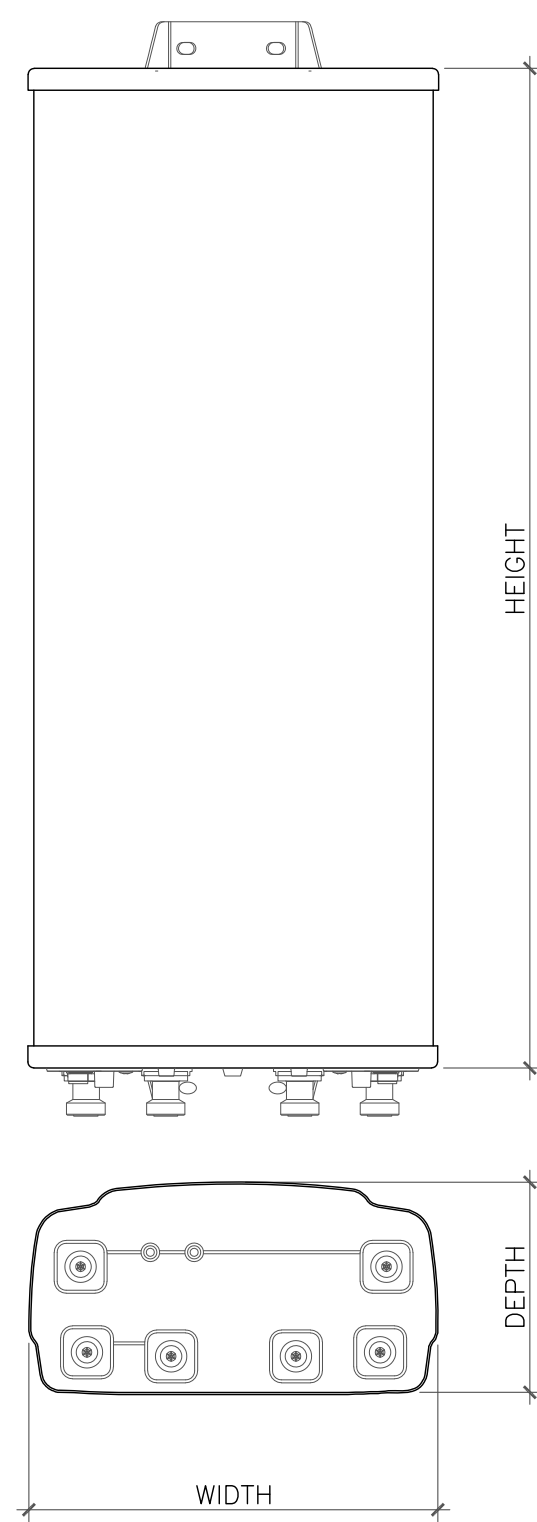
INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRU PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
4. RRU'S SHALL NOT BE INSTALLED CLOSER THAN 8" TO ANTENNAS.



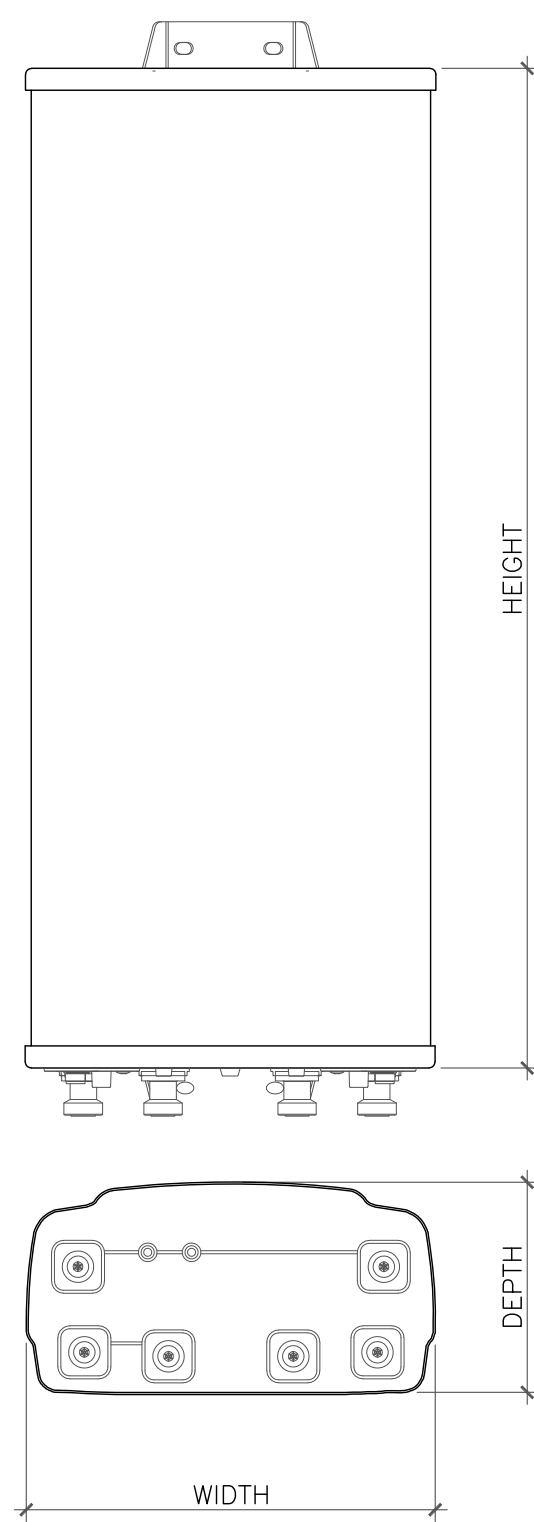
4 STACKED ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE



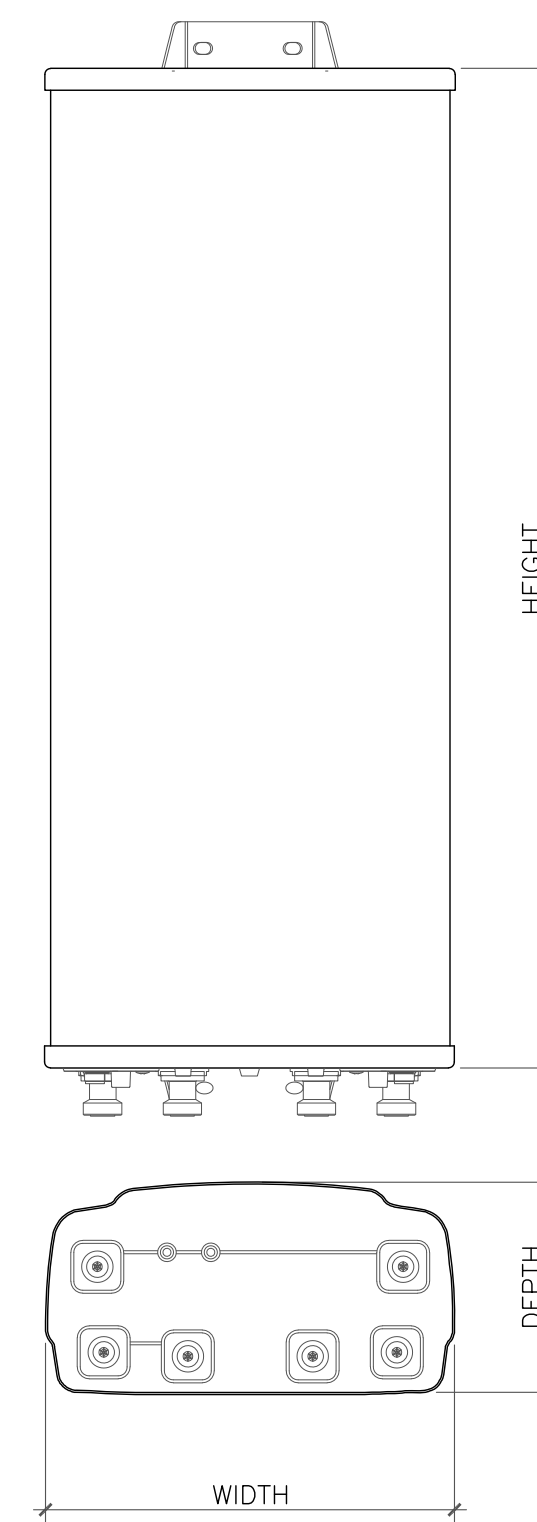
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR6419 N77G	27.95"	15.75"	6.68"	66.20 lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



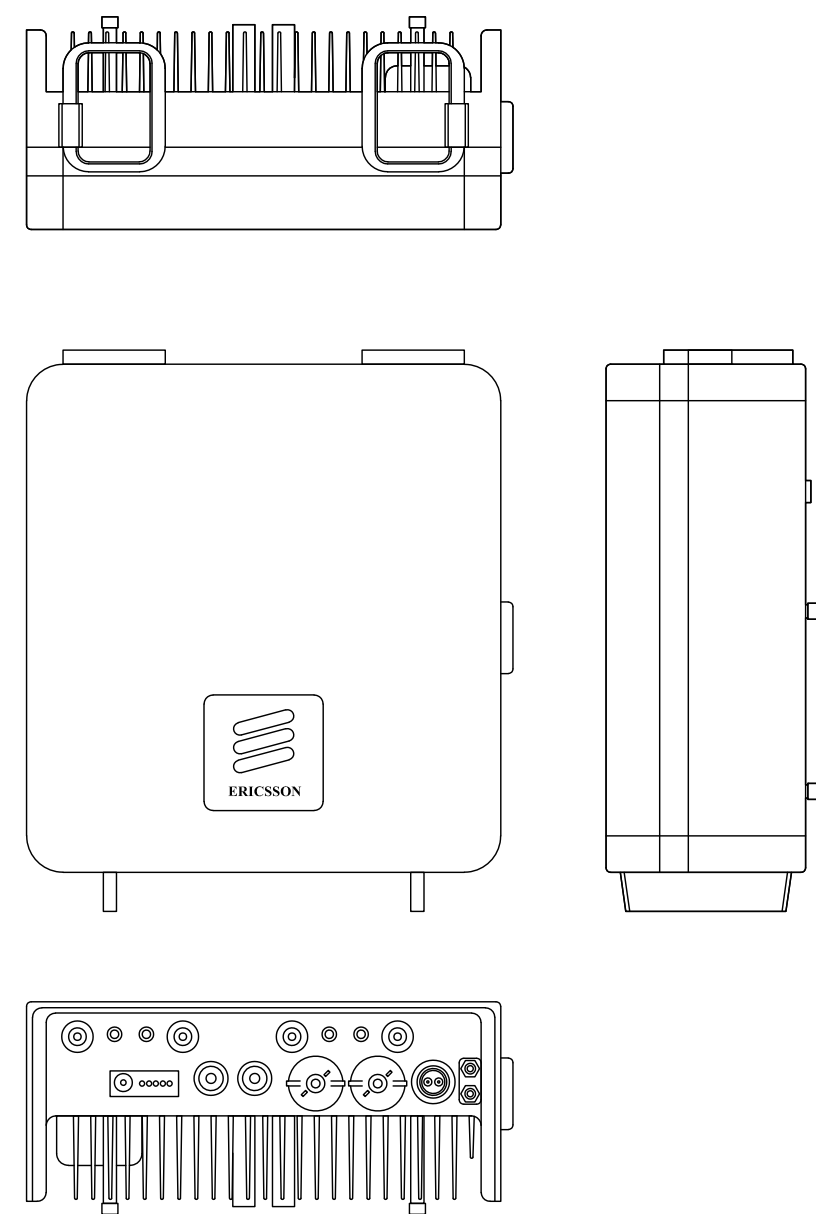
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR 6449 N77D	30.63"	15.87"	10.55"	96.80 lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



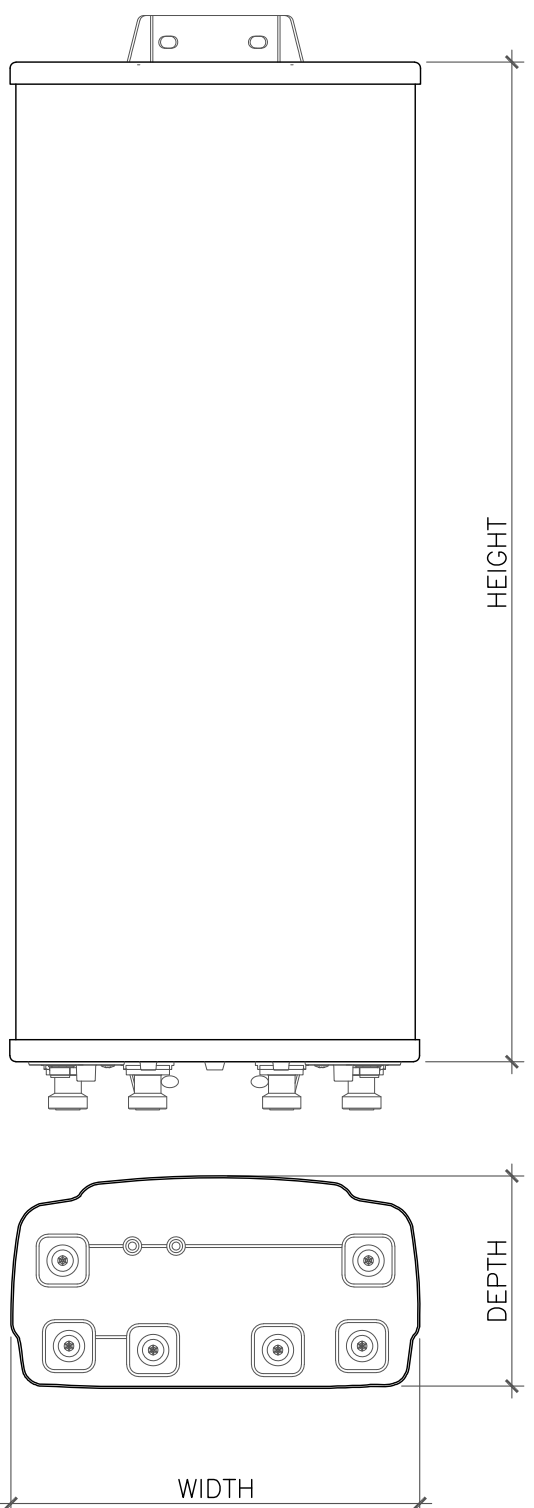
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
QD6616-7	72.00"	22.00"	9.60"	130.0 lbs

3 ANTENNA DETAIL
SCALE: NOT TO SCALE



ERICSSON - RRUS 4415
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

4 ERICSSON - RRUS 4415
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
QD8616-7	72.00"	22.00"	9.60"	130.0 lbs

5 ANTENNA
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

 **AT&T**
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

 **CROWN CASTLE**
3 CORPORATE PARK DRIVE, SUITE 101
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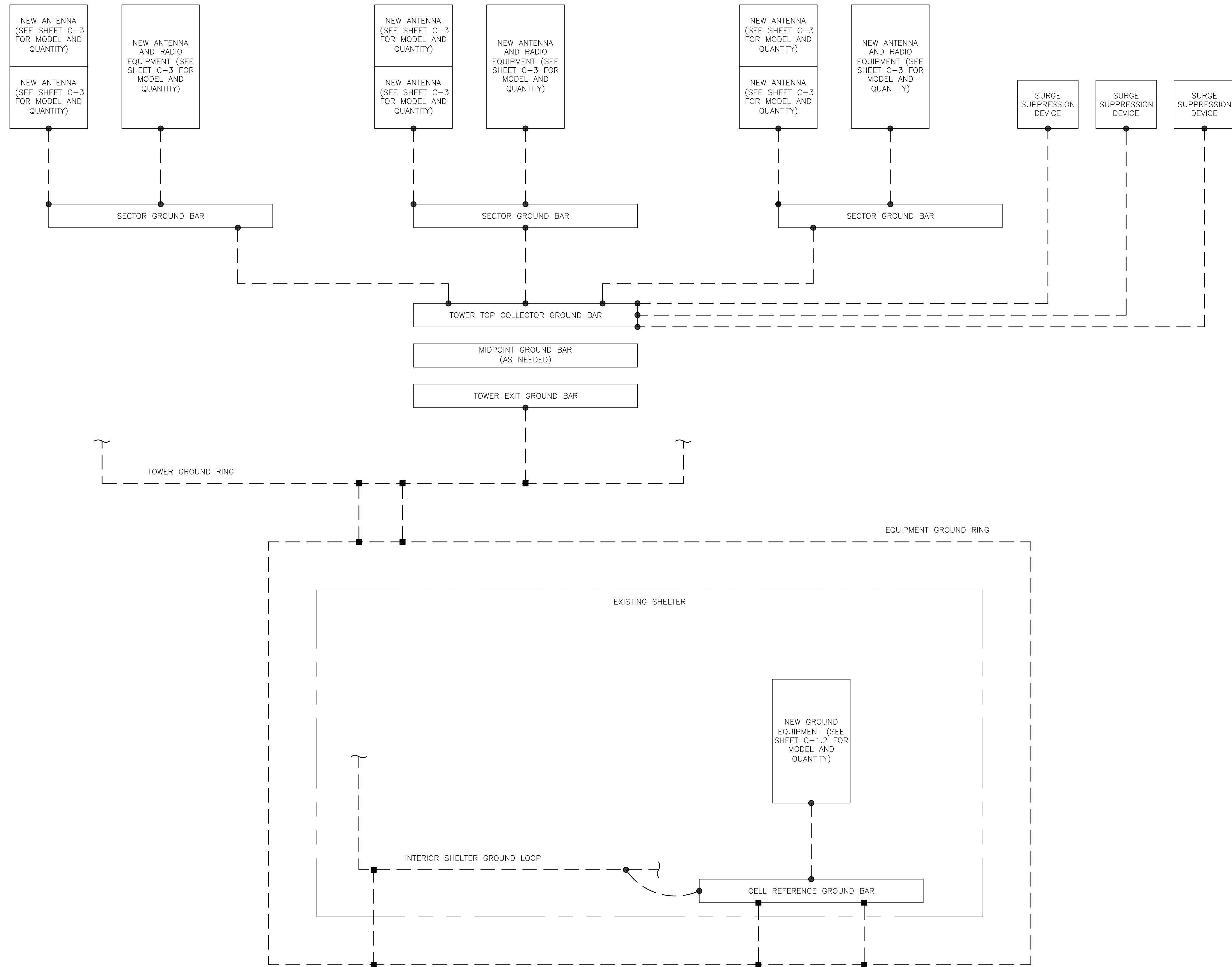
SHEET NUMBER:

C-5

REVISION:

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GROUNDING PLAN LEGEND:
 --- GROUND WIRE
 ■ EXOTHERMIC WELD
 ● MECHANICAL CONNECTION
 ⊙ COPPER GROUND ROD
 ⊗ GROUND ROD W/ TEST WELL

CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H 6 AND TP76416 FIGURE 7-11 REQUIREMENTS.

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WINDSOR PINE LANE
 50 PINE LANE
 WINDSOR, CT 06095
 EXISTING
 148'-0" MONOPOLE

ISSUED FOR:

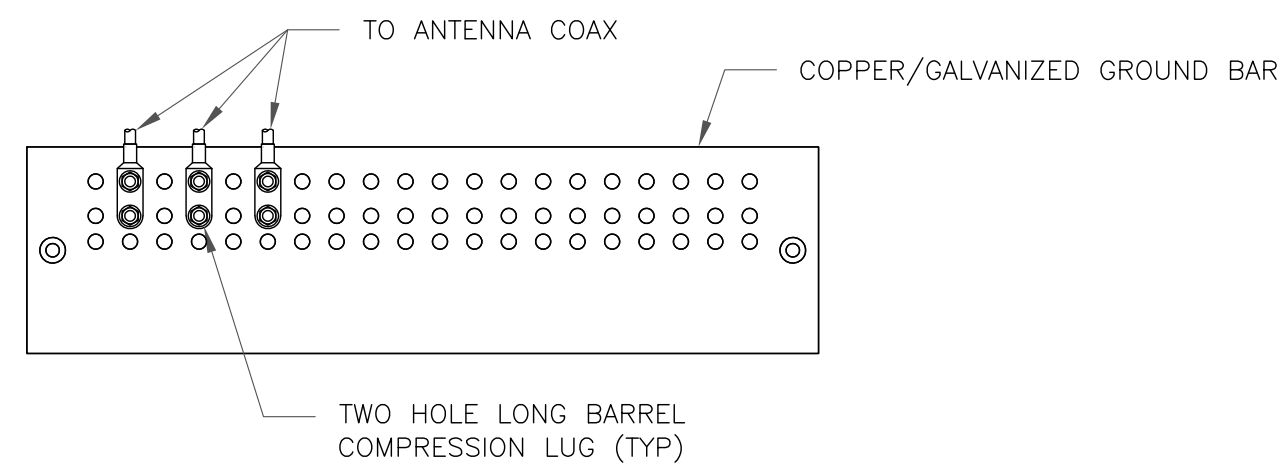
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A	11/02/21	GAC	PRELIMINARY REVIEW	JHW
B	3/17/22	GAC	PRELIMINARY REVIEW	MTJ
C	4/28/22	GAC	PRELIMINARY REVIEW	MTJ
D	7/15/22	JTS	PRELIMINARY REVIEW	MTJ
0	9/12/22	JTS	CONSTRUCTION	MTJ

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 PEC.0001564
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1 GROUNDING SCHEMATIC
 SCALE: NOT TO SCALE

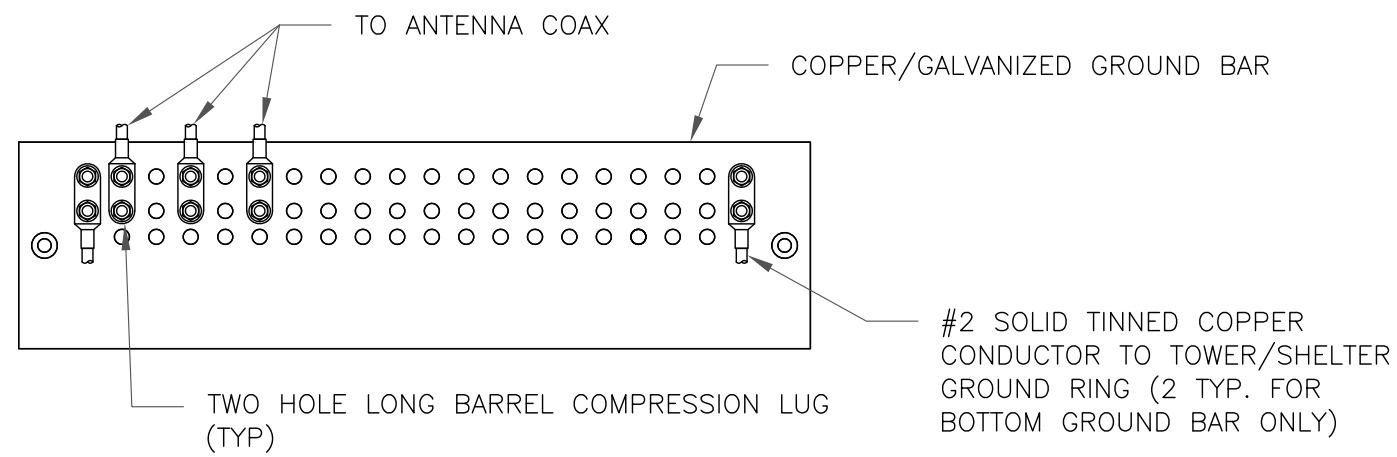
SHEET NUMBER: G-1 **REVISION: 0**



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

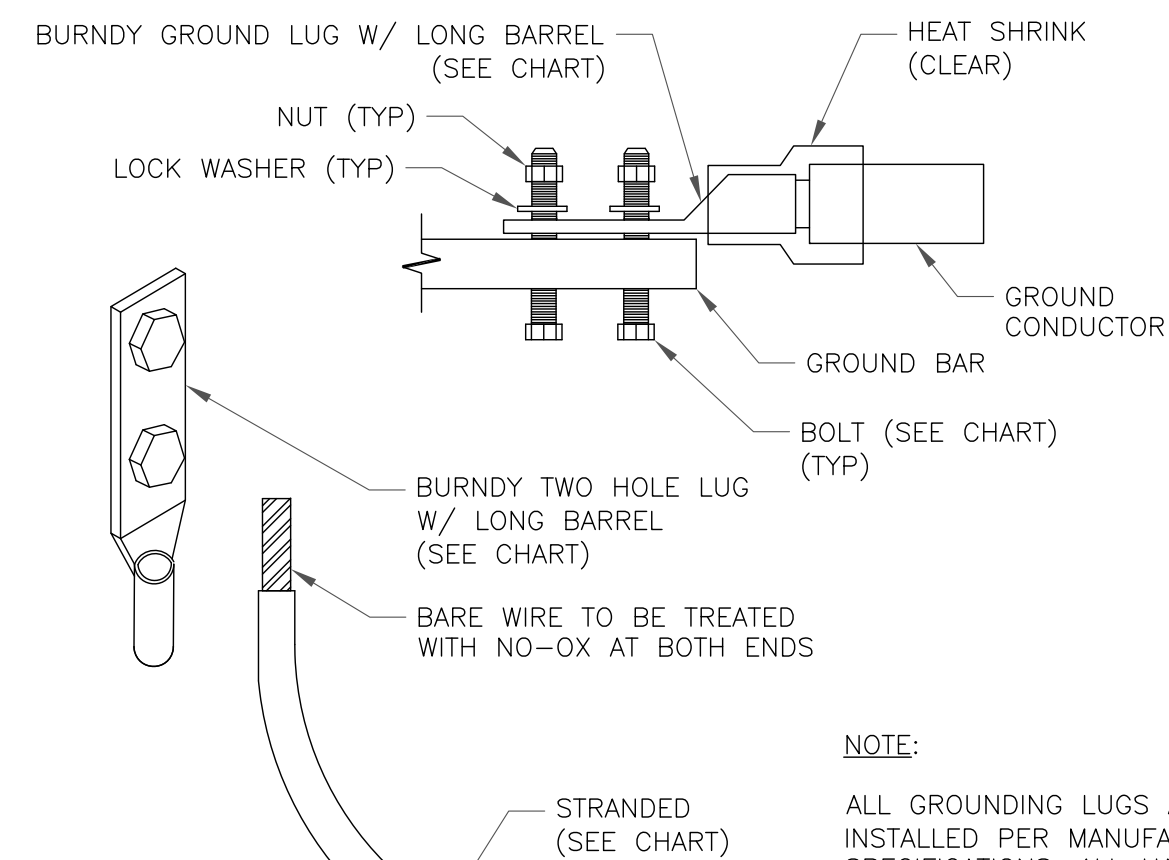


NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

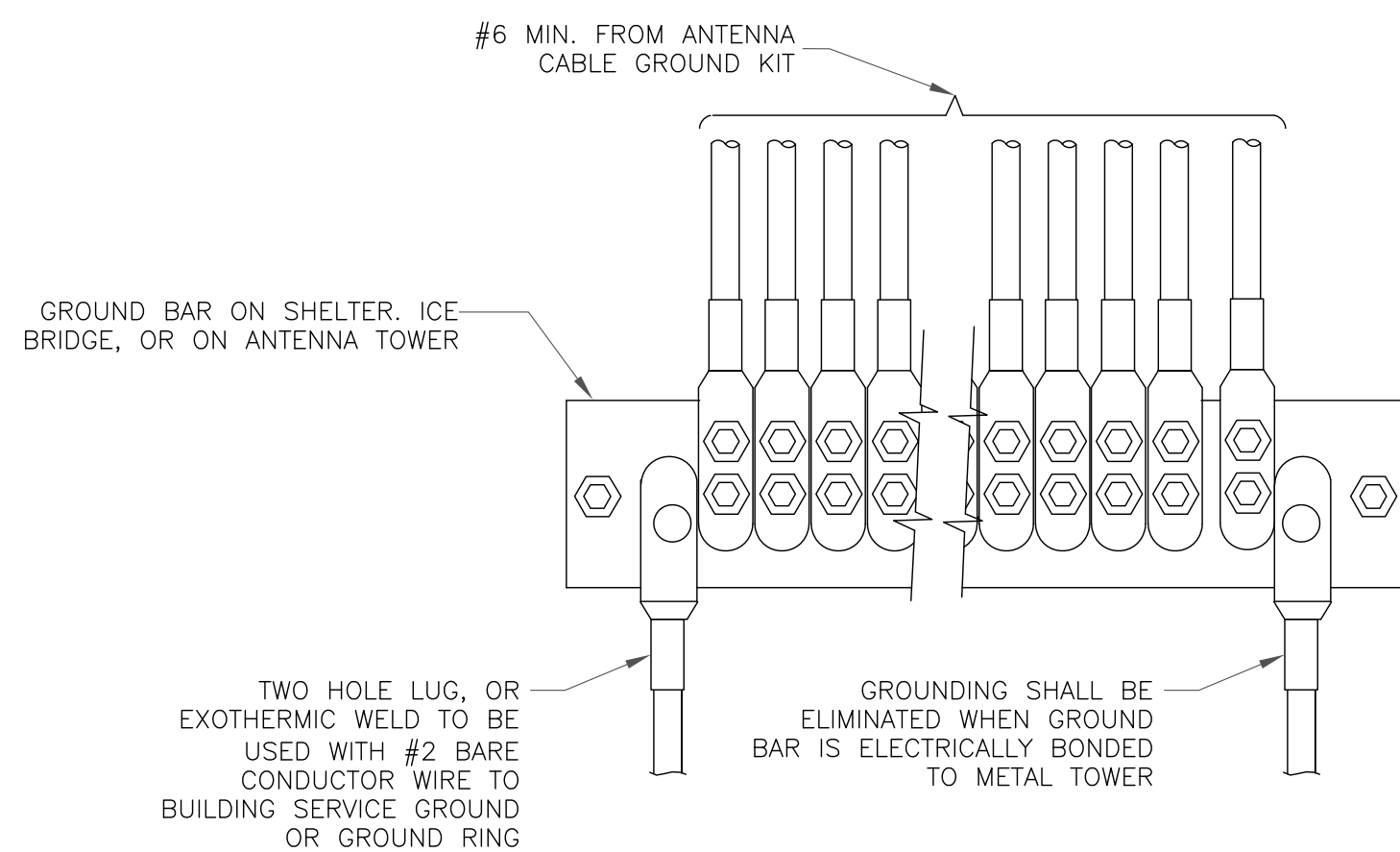
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



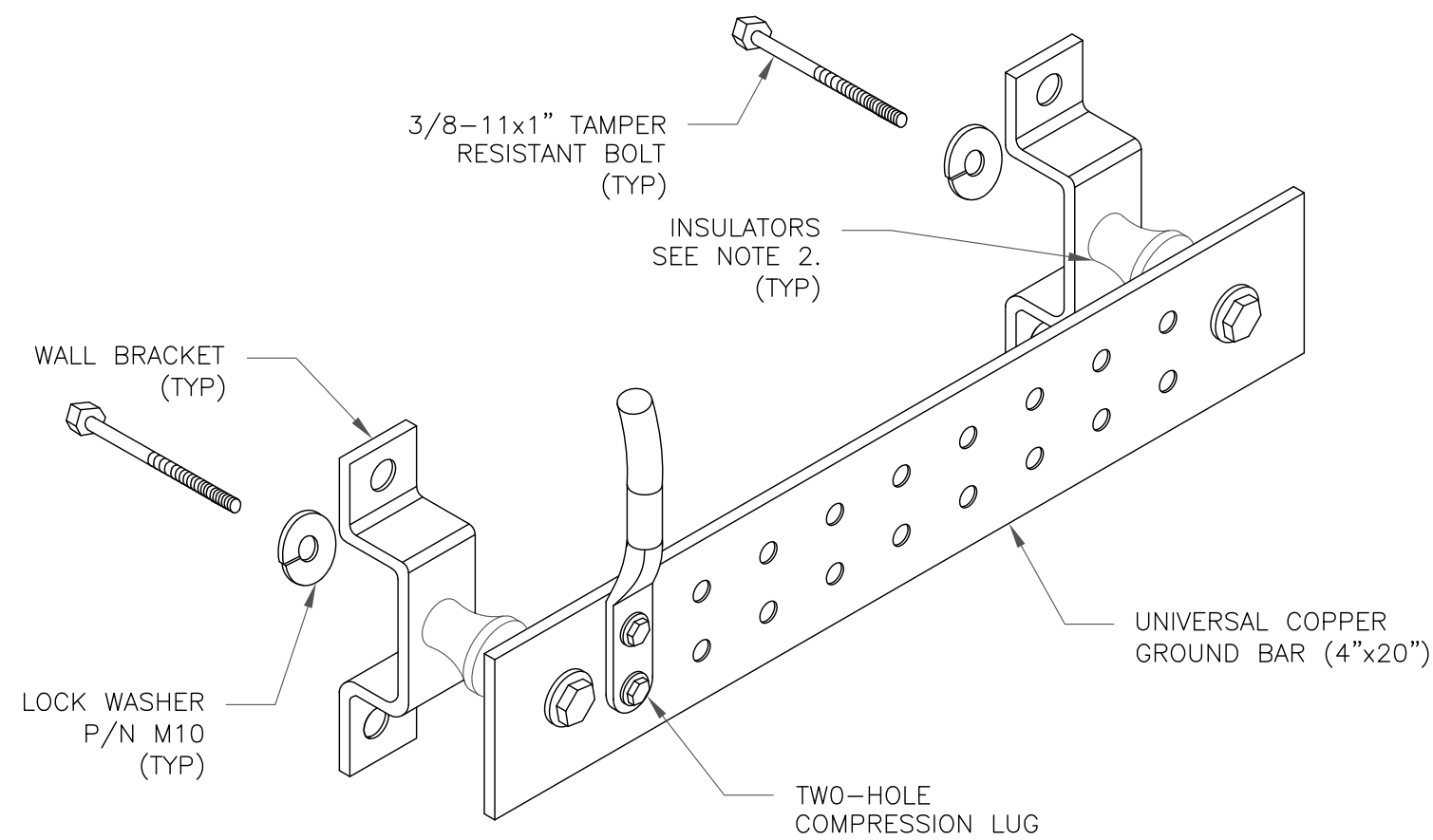
NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



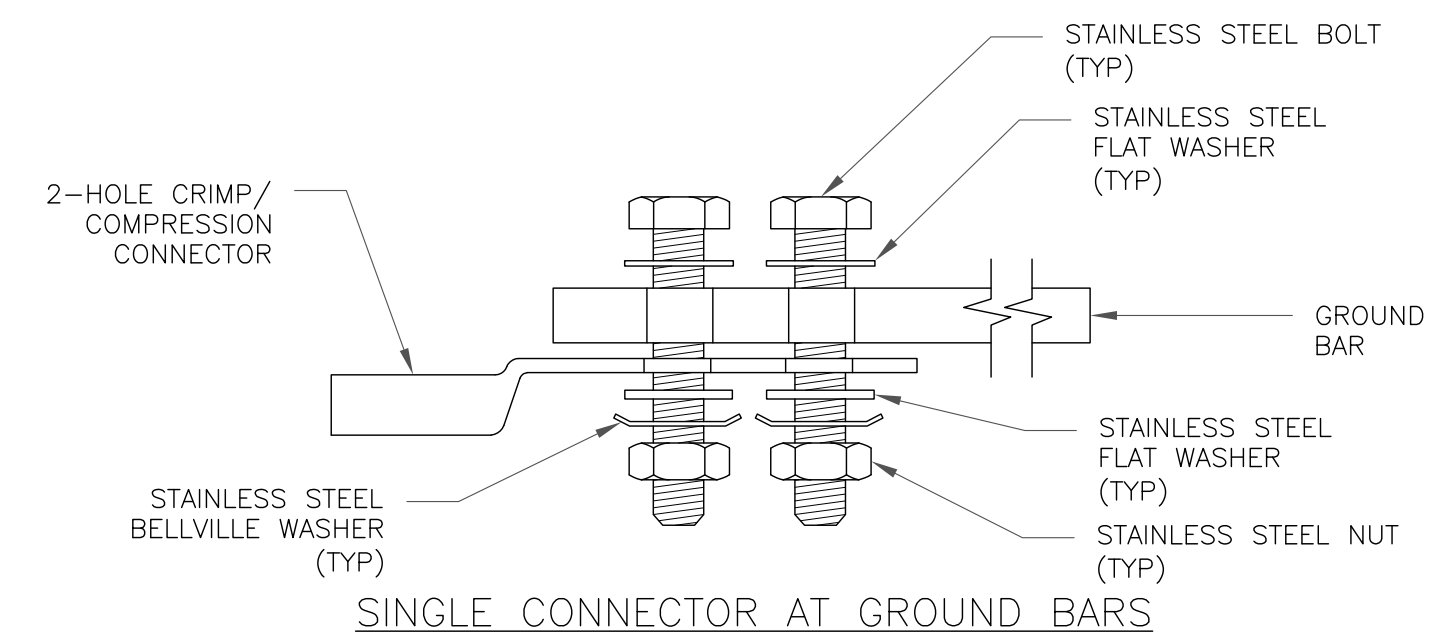
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



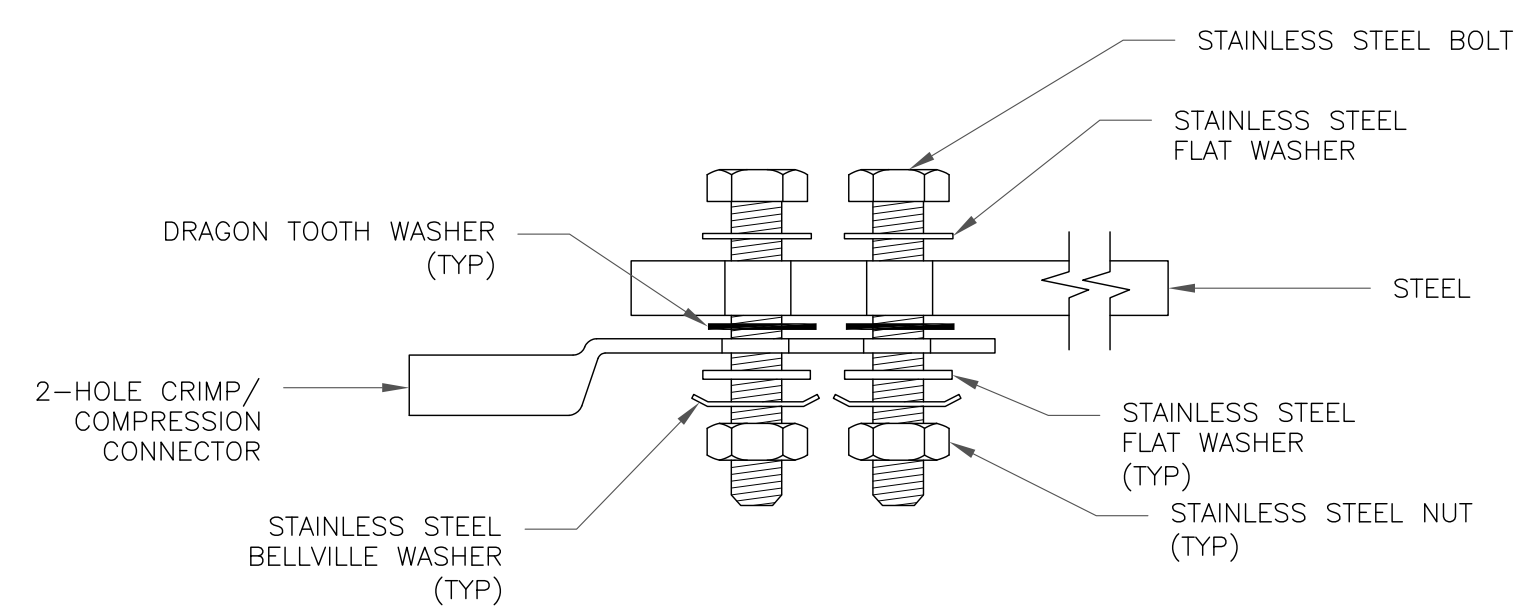
NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

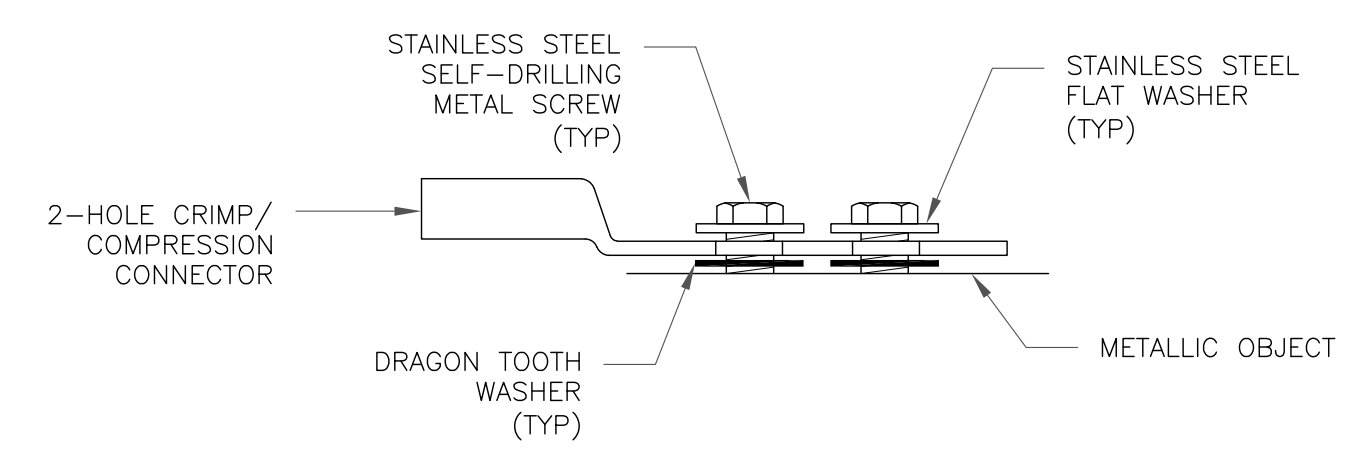
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



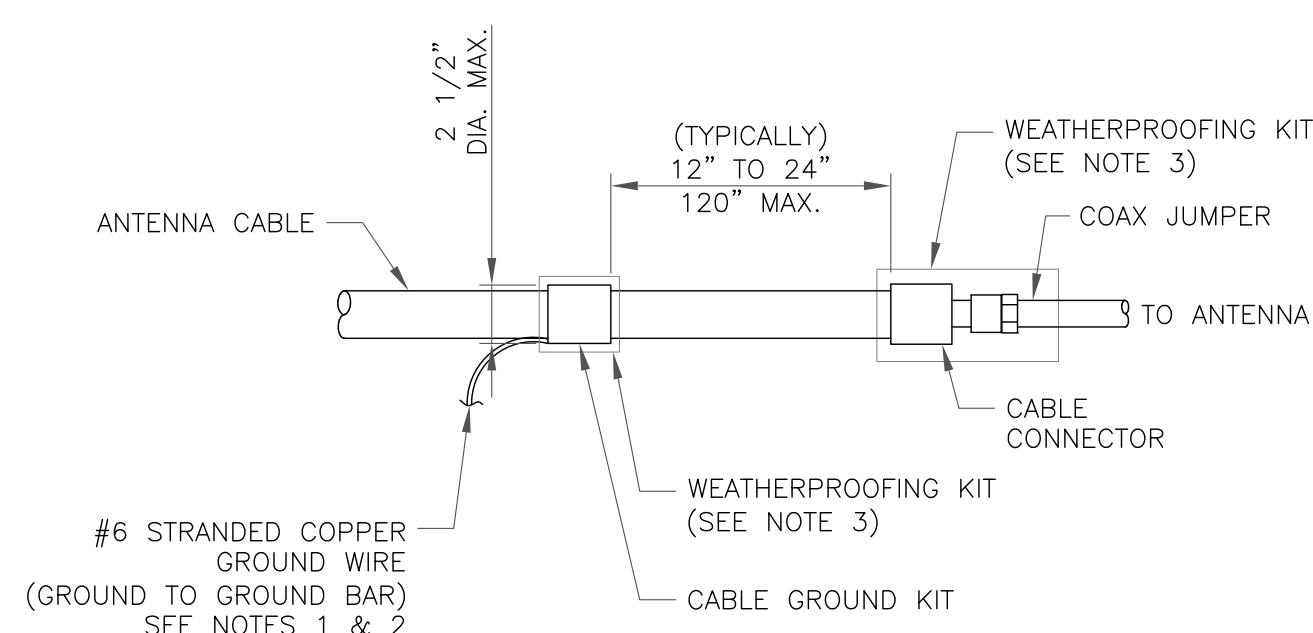
SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



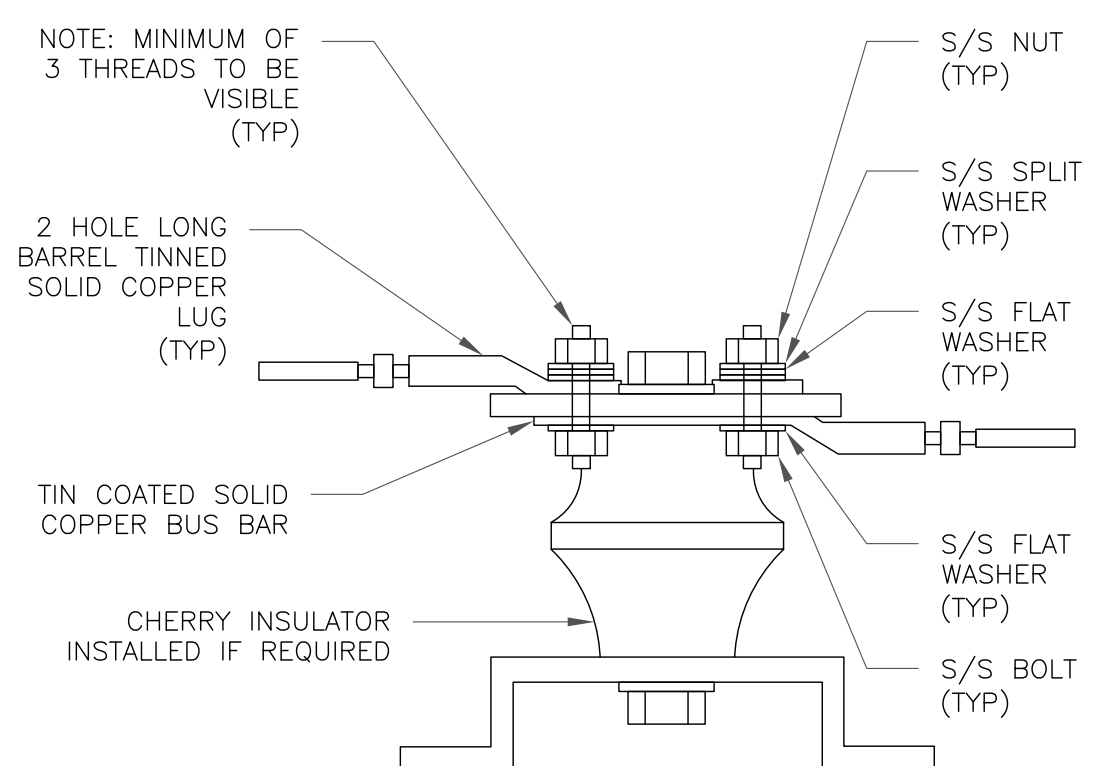
SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.blgrp.com

AT&T
SITE NUMBER: CTL01137

BU #: 841793
WINDSOR PINE LANE

50 PINE LANE
WINDSOR, CT 06095

EXISTING
148'-0" MONOPOLE

ISSUED FOR:

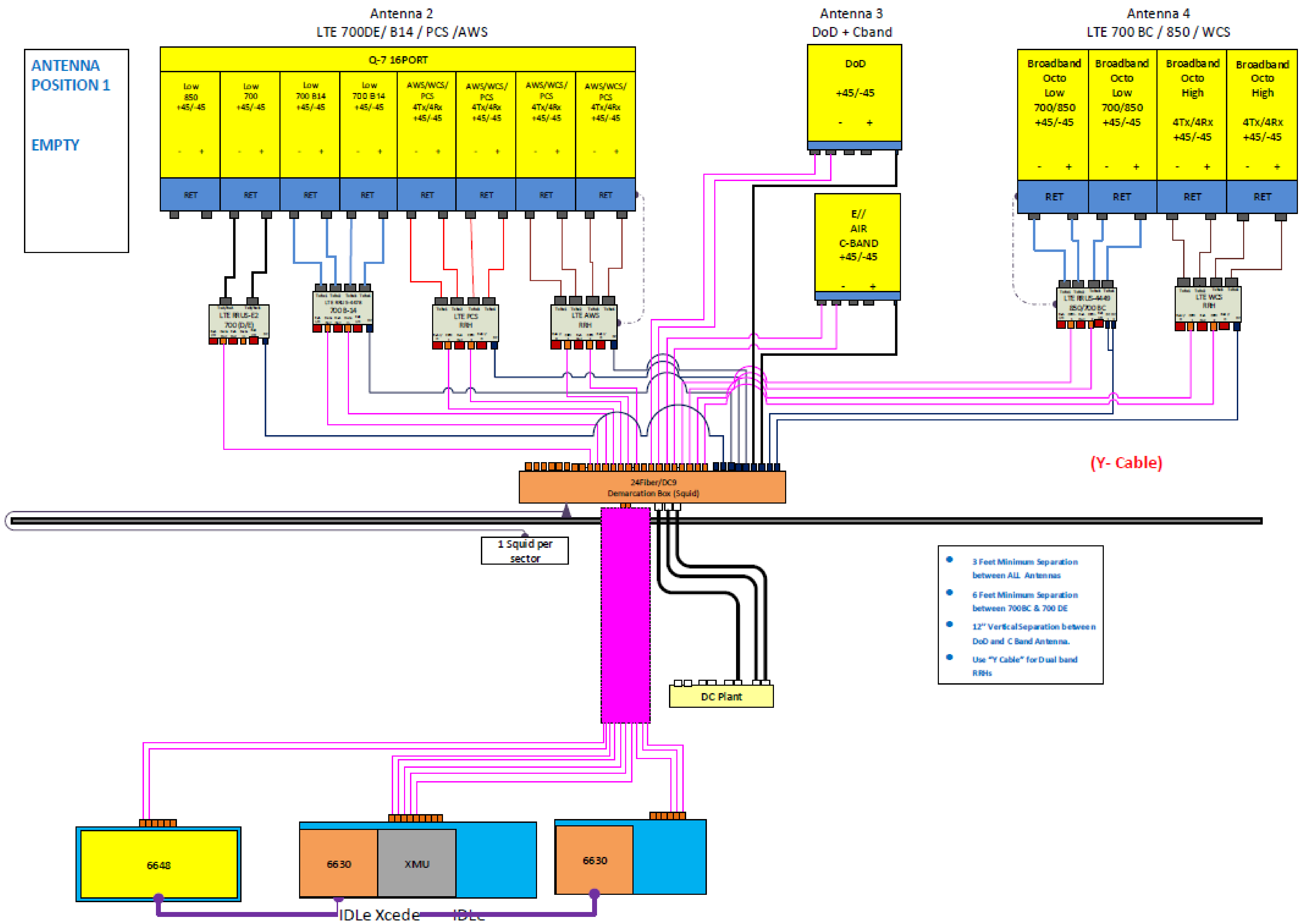
REV	DATE	DRWN	DESCRIPTION	DES./QA
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0	9/12/22	JTS	CONSTRUCTION	MTJ

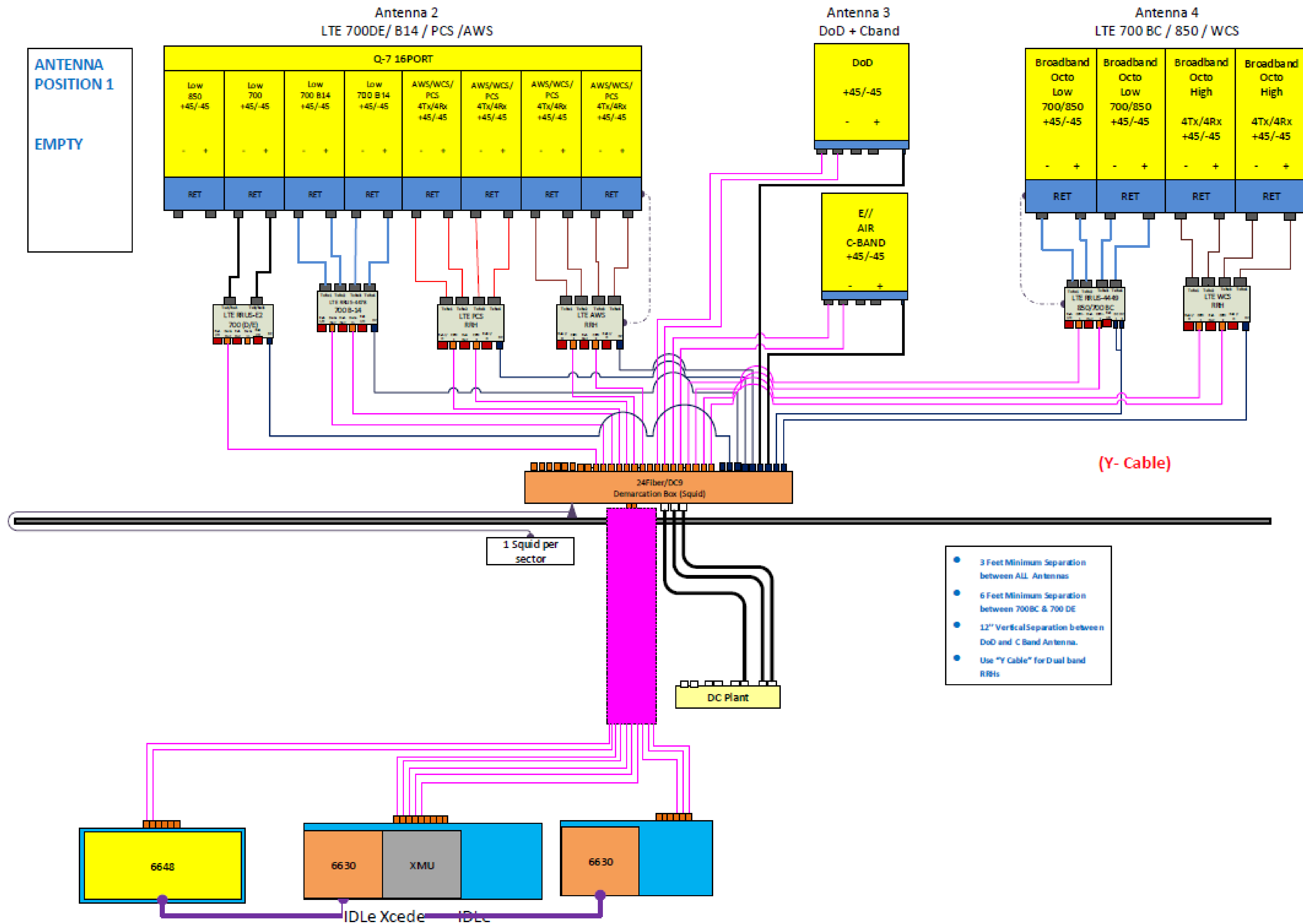


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SHEET NUMBER: **G-2** REVISION: **0**





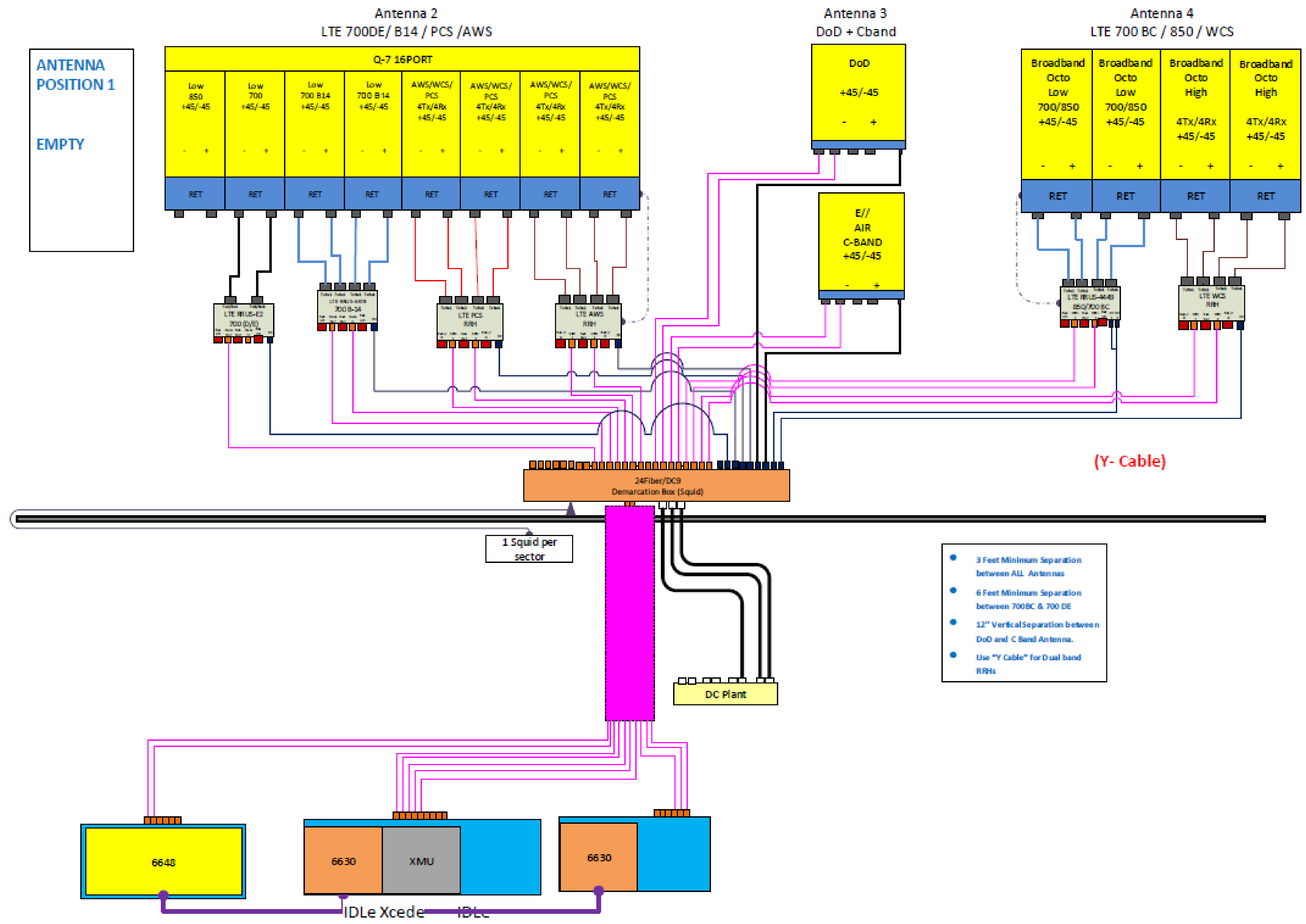


Exhibit D

Structural Analysis Report

Date: **January 12, 2022**



Black & Veatch Corp.
6800 W. 115th St., Suite 2292
Overland Park, KS 66211
(913) 458-6909

Subject: **Structural Analysis Report**

Carrier Designation: **Clearwire Corp Co-Locate**
Site Number: CTHA846A
Site Name: CT52XC025

Crown Castle Designation: **BU Number:** 841793
Site Name: WINDSOR PINE LANE
JDE Job Number: 666757
Work Order Number: 2066347
Order Number: 567937 Rev. 7

Engineering Firm Designation: **Black & Veatch Corp. Project Number:** 406642

Site Data: **50 Pine Lane, Windsor, Hartford County, CT**
Latitude 41° 49' 11.43", Longitude -72° 40' 1.88"
147.458 Foot - Monopole Tower

Black & Veatch Corp. is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

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

LC7: Proposed Equipment Configuration **Sufficient Capacity - 89.3%**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Phakkapol Phithaksukseree

Respectfully submitted by:

Ping Jiang, P.E.
Professional Engineer



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Table 2 - Other Considered Equipment

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4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 - Tower Component Stresses vs. Capacity - LC7

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6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 147.458 ft Monopole tower designed by Summit.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.179
Seismic S1:	0.064
Service Wind Speed:	60 mph
Seismic Loading:	Does not control per engineering judgment

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
108.0	109.0	3	commscope	VV-65A-R1_TMO w/ Mount Pipe	3 3	1-5/8 conduit
		3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
	3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe			
	108.0	3	site pro 1	VFA10-SD-S 10' V-Frame		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
149.0	153.0	1	decibel	DB225-C	1	7/8
	149.0	1	cci tower mounts (v2.1)	Platform Mount [LP 1201-1]		
141.0	147.0	1	bird technologies group	432E-83I-01-T	1 2	1/2 7/8
		2	rfi antennas	CC807-11		
	141.0	2	cci tower mounts (v2.1)	Side Arm Mount [SO 901-1]		
140.0	140.0	1	cci tower mounts (v2.1)	Pipe Mount [PM 601-1]	1	EU90
		1	rfs celwave	SC3-W100ASTX		
129.0	130.0	2	cci antennas	DMP65R-BU6D	2	3/8
		1	cci antennas	DMP65R-BU8D	3	13/16
		3	ericsson	AIR 6419 B77G	6	1-1/8
		3	ericsson	AIR 6449 N77	8	conduit

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 32 B66A		
		3	ericsson	RRUS 4415 B25		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14_CCIV2		
		3	ericsson	RRUS E2 B29		
		3	quintel technology	QD6616-7		
		3	raycap	DC9-48-60-24-8C-EV		
	129.0	3	tower mounts	Sabre C1085278C		
118.0	118.0	1	cci tower mounts (v2.1)	Side Arm Mount [SO 308-1]	1	7/8
		1	rfi antennas	BPA7496-180-11 w/ Mount Pipe		
98.0	98.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-K6MHDX-9-96 (3)		
85.0	85.0	2	cci tower mounts (v2.1)	Side Arm Mount [SO 102-3]	5	13/32
		4	cci tower mounts (v2.1)	Side Arm Mount [SO 901-1]		
		1	wade antenna	WH 14-69/S		
		1	wade antenna	WL 14-69/S		
	83.0	2	wade antenna	WL 14-69/S		
	78.0	1	wade antenna	J105-HI		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	4469790	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4469791	CCISITES
4-TOWER MANUFACTURER DRAWINGS	6064532	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

- 1) Tower and structures were maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Black & Veatch Corp. should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole Tower)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	147.458 - 115.418	Pole	TP31.25x24x0.2188	1	-9.44	1187.33	25.2	Pass
L2	115.418 - 74.2933	Pole	TP37.75x29.9413x0.2188	2	-20.69	1445.66	86.8	Pass
L3	74.2933 - 39.21	Pole	TP44.625x36.5034x0.3125	3	-28.06	2428.89	76.4	Pass
L4	39.21 - 0	Pole	TP51.25x42.8761x0.375	4	-41.13	3433.41	77.1	Pass
							Summary	
						Pole (L2)	86.8	Pass
						Rating =	86.8	Pass

Table 5 - Tower Component Stresses vs. Capacity (Monopole Tower) - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	62.7	Pass
	Base Plate		89.3	Pass
1	Base Foundation (Structure)	0	43.7	Pass
	Base Foundation (Soil Interaction)		83.0	Pass

Structure Rating (max from all components) =	89.3%
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Notes:

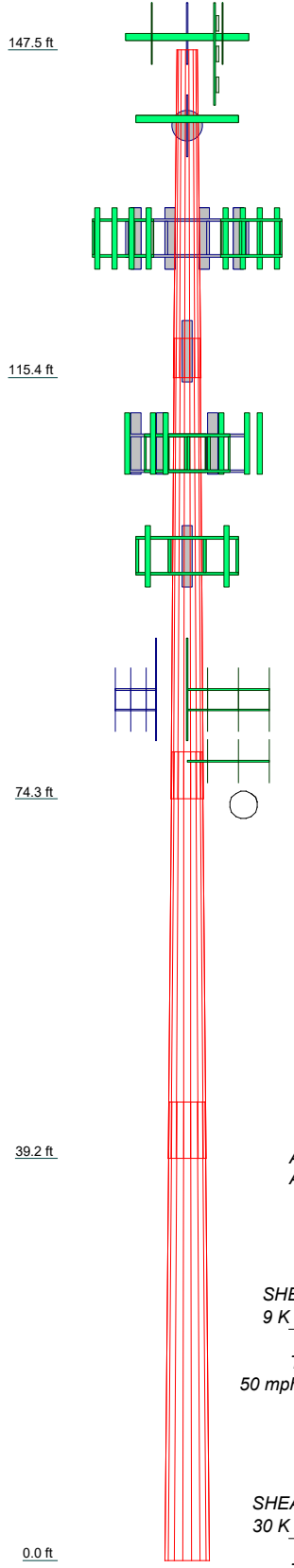
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity. Rating per TIA-222-H Section 15.5.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4					
Length (ft)	32.04	44.98	39.74	44.71					
Number of Sides	18	18	18	18					
Thickness (in)	0.2188	0.2188	0.3125	0.3750					
Socket Length (ft)	3.85	4.66	5.50	42.8761					
Top Dia (in)	24.0000	23.9413	36.5034	51.2500					
Bot Dia (in)	31.2500	37.7500	44.6250						
Grade			A607-60						
Weight (K)	2.1	3.6	5.4	8.5					



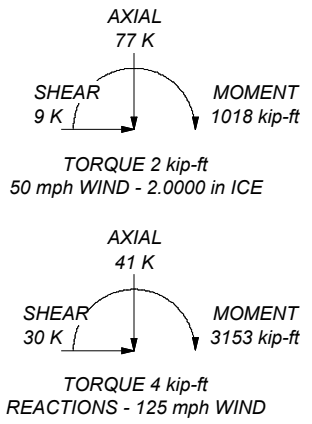
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-60	60 ksi	75 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 86.8%

ALL REACTIONS ARE FACTORED



BLACK & VEATCH Building a world of difference.	Black & Veatch Corp. 6800 W. 115th St., Suite 2292 Overland Park, KS 66211 Phone: (913) 458-6909 FAX:		Job: WINDSOR PINE LANE (BU#841793)
	Project: 406642 (841793.2066347)		Client: Crown Castle
	Code: TIA-222-H		Drawn by: Phakkapol Phithaksukseree
	Date: 01/12/22		App'd:
	Path:		Scale: NTS Dwg No. E-1

Tower Input Data

The tower is a monopole.
 This tower is designed using the TIA-222-H standard.
 The following design criteria apply:

- Tower is located in Hartford County, Connecticut.
- Tower base elevation above sea level: 94.00 ft.
- Basic wind speed of 125 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 2.0000 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.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets ✓ Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
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Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	147.46-115.42	32.04	3.85	18	24.0000	31.2500	0.2188	0.8750	A607-60 (60 ksi)
L2	115.42-74.29	44.98	4.66	18	29.9413	37.7500	0.2188	0.8750	A607-60 (60 ksi)
L3	74.29-39.21	39.74	5.50	18	36.5034	44.6250	0.3125	1.2500	A607-60 (60 ksi)
L4	39.21-0.00	44.71		18	42.8761	51.2500	0.3750	1.5000	A607-60 (60 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	24.3365	16.5116	1179.7676	8.4423	12.1920	96.7657	2361.0876	8.2574	3.8390	17.55
	31.6983	21.5454	2621.1402	11.0161	15.8750	165.1112	5245.7293	10.7747	5.1150	23.383
L2	31.0482	20.6368	2303.3061	10.5515	15.2102	151.4318	4609.6429	10.3203	4.8847	22.33
	38.2986	26.0584	4637.3676	13.3236	19.1770	241.8192	9280.8371	13.0317	6.2590	28.613
L3	37.9853	35.8969	5940.0926	12.8478	18.5437	320.3288	11888.001	17.9518	5.8746	18.799
	45.2652	43.9525	10903.681	15.7309	22.6695	480.9846	21821.710	21.9804	7.3040	23.373
L4	44.5257	50.5869	11544.502	15.0879	21.7810	530.0252	23104.195	25.2983	6.8862	18.363
	51.9828	60.5540	19801.081	18.0606	26.0350	760.5562	39628.217	30.2827	8.3600	22.293

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 147.46- 115.42				1	1	1			
L2 115.42- 74.29				1	1	1			
L3 74.29- 39.21				1	1	1			
L4 39.21-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Componen t Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diamete r in	Perimete r in	Weight plf

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Componen t Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf
Safety Line 3/8	A	No	No	CaAa (Out Of Face)	147.46 - 8.00	1		
						No Ice	0.04	0.22
						1/2" Ice	0.14	0.75
						1" Ice	0.24	1.28
						2" Ice	0.44	2.34

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf

LDF5-50A(7/8)	C	No	No	Inside Pole	147.46 - 0.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33

LDF5-50A(7/8)	C	No	No	Inside Pole	141.00 - 0.00	2	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33
LDF4-50A(1/2)	C	No	No	Inside Pole	141.00 - 0.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15

EU 90-FR(ELLIPTICAL)	C	No	No	Inside Pole	140.00 - 0.00	1	No Ice	0.00	0.34
							1/2" Ice	0.00	0.34
							1" Ice	0.00	0.34
							2" Ice	0.00	0.34

2" innerduct conduit	C	No	No	Inside Pole	129.00 - 0.00	8	No Ice	0.00	0.20
							1/2" Ice	0.00	0.20
							1" Ice	0.00	0.20
							2" Ice	0.00	0.20
PWRT-604-S(1-1/8)	C	No	No	Inside Pole	129.00 - 0.00	6	No Ice	0.00	0.59
							1/2" Ice	0.00	0.59
							1" Ice	0.00	0.59
							2" Ice	0.00	0.59
PWRT-608-S(13/16)	C	No	No	Inside Pole	129.00 - 0.00	3	No Ice	0.00	0.62
							1/2" Ice	0.00	0.62
							1" Ice	0.00	0.62
							2" Ice	0.00	0.62
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	129.00 - 0.00	2	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06

LDF5-50A(7/8)	C	No	No	Inside Pole	118.00 - 0.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
							2" Ice	0.00	0.33

2" innerduct conduit	C	No	No	Inside Pole	108.00 - 0.00	3	No Ice	0.00	0.20
							1/2" Ice	0.00	0.20
							1" Ice	0.00	0.20
							2" Ice	0.00	0.20
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	108.00 - 0.00	1	No Ice	0.00	2.40
							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40
							2" Ice	0.00	2.40
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	108.00 - 0.00	2	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
							2" Ice	0.00	2.50

CU12PSM9P6XXX (1-1/2)	C	No	No	Inside Pole	98.00 - 0.00	1	No Ice	0.00	2.35
							1/2" Ice	0.00	2.35
							1" Ice	0.00	2.35
							2" Ice	0.00	2.35

1110(13/32)	C	No	No	Inside Pole	85.00 - 0.00	5	No Ice	0.00	0.05
							1/2" Ice	0.00	0.05
							1" Ice	0.00	0.05
							2" Ice	0.00	0.05

Feed Line/Linear Appurtenances Section Areas

Tower Section <i>n</i>	Tower Elevation <i>ft</i>	Face	A_R <i>ft²</i>	A_F <i>ft²</i>	C_{AA} In Face <i>ft²</i>	C_{AA} Out Face <i>ft²</i>	Weight <i>K</i>
L1	147.46-115.42	A	0.000	0.000	0.000	1.202	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.14
L2	115.42-74.29	A	0.000	0.000	0.000	1.542	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.70
L3	74.29-39.21	A	0.000	0.000	0.000	1.316	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.68
L4	39.21-0.00	A	0.000	0.000	0.000	1.170	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.77

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section <i>n</i>	Tower Elevation <i>ft</i>	Face or Leg	Ice Thickness <i>in</i>	A_R <i>ft²</i>	A_F <i>ft²</i>	C_{AA} In Face <i>ft²</i>	C_{AA} Out Face <i>ft²</i>	Weight <i>K</i>
L1	147.46-115.42	A	1.951	0.000	0.000	0.000	13.704	0.07
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.14
L2	115.42-74.29	A	1.888	0.000	0.000	0.000	17.590	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.70
L3	74.29-39.21	A	1.794	0.000	0.000	0.000	14.565	0.08
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.68
L4	39.21-0.00	A	1.615	0.000	0.000	0.000	12.368	0.07
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.77

Feed Line Center of Pressure

Section	Elevation <i>ft</i>	CP_x <i>in</i>	CP_z <i>in</i>	CP_x Ice <i>in</i>	CP_z Ice <i>in</i>
L1	147.46-115.42	0.0000	-0.3434	0.0000	-1.7616
L2	115.42-74.29	0.0000	-0.3450	0.0000	-1.8494
L3	74.29-39.21	0.0000	-0.3462	0.0000	-1.8684
L4	39.21-0.00	0.0000	-0.2727	0.0000	-1.4670

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
14" x 2' Top Hat	C	None		0.0000	147.46	No Ice	1.17	1.17	0.11
						1/2" Ice	1.82	1.82	0.13
						Ice	2.02	2.02	0.16
						1" Ice	2.45	2.45	0.22
						2" Ice			

Platform Mount [LP 1201-1]	C	None		0.0000	149.00	No Ice	18.38	18.38	2.10
						1/2" Ice	22.11	22.11	2.65
						Ice	25.87	25.87	3.26
						1" Ice	33.47	33.47	4.66
						2" Ice			
(4) 6'x2" Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	149.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
(4) 6'x2" Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	149.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
(4) 6'x2" Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	149.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						Ice	2.29	2.29	0.05
						1" Ice	3.06	3.06	0.09
						2" Ice			
DB225-C	A	From Leg	3.00 6.00 4.00	0.0000	149.00	No Ice	2.32	2.32	0.03
						1/2" Ice	4.18	4.18	0.04
						Ice	6.03	6.03	0.04
						1" Ice	9.74	9.74	0.06
						2" Ice			

Side Arm Mount [SO 901-1]	A	None		0.0000	141.00	No Ice	0.33	0.62	0.11
						1/2" Ice	0.46	0.78	0.11
						Ice	0.62	0.97	0.12
						1" Ice	1.01	1.43	0.15
						2" Ice			
Side Arm Mount [SO 901-1]	B	None		0.0000	141.00	No Ice	0.33	0.62	0.11
						1/2" Ice	0.46	0.78	0.11
						Ice	0.62	0.97	0.12
						1" Ice	1.01	1.43	0.15
						2" Ice			
CC807-11	A	From Leg	2.00 0.00 6.00	0.0000	141.00	No Ice	5.27	5.27	0.05
						1/2" Ice	7.04	7.04	0.09
						Ice	8.83	8.83	0.14
						1" Ice	12.45	12.45	0.27
						2" Ice			
CC807-11	B	From Leg	2.00 0.00 6.00	0.0000	141.00	No Ice	5.27	5.27	0.05
						1/2" Ice	7.04	7.04	0.09
						Ice	8.83	8.83	0.14
						1" Ice	12.45	12.45	0.27
						2" Ice			
432E-831-01-T	A	From Leg	2.00 0.00 6.00	0.0000	141.00	No Ice	1.42	0.87	0.03
						1/2" Ice	1.57	0.99	0.04
						Ice	1.73	1.12	0.05
						1" Ice	2.06	1.41	0.09
						2" Ice			

Pipe Mount [PM 601-1]	A	From Leg	0.50 0.00 0.00	0.0000	140.00	No Ice	1.32	1.32	0.07
						1/2" Ice	1.58	1.58	0.08
						Ice	1.84	1.84	0.09
						1" Ice	2.40	2.40	0.13
						2" Ice			

Sabre C1085278C	A	From Face	0.00	0.0000	129.00	No Ice	11.40	6.54	0.58

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
			0.00			1/2"	15.81	9.07	0.75
			0.00			Ice	20.22	11.60	0.92
						1" Ice	29.05	16.66	1.27
						2" Ice			
Sabre C1085278C	B	From Face	0.00	0.0000	129.00	No Ice	11.40	6.54	0.58
			0.00			1/2"	15.81	9.07	0.75
			0.00			Ice	20.22	11.60	0.92
						1" Ice	29.05	16.66	1.27
						2" Ice			
Sabre C1085278C	C	From Face	0.00	0.0000	129.00	No Ice	11.40	6.54	0.58
			0.00			1/2"	15.81	9.07	0.75
			0.00			Ice	20.22	11.60	0.92
						1" Ice	29.05	16.66	1.27
						2" Ice			
DMP65R-BU6D	A	From Face	3.00	0.0000	129.00	No Ice	11.93	4.48	0.09
			0.00			1/2"	12.68	5.12	0.16
			1.00			Ice	13.45	5.78	0.24
						1" Ice	15.03	7.16	0.43
						2" Ice			
DMP65R-BU8D	B	From Face	3.00	0.0000	129.00	No Ice	15.86	5.95	0.11
			0.00			1/2"	16.80	6.78	0.20
			1.00			Ice	17.75	7.64	0.31
						1" Ice	19.71	9.39	0.55
						2" Ice			
DMP65R-BU6D	C	From Face	3.00	0.0000	129.00	No Ice	11.93	4.48	0.09
			0.00			1/2"	12.68	5.12	0.16
			1.00			Ice	13.45	5.78	0.24
						1" Ice	15.03	7.16	0.43
						2" Ice			
AIR 6419 B77G	A	From Face	3.00	0.0000	129.00	No Ice	4.64	1.87	0.07
			0.00			1/2"	5.11	2.23	0.09
			1.00			Ice	5.59	2.62	0.12
						1" Ice	6.62	3.45	0.19
						2" Ice			
AIR 6419 B77G	B	From Face	3.00	0.0000	129.00	No Ice	4.64	1.87	0.07
			0.00			1/2"	5.11	2.23	0.09
			1.00			Ice	5.59	2.62	0.12
						1" Ice	6.62	3.45	0.19
						2" Ice			
AIR 6419 B77G	C	From Face	3.00	0.0000	129.00	No Ice	4.64	1.87	0.07
			0.00			1/2"	5.11	2.23	0.09
			1.00			Ice	5.59	2.62	0.12
						1" Ice	6.62	3.45	0.19
						2" Ice			
AIR 6449 N77	A	From Face	3.00	0.0000	129.00	No Ice	3.70	2.14	0.10
			0.00			1/2"	4.06	2.45	0.13
			1.00			Ice	4.44	2.78	0.17
						1" Ice	5.23	3.48	0.26
						2" Ice			
AIR 6449 N77	B	From Face	3.00	0.0000	129.00	No Ice	3.70	2.14	0.10
			0.00			1/2"	4.06	2.45	0.13
			1.00			Ice	4.44	2.78	0.17
						1" Ice	5.23	3.48	0.26
						2" Ice			
AIR 6449 N77	C	From Face	3.00	0.0000	129.00	No Ice	3.70	2.14	0.10
			0.00			1/2"	4.06	2.45	0.13
			1.00			Ice	4.44	2.78	0.17
						1" Ice	5.23	3.48	0.26
						2" Ice			
QD6616-7	A	From Face	3.00	0.0000	129.00	No Ice	13.59	5.92	0.13
			0.00			1/2"	14.40	6.63	0.21
			1.00			Ice	15.24	7.36	0.30
						1" Ice	16.95	8.86	0.51
						2" Ice			
QD6616-7	B	From Face	3.00	0.0000	129.00	No Ice	13.59	5.92	0.13

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A Front	C _A A _A Side	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft ²	ft ²	K	
QD6616-7	C	From Face	0.00				1/2"	14.40	6.63	0.21
			1.00				Ice	15.24	7.36	0.30
							1" Ice	16.95	8.86	0.51
							2" Ice			
			3.00	0.0000	129.00	No Ice	13.59	5.92	0.13	
			0.00			1/2"	14.40	6.63	0.21	
RRUS E2 B29	A	From Face	1.00				Ice	15.24	7.36	0.30
							1" Ice	16.95	8.86	0.51
						2" Ice				
			3.00	0.0000	129.00	No Ice	3.15	1.29	0.05	
			0.00			1/2"	3.36	1.44	0.08	
			1.00			Ice	3.59	1.60	0.10	
RRUS E2 B29	B	From Face					1" Ice	4.07	1.95	0.17
							2" Ice			
			3.00	0.0000	129.00	No Ice	3.15	1.29	0.05	
			0.00			1/2"	3.36	1.44	0.08	
			1.00			Ice	3.59	1.60	0.10	
						1" Ice	4.07	1.95	0.17	
RRUS E2 B29	C	From Face					2" Ice			
			3.00	0.0000	129.00	No Ice	3.15	1.29	0.05	
			0.00			1/2"	3.36	1.44	0.08	
			1.00			Ice	3.59	1.60	0.10	
						1" Ice	4.07	1.95	0.17	
						2" Ice				
RRUS 32 B66A	A	From Face	3.00	0.0000	129.00	No Ice	2.86	1.78	0.06	
			0.00			1/2"	3.09	1.97	0.08	
			1.00			Ice	3.32	2.17	0.10	
						1" Ice	3.81	2.59	0.16	
						2" Ice				
						No Ice	2.86	1.78	0.06	
RRUS 32 B66A	B	From Face	0.00				1/2"	3.09	1.97	0.08
			1.00				Ice	3.32	2.17	0.10
						1" Ice	3.81	2.59	0.16	
						2" Ice				
			3.00	0.0000	129.00	No Ice	2.86	1.78	0.06	
			0.00			1/2"	3.09	1.97	0.08	
RRUS 32 B66A	C	From Face	1.00				Ice	3.32	2.17	0.10
							1" Ice	3.81	2.59	0.16
						2" Ice				
			3.00	0.0000	129.00	No Ice	2.86	1.78	0.06	
			0.00			1/2"	3.09	1.97	0.08	
			1.00			Ice	3.32	2.17	0.10	
RRUS 4478 B14_CCIV2	A	From Face					1" Ice	2.78	1.89	0.15
							2" Ice			
			3.00	0.0000	129.00	No Ice	2.02	1.25	0.06	
			0.00			1/2"	2.20	1.40	0.08	
			1.00			Ice	2.39	1.55	0.10	
						1" Ice	2.78	1.89	0.15	
RRUS 4478 B14_CCIV2	B	From Face					2" Ice			
			3.00	0.0000	129.00	No Ice	2.02	1.25	0.06	
			0.00			1/2"	2.20	1.40	0.08	
			1.00			Ice	2.39	1.55	0.10	
						1" Ice	2.78	1.89	0.15	
						2" Ice				
RRUS 4478 B14_CCIV2	C	From Face					No Ice	2.02	1.25	0.06
			3.00	0.0000	129.00	1/2"	2.20	1.40	0.08	
			0.00			Ice	2.39	1.55	0.10	
			1.00			1" Ice	2.78	1.89	0.15	
						2" Ice				
						No Ice	2.02	1.25	0.06	
RRUS 32 B30	A	From Face					1/2"	2.91	1.76	0.08
			3.00	0.0000	129.00	Ice	3.14	1.95	0.10	
			0.00			1" Ice	3.61	2.35	0.16	
			1.00			2" Ice				
						No Ice	2.69	1.57	0.06	
						1/2"	2.91	1.76	0.08	
RRUS 32 B30	B	From Face					Ice	3.14	1.95	0.10
			3.00	0.0000	129.00	1" Ice	3.61	2.35	0.16	
			0.00			2" Ice				
			1.00			No Ice	2.69	1.57	0.06	
						1/2"	2.91	1.76	0.08	
						Ice	3.14	1.95	0.10	
RRUS 32 B30	C	From Face					1" Ice	3.61	2.35	0.16
							2" Ice			
			3.00	0.0000	129.00	No Ice	2.69	1.57	0.06	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
			0.00			1/2"	2.91	1.76	0.08
			1.00			Ice	3.14	1.95	0.10
						1" Ice	3.61	2.35	0.16
						2" Ice			
RRUS 4449 B5/B12	A	From Face	3.00	0.0000	129.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			1.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4449 B5/B12	B	From Face	3.00	0.0000	129.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			1.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4449 B5/B12	C	From Face	3.00	0.0000	129.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			1.00			Ice	2.33	1.73	0.11
						1" Ice	2.72	2.07	0.16
						2" Ice			
RRUS 4415 B25	A	From Face	3.00	0.0000	129.00	No Ice	1.64	0.68	0.04
			0.00			1/2"	1.80	0.79	0.06
			1.00			Ice	1.97	0.91	0.07
						1" Ice	2.33	1.18	0.11
						2" Ice			
RRUS 4415 B25	B	From Face	3.00	0.0000	129.00	No Ice	1.64	0.68	0.04
			0.00			1/2"	1.80	0.79	0.06
			1.00			Ice	1.97	0.91	0.07
						1" Ice	2.33	1.18	0.11
						2" Ice			
RRUS 4415 B25	C	From Face	3.00	0.0000	129.00	No Ice	1.64	0.68	0.04
			0.00			1/2"	1.80	0.79	0.06
			1.00			Ice	1.97	0.91	0.07
						1" Ice	2.33	1.18	0.11
						2" Ice			
DC9-48-60-24-8C-EV	A	From Face	1.00	0.0000	129.00	No Ice	2.74	4.78	0.03
			0.00			1/2"	2.96	5.06	0.06
			1.00			Ice	3.20	5.35	0.10
						1" Ice	3.68	5.95	0.20
						2" Ice			
DC9-48-60-24-8C-EV	B	From Face	1.00	0.0000	129.00	No Ice	2.74	4.78	0.03
			0.00			1/2"	2.96	5.06	0.06
			1.00			Ice	3.20	5.35	0.10
						1" Ice	3.68	5.95	0.20
						2" Ice			
DC9-48-60-24-8C-EV	C	From Face	1.00	0.0000	129.00	No Ice	2.74	4.78	0.03
			0.00			1/2"	2.96	5.06	0.06
			1.00			Ice	3.20	5.35	0.10
						1" Ice	3.68	5.95	0.20
						2" Ice			

BPA7496-180-11 w/ Mount Pipe	A	From Leg	6.00	0.0000	118.00	No Ice	6.07	5.17	0.04
			0.00			1/2"	6.53	6.05	0.09
			0.00			Ice	6.99	6.81	0.15
						1" Ice	7.91	8.37	0.29
						2" Ice			
Side Arm Mount [SO 308-1]	A	From Leg	3.00	0.0000	118.00	No Ice	0.41	3.06	0.05
			0.00			1/2"	0.81	5.10	0.08
			0.00			Ice	1.23	7.20	0.12
						1" Ice	2.09	11.96	0.25
						2" Ice			
6'x2" Horizontal Pipe	A	From Leg	3.00	0.0000	118.00	No Ice	1.43	0.01	0.02
			0.00			1/2"	1.92	0.04	0.03
			0.00			Ice	2.29	0.07	0.05
						1" Ice	3.06	0.13	0.09
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
			ft	ft	°					

Site Pro 1 VFA10-SD-S 10' V-Frame	A	From Leg	0.00	0.00	0.0000	108.00	No Ice	9.45	5.60	0.38
							1/2"	14.18	8.75	0.46
							Ice	18.90	11.90	0.53
							1" Ice	28.35	18.20	0.69
							2" Ice			
Site Pro 1 VFA10-SD-S 10' V-Frame	B	From Leg	0.00	0.00	0.0000	108.00	No Ice	9.45	5.60	0.38
							1/2"	14.18	8.75	0.46
							Ice	18.90	11.90	0.53
							1" Ice	28.35	18.20	0.69
							2" Ice			
Site Pro 1 VFA10-SD-S 10' V-Frame	C	From Leg	0.00	0.00	0.0000	108.00	No Ice	9.45	5.60	0.38
							1/2"	14.18	8.75	0.46
							Ice	18.90	11.90	0.53
							1" Ice	28.35	18.20	0.69
							2" Ice			
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00	-5.00	0.0000	108.00	No Ice	5.19	2.71	0.13
							1/2"	5.59	3.04	0.17
							Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
							2" Ice			
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00	-5.00	0.0000	108.00	No Ice	5.19	2.71	0.13
							1/2"	5.59	3.04	0.17
							Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
							2" Ice			
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00	-5.00	0.0000	108.00	No Ice	5.19	2.71	0.13
							1/2"	5.59	3.04	0.17
							Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
							2" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00	-2.50	0.0000	108.00	No Ice	14.69	6.87	0.18
							1/2"	15.46	7.55	0.31
							Ice	16.23	8.25	0.45
							1" Ice	17.82	9.67	0.78
							2" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00	-2.50	0.0000	108.00	No Ice	14.69	6.87	0.18
							1/2"	15.46	7.55	0.31
							Ice	16.23	8.25	0.45
							1" Ice	17.82	9.67	0.78
							2" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00	-2.50	0.0000	108.00	No Ice	14.69	6.87	0.18
							1/2"	15.46	7.55	0.31
							Ice	16.23	8.25	0.45
							1" Ice	17.82	9.67	0.78
							2" Ice			
VV-65A-R1_TMO w/ Mount Pipe	A	From Leg	4.00	2.50	0.0000	108.00	No Ice	4.46	2.69	0.05
							1/2"	4.91	3.10	0.10
							Ice	5.36	3.52	0.15
							1" Ice	6.32	4.41	0.28
							2" Ice			
VV-65A-R1_TMO w/ Mount Pipe	B	From Leg	4.00	2.50	0.0000	108.00	No Ice	4.46	2.69	0.05
							1/2"	4.91	3.10	0.10
							Ice	5.36	3.52	0.15
							1" Ice	6.32	4.41	0.28
							2" Ice			
VV-65A-R1_TMO w/ Mount Pipe	C	From Leg	4.00	2.50	0.0000	108.00	No Ice	4.46	2.69	0.05
							1/2"	4.91	3.10	0.10
							Ice	5.36	3.52	0.15
							1" Ice	6.32	4.41	0.28
							2" Ice			
8'x2" Mount Pipe	A	From Leg	0.00	5.00	0.0000	108.00	No Ice	1.90	1.90	0.03
							1/2"	2.73	2.73	0.04
							Ice	3.40	3.40	0.06
							1" Ice	4.40	4.40	0.12
							2" Ice			

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
8'x2" Mount Pipe	B	From Leg	0.00	0.0000	108.00		2" Ice			
							No Ice	1.90	1.90	0.03
							1/2"	2.73	2.73	0.04
							Ice	3.40	3.40	0.06
							1" Ice	4.40	4.40	0.12
8'x2" Mount Pipe	C	From Leg	0.00	0.0000	108.00		2" Ice			
							No Ice	1.90	1.90	0.03
							1/2"	2.73	2.73	0.04
							Ice	3.40	3.40	0.06
							1" Ice	4.40	4.40	0.12
Radio 4480_TMOV2	A	From Leg	4.00	0.0000	108.00		2" Ice			
							No Ice	2.88	1.40	0.08
							1/2"	3.09	1.56	0.10
							Ice	3.31	1.73	0.13
							1" Ice	3.78	2.09	0.19
Radio 4480_TMOV2	B	From Leg	4.00	0.0000	108.00		2" Ice			
							No Ice	2.88	1.40	0.08
							1/2"	3.09	1.56	0.10
							Ice	3.31	1.73	0.13
							1" Ice	3.78	2.09	0.19
Radio 4480_TMOV2	C	From Leg	4.00	0.0000	108.00		2" Ice			
							No Ice	2.88	1.40	0.08
							1/2"	3.09	1.56	0.10
							Ice	3.31	1.73	0.13
							1" Ice	3.78	2.09	0.19
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00	0.0000	108.00		2" Ice			
							No Ice	2.14	1.69	0.11
							1/2"	2.32	1.85	0.13
							Ice	2.51	2.02	0.16
							1" Ice	2.91	2.39	0.22
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00	0.0000	108.00		2" Ice			
							No Ice	2.14	1.69	0.11
							1/2"	2.32	1.85	0.13
							Ice	2.51	2.02	0.16
							1" Ice	2.91	2.39	0.22
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00	0.0000	108.00		2" Ice			
							No Ice	2.14	1.69	0.11
							1/2"	2.32	1.85	0.13
							Ice	2.51	2.02	0.16
							1" Ice	2.91	2.39	0.22

Commscope MC- K6MHDX-9-96 (3)	C	None		0.0000	98.00		No Ice	15.30	15.30	1.19
							1/2"	20.48	20.48	1.71
							Ice	25.66	25.66	2.22
							1" Ice	36.02	36.02	3.25
							2" Ice			
MX08FRO665-21	A	From Leg	3.00	0.0000	98.00		No Ice	8.01	3.21	0.08
							1/2"	8.53	3.66	0.16
							Ice	9.05	4.12	0.24
							1" Ice	10.14	5.08	0.42
							2" Ice			
MX08FRO665-21	B	From Leg	3.00	0.0000	98.00		No Ice	8.01	3.21	0.08
							1/2"	8.53	3.66	0.16
							Ice	9.05	4.12	0.24
							1" Ice	10.14	5.08	0.42
							2" Ice			
MX08FRO665-21	C	From Leg	3.00	0.0000	98.00		No Ice	8.01	3.21	0.08
							1/2"	8.53	3.66	0.16
							Ice	9.05	4.12	0.24
							1" Ice	10.14	5.08	0.42
							2" Ice			
TA08025-B604	A	From Leg	3.00	0.0000	98.00		No Ice	1.96	0.98	0.06
							1/2"	2.14	1.11	0.08
							Ice	2.32	1.25	0.10

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral	Vert						ft
			ft	ft	ft	°	ft	ft ²	ft ²	K	
TA08025-B604	B	From Leg	3.00	0.00	0.00	0.0000	98.00	1" Ice	2.71	1.55	0.15
								2" Ice	1.96	0.98	0.06
								No Ice	2.14	1.11	0.08
								1/2" Ice	2.32	1.25	0.10
								1" Ice	2.71	1.55	0.15
TA08025-B604	C	From Leg	3.00	0.00	0.00	0.0000	98.00	1" Ice	2.71	1.55	0.15
								2" Ice	1.96	0.98	0.06
								No Ice	2.14	1.11	0.08
								1/2" Ice	2.32	1.25	0.10
								1" Ice	2.71	1.55	0.15
TA08025-B605	A	From Leg	3.00	0.00	0.00	0.0000	98.00	1" Ice	2.71	1.72	0.16
								2" Ice	1.96	1.13	0.08
								No Ice	2.14	1.27	0.09
								1/2" Ice	2.32	1.41	0.11
								1" Ice	2.71	1.72	0.16
TA08025-B605	B	From Leg	3.00	0.00	0.00	0.0000	98.00	1" Ice	2.71	1.72	0.16
								2" Ice	1.96	1.13	0.08
								No Ice	2.14	1.27	0.09
								1/2" Ice	2.32	1.41	0.11
								1" Ice	2.71	1.72	0.16
TA08025-B605	C	From Leg	3.00	0.00	0.00	0.0000	98.00	1" Ice	2.71	1.72	0.16
								2" Ice	1.96	1.13	0.08
								No Ice	2.14	1.27	0.09
								1/2" Ice	2.32	1.41	0.11
								1" Ice	2.71	1.72	0.16
RDIDC-9181-PF-48	A	From Leg	3.00	0.00	0.00	0.0000	98.00	1" Ice	2.76	1.78	0.11
								2" Ice	2.01	1.17	0.02
								No Ice	2.19	1.31	0.04
								1/2" Ice	2.37	1.46	0.06
								1" Ice	2.76	1.78	0.11
*** WH 14-69/S	C	From Face	2.00	0.00	0.00	0.0000	85.00	1" Ice	6.52	6.52	0.01
								2" Ice	0.63	0.63	0.01
								No Ice	1.02	1.02	0.02
								1/2" Ice	1.42	1.42	0.04
								1" Ice	2.21	2.21	0.06
WL 14-69/S	A	From Face	2.00	0.00	0.00	0.0000	85.00	1" Ice	2.21	2.21	0.06
								2" Ice	0.63	0.63	0.01
								No Ice	1.02	1.02	0.02
								1/2" Ice	1.42	1.42	0.04
								1" Ice	2.21	2.21	0.06
WL 14-69/S	A	From Face	2.00	0.00	-2.00	0.0000	85.00	1" Ice	2.21	2.21	0.06
								2" Ice	0.63	0.63	0.01
								No Ice	1.02	1.02	0.02
								1/2" Ice	1.42	1.42	0.04
								1" Ice	2.21	2.21	0.06
WL 14-69/S	C	From Face	2.00	0.00	-2.00	0.0000	85.00	1" Ice	2.21	2.21	0.06
								2" Ice	0.63	0.63	0.01
								No Ice	1.02	1.02	0.02
								1/2" Ice	1.42	1.42	0.04
								1" Ice	2.21	2.21	0.06
J105-HI	C	From Face	2.00	0.00	-7.00	0.0000	85.00	1" Ice	7.79	0.64	0.07
								2" Ice	1.92	0.10	0.01
								No Ice	3.39	0.24	0.02
								1/2" Ice	4.85	0.37	0.04
								1" Ice	7.79	0.64	0.07
(2) Side Arm Mount [SO 102-3]	C	None				0.0000	85.00	1" Ice	5.90	5.90	0.20
								2" Ice	3.60	3.60	0.07
								No Ice	4.18	4.18	0.11
								1/2" Ice	4.75	4.75	0.14
								1" Ice	5.90	5.90	0.20
(2) Side Arm Mount [SO 901-1]	A	From Face	0.00	0.00		0.0000	85.00	1" Ice	0.46	0.78	0.11
								No Ice	0.33	0.62	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _{Front} ft ²	C _A A _{Side} ft ²	Weight K
			0.00			Ice 0.62	0.97	0.12
						1" Ice 1.01	1.43	0.15
						2" Ice		
(2) Side Arm Mount [SO 901-1]	C	From Face	0.00	0.0000	85.00	No Ice 0.33	0.62	0.11
			0.00			1/2" 0.46	0.78	0.11
			0.00			Ice 0.62	0.97	0.12
						1" Ice 1.01	1.43	0.15
						2" Ice		
10'x2" Mount Pipe	A	From Face	2.00	0.0000	85.00	No Ice 2.38	2.38	0.04
			0.00			1/2" 3.40	3.40	0.05
			0.00			Ice 4.45	4.45	0.08
						1" Ice 5.91	5.91	0.15
						2" Ice		
10'x2" Mount Pipe	C	From Face	2.00	0.0000	85.00	No Ice 2.38	2.38	0.04
			0.00			1/2" 3.40	3.40	0.05
			0.00			Ice 4.45	4.45	0.08
						1" Ice 5.91	5.91	0.15
						2" Ice		

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K

SC3-W100ASTX	A	Paraboloid w/Shroud (HP)	From Leg	1.00	-4.0000		140.00	3.00	No Ice 7.07	0.04
				0.00					1/2" Ice 7.47	0.08
				0.00					1" Ice 7.87	0.12
									2" Ice 8.66	0.19

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice

Comb. No.	Description
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	147.458 - 115.418	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.18	-1.62	2.19
			Max. Mx	8	-9.48	-200.69	1.06
			Max. My	14	-9.44	-0.18	-205.25
			Max. Vy	20	-12.71	199.97	1.34
			Max. Vx	14	12.94	-0.18	-205.25
			Max. Torque	23			-2.83
L2	115.418 - 74.2933	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.05	-0.44	6.18
			Max. Mx	20	-20.73	971.00	2.51
			Max. My	14	-20.69	1.44	-984.46
			Max. Vy	20	-23.82	971.00	2.51
			Max. Vx	14	24.15	1.44	-984.46
			Max. Torque	23			-5.04
L3	74.2933 - 39.21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.55	-0.46	6.58
			Max. Mx	20	-28.08	1838.62	2.76
			Max. My	14	-28.06	2.81	-1863.09
			Max. Vy	20	-26.80	1838.62	2.76
			Max. Vx	14	27.12	2.81	-1863.09
			Max. Torque	21			-4.33
L4	39.21 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.70	-0.46	6.73
			Max. Mx	20	-41.13	3114.32	2.96
			Max. My	14	-41.13	4.57	-3152.81
			Max. Vy	20	-30.04	3114.32	2.96

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	30.35	4.57	-3152.81
			Max. Torque	21			-4.43

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	76.70	-0.01	9.28
	Max. H _x	20	41.15	30.01	0.00
	Max. H _z	2	41.15	-0.05	30.22
	Max. M _x	2	3141.23	-0.05	30.22
	Max. M _z	8	3113.11	-30.00	0.06
	Max. Torsion	9	4.39	-30.00	0.06
	Min. Vert	23	30.87	25.92	15.15
	Min. H _x	8	41.15	-30.00	0.06
	Min. H _z	14	41.15	0.04	-30.31
	Min. M _x	14	-3152.81	0.04	-30.31
	Min. M _z	20	-3114.32	30.01	0.00
	Min. Torsion	21	-4.43	30.01	0.00

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	34.30	0.00	0.00	-1.01	0.07	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	41.15	0.05	-30.22	-3141.23	-5.38	1.11
0.9 Dead+1.0 Wind 0 deg - No Ice	30.87	0.05	-30.22	-3104.54	-5.33	1.12
1.2 Dead+1.0 Wind 30 deg - No Ice	41.15	14.98	-26.23	-2729.00	-1553.00	-1.12
0.9 Dead+1.0 Wind 30 deg - No Ice	30.87	14.98	-26.23	-2697.07	-1535.07	-1.12
1.2 Dead+1.0 Wind 60 deg - No Ice	41.15	25.97	-15.22	-1587.03	-2694.08	-3.19
0.9 Dead+1.0 Wind 60 deg - No Ice	30.87	25.97	-15.22	-1568.31	-2662.93	-3.19
1.2 Dead+1.0 Wind 90 deg - No Ice	41.15	30.00	-0.06	-8.40	-3113.11	-4.38
0.9 Dead+1.0 Wind 90 deg - No Ice	30.87	30.00	-0.06	-7.98	-3077.11	-4.39
1.2 Dead+1.0 Wind 120 deg - No Ice	41.15	25.91	15.24	1588.92	-2685.82	-4.16
0.9 Dead+1.0 Wind 120 deg - No Ice	30.87	25.91	15.24	1570.79	-2654.79	-4.17
1.2 Dead+1.0 Wind 150 deg - No Ice	41.15	14.95	26.27	2733.21	-1549.68	-3.05
0.9 Dead+1.0 Wind 150 deg - No Ice	30.87	14.95	26.27	2701.86	-1531.79	-3.06
1.2 Dead+1.0 Wind 180 deg - No Ice	41.15	-0.04	30.31	3152.81	4.57	-1.15
0.9 Dead+1.0 Wind 180 deg - No Ice	30.87	-0.04	30.31	3116.62	4.50	-1.16
1.2 Dead+1.0 Wind 210 deg - No Ice	41.15	-15.00	26.32	2740.12	1555.28	1.05
0.9 Dead+1.0 Wind 210 deg - No Ice	30.87	-15.00	26.32	2708.68	1537.29	1.04
1.2 Dead+1.0 Wind 240 deg - No Ice	41.15	-25.94	15.29	1595.10	2689.86	3.05

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.0 Wind 240 deg - No Ice	30.87	-25.94	15.29	1576.91	2658.75	3.05
1.2 Dead+1.0 Wind 270 deg - No Ice	41.15	-30.01	-0.00	-2.96	3114.32	4.42
0.9 Dead+1.0 Wind 270 deg - No Ice	30.87	-30.01	-0.00	-2.60	3078.27	4.43
1.2 Dead+1.0 Wind 300 deg - No Ice	41.15	-25.92	-15.15	-1578.31	2687.67	4.29
0.9 Dead+1.0 Wind 300 deg - No Ice	30.87	-25.92	-15.15	-1559.69	2656.57	4.30
1.2 Dead+1.0 Wind 330 deg - No Ice	41.15	-14.92	-26.17	-2721.24	1546.32	3.08
0.9 Dead+1.0 Wind 330 deg - No Ice	30.87	-14.92	-26.17	-2689.41	1528.42	3.09
1.2 Dead+1.0 Ice+1.0 Temp	76.70	0.00	-0.00	-6.73	-0.46	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	76.70	0.01	-9.28	-1017.84	-1.39	0.56
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	76.70	4.63	-8.05	-884.08	-504.38	-0.50
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	76.70	8.02	-4.66	-515.49	-874.34	-1.45
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	76.70	9.26	-0.01	-8.16	-1010.09	-2.01
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	76.70	8.01	4.67	503.03	-872.82	-1.98
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	76.70	4.62	8.06	871.95	-504.05	-1.47
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	76.70	-0.01	9.30	1007.04	0.27	-0.57
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	76.70	-4.63	8.07	873.19	503.90	0.48
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	76.70	-8.01	4.68	503.95	872.50	1.42
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	76.70	-9.26	-0.00	-7.45	1009.38	2.01
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	76.70	-8.01	-4.65	-514.03	872.25	2.01
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	76.70	-4.62	-8.04	-882.66	502.38	1.47
Dead+Wind 0 deg - Service	34.30	0.01	-6.56	-678.11	-1.11	0.25
Dead+Wind 30 deg - Service	34.30	3.25	-5.69	-589.22	-334.82	-0.25
Dead+Wind 60 deg - Service	34.30	5.64	-3.30	-342.99	-580.85	-0.70
Dead+Wind 90 deg - Service	34.30	6.51	-0.01	-2.61	-671.19	-0.96
Dead+Wind 120 deg - Service	34.30	5.62	3.31	341.80	-579.07	-0.91
Dead+Wind 150 deg - Service	34.30	3.24	5.70	588.55	-334.11	-0.67
Dead+Wind 180 deg - Service	34.30	-0.01	6.58	679.04	1.03	-0.25
Dead+Wind 210 deg - Service	34.30	-3.25	5.71	590.05	335.41	0.23
Dead+Wind 240 deg - Service	34.30	-5.63	3.32	343.14	580.04	0.67
Dead+Wind 270 deg - Service	34.30	-6.51	-0.00	-1.43	671.55	0.97
Dead+Wind 300 deg - Service	34.30	-5.62	-3.29	-341.10	579.56	0.95
Dead+Wind 330 deg - Service	34.30	-3.24	-5.68	-587.55	333.46	0.68

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-34.30	0.00	0.00	34.30	0.00	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
2	0.05	-41.15	-30.22	-0.05	41.15	30.22	0.000%
3	0.05	-30.87	-30.22	-0.05	30.87	30.22	0.000%
4	14.98	-41.15	-26.23	-14.98	41.15	26.23	0.000%
5	14.98	-30.87	-26.23	-14.98	30.87	26.23	0.000%
6	25.97	-41.15	-15.22	-25.97	41.15	15.22	0.000%
7	25.97	-30.87	-15.22	-25.97	30.87	15.22	0.000%
8	30.00	-41.15	-0.06	-30.00	41.15	0.06	0.000%
9	30.00	-30.87	-0.06	-30.00	30.87	0.06	0.000%
10	25.91	-41.15	15.24	-25.91	41.15	-15.24	0.000%
11	25.91	-30.87	15.24	-25.91	30.87	-15.24	0.000%
12	14.95	-41.15	26.27	-14.95	41.15	-26.27	0.000%
13	14.95	-30.87	26.27	-14.95	30.87	-26.27	0.000%
14	-0.04	-41.15	30.31	0.04	41.15	-30.31	0.000%
15	-0.04	-30.87	30.31	0.04	30.87	-30.31	0.000%
16	-15.00	-41.15	26.32	15.00	41.15	-26.32	0.000%
17	-15.00	-30.87	26.32	15.00	30.87	-26.32	0.000%
18	-25.94	-41.15	15.29	25.94	41.15	-15.29	0.000%
19	-25.94	-30.87	15.29	25.94	30.87	-15.29	0.000%
20	-30.01	-41.15	-0.00	30.01	41.15	0.00	0.000%
21	-30.01	-30.87	-0.00	30.01	30.87	0.00	0.000%
22	-25.92	-41.15	-15.15	25.92	41.15	15.15	0.000%
23	-25.92	-30.87	-15.15	25.92	30.87	15.15	0.000%
24	-14.92	-41.15	-26.17	14.92	41.15	26.17	0.000%
25	-14.92	-30.87	-26.17	14.92	30.87	26.17	0.000%
26	0.00	-76.70	0.00	-0.00	76.70	0.00	0.000%
27	0.01	-76.70	-9.28	-0.01	76.70	9.28	0.000%
28	4.63	-76.70	-8.05	-4.63	76.70	8.05	0.000%
29	8.02	-76.70	-4.66	-8.02	76.70	4.66	0.000%
30	9.26	-76.70	-0.01	-9.26	76.70	0.01	0.000%
31	8.01	-76.70	4.67	-8.01	76.70	-4.67	0.000%
32	4.62	-76.70	8.06	-4.62	76.70	-8.06	0.000%
33	-0.01	-76.70	9.30	0.01	76.70	-9.30	0.000%
34	-4.63	-76.70	8.07	4.63	76.70	-8.07	0.000%
35	-8.01	-76.70	4.68	8.01	76.70	-4.68	0.000%
36	-9.26	-76.70	-0.00	9.26	76.70	0.00	0.000%
37	-8.01	-76.70	-4.65	8.01	76.70	4.65	0.000%
38	-4.62	-76.70	-8.04	4.62	76.70	8.04	0.000%
39	0.01	-34.30	-6.56	-0.01	34.30	6.56	0.000%
40	3.25	-34.30	-5.69	-3.25	34.30	5.69	0.000%
41	5.64	-34.30	-3.30	-5.64	34.30	3.30	0.000%
42	6.51	-34.30	-0.01	-6.51	34.30	0.01	0.000%
43	5.62	-34.30	3.31	-5.62	34.30	-3.31	0.000%
44	3.24	-34.30	5.70	-3.24	34.30	-5.70	0.000%
45	-0.01	-34.30	6.58	0.01	34.30	-6.58	0.000%
46	-3.25	-34.30	5.71	3.25	34.30	-5.71	0.000%
47	-5.63	-34.30	3.32	5.63	34.30	-3.32	0.000%
48	-6.51	-34.30	-0.00	6.51	34.30	0.00	0.000%
49	-5.62	-34.30	-3.29	5.62	34.30	3.29	0.000%
50	-3.24	-34.30	-5.68	3.24	34.30	5.68	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00015131
3	Yes	5	0.00000001	0.00007005
4	Yes	6	0.00000001	0.00012590
5	Yes	6	0.00000001	0.00003948
6	Yes	6	0.00000001	0.00013671
7	Yes	6	0.00000001	0.00004332
8	Yes	5	0.00000001	0.00038989
9	Yes	5	0.00000001	0.00018112
10	Yes	6	0.00000001	0.00011828
11	Yes	5	0.00000001	0.00095021

12	Yes	6	0.00000001	0.00013835
13	Yes	6	0.00000001	0.00004397
14	Yes	5	0.00000001	0.00013646
15	Yes	5	0.00000001	0.00006334
16	Yes	6	0.00000001	0.00013008
17	Yes	6	0.00000001	0.00004095
18	Yes	6	0.00000001	0.00012183
19	Yes	5	0.00000001	0.00097889
20	Yes	5	0.00000001	0.00038440
21	Yes	5	0.00000001	0.00017868
22	Yes	6	0.00000001	0.00014084
23	Yes	6	0.00000001	0.00004493
24	Yes	6	0.00000001	0.00011817
25	Yes	5	0.00000001	0.00094809
26	Yes	4	0.00000001	0.00009884
27	Yes	5	0.00000001	0.00090341
28	Yes	6	0.00000001	0.00019308
29	Yes	6	0.00000001	0.00020451
30	Yes	5	0.00000001	0.00095377
31	Yes	6	0.00000001	0.00018193
32	Yes	6	0.00000001	0.00020049
33	Yes	5	0.00000001	0.00088098
34	Yes	6	0.00000001	0.00018740
35	Yes	6	0.00000001	0.00018157
36	Yes	5	0.00000001	0.00095019
37	Yes	6	0.00000001	0.00021088
38	Yes	6	0.00000001	0.00018646
39	Yes	4	0.00000001	0.00016099
40	Yes	4	0.00000001	0.00056711
41	Yes	4	0.00000001	0.00074377
42	Yes	4	0.00000001	0.00038590
43	Yes	4	0.00000001	0.00053673
44	Yes	4	0.00000001	0.00077186
45	Yes	4	0.00000001	0.00016022
46	Yes	4	0.00000001	0.00061420
47	Yes	4	0.00000001	0.00052676
48	Yes	4	0.00000001	0.00038706
49	Yes	4	0.00000001	0.00083614
50	Yes	4	0.00000001	0.00051512

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	147.458 - 115.418	21.967	39	1.2278	0.0094
L2	119.268 - 74.2933	14.843	39	1.1621	0.0068
L3	78.9533 - 39.21	6.401	45	0.7705	0.0024
L4	44.71 - 0	2.055	45	0.4175	0.0010

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.00	Platform Mount [LP 1201-1]	39	21.967	1.2278	0.0094	57431
147.46	14" x 2' Top Hat	39	21.967	1.2278	0.0094	57431
141.00	Side Arm Mount [SO 901-1]	39	20.301	1.2226	0.0088	44463
140.00	SC3-W100ASTX	39	20.044	1.2216	0.0088	38501
129.00	Sabre C1085278C	39	17.244	1.2017	0.0078	15556
118.00	BPA7496-180-11 w/ Mount Pipe	39	14.538	1.1548	0.0067	9890
108.00	Site Pro 1 VFA10-SD-S 10' V-	39	12.203	1.0803	0.0056	7868

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
98.00	Frame Commscope MC-K6MHDX-9-96 (3)	39	10.021	0.9830	0.0044	6545
85.00	WH 14-69/S	45	7.466	0.8388	0.0029	5372

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	147.458 - 115.418	102.031	14	5.6984	0.0423
L2	119.268 - 74.2933	69.001	14	5.3993	0.0309
L3	78.9533 - 39.21	29.762	14	3.5862	0.0109
L4	44.71 - 0	9.552	14	1.9414	0.0044

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.00	Platform Mount [LP 1201-1]	14	102.031	5.6984	0.0426	12755
147.46	14" x 2' Top Hat	14	102.031	5.6984	0.0426	12755
141.00	Side Arm Mount [SO 901-1]	14	94.309	5.6755	0.0403	9874
140.00	SC3-W100ASTX	14	93.117	5.6710	0.0399	8550
129.00	Sabre C1085278C	14	80.137	5.5812	0.0356	3453
118.00	BPA7496-180-11 w/ Mount Pipe	14	67.584	5.3657	0.0306	2190
108.00	Site Pro 1 VFA10-SD-S 10' V- Frame	14	56.745	5.0220	0.0254	1730
98.00	Commscope MC-K6MHDX-9-96 (3)	14	46.607	4.5718	0.0200	1431
85.00	WH 14-69/S	14	34.716	3.9033	0.0134	1167

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	147.458 - 115.418 (1)	TP31.25x24x0.2188	32.04	0.00	0.0	20.940 5	-9.44	1130.79	0.008
L2	115.418 - 74.2933 (2)	TP37.75x29.9413x0.2188	44.98	0.00	0.0	25.496 7	-20.69	1376.82	0.015
L3	74.2933 - 39.21 (3)	TP44.625x36.5034x0.312 5	39.74	0.00	0.0	42.837 7	-28.06	2313.23	0.012
L4	39.21 - 0 (4)	TP51.25x42.8761x0.375	44.71	0.00	0.0	60.554 0	-41.13	3269.91	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux}	ϕM_{nx}	Ratio	M_{uy}	ϕM_{ny}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$	kip-ft	kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L1	147.458 - 115.418 (1)	TP31.25x24x0.2188	205.26	807.25	0.254	0.00	807.25	0.000
L2	115.418 - 74.2933 (2)	TP37.75x29.9413x0.2188	984.46	1102.68	0.893	0.00	1102.68	0.000
L3	74.2933 - 39.21 (3)	TP44.625x36.5034x0.3125	1863.09	2362.72	0.789	0.00	2362.72	0.000
L4	39.21 - 0 (4)	TP51.25x42.8761x0.375	3152.82	3960.31	0.796	0.00	3960.31	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u	ϕV_n	Ratio	Actual T_u	ϕT_n	Ratio
			K	K	$\frac{V_u}{\phi V_n}$	kip-ft	kip-ft	$\frac{T_u}{\phi T_n}$
L1	147.458 - 115.418 (1)	TP31.25x24x0.2188	12.94	335.46	0.039	1.80	896.02	0.002
L2	115.418 - 74.2933 (2)	TP37.75x29.9413x0.2188	24.15	413.05	0.058	1.15	1328.33	0.001
L3	74.2933 - 39.21 (3)	TP44.625x36.5034x0.3125	27.12	693.97	0.039	1.15	2624.76	0.000
L4	39.21 - 0 (4)	TP51.25x42.8761x0.375	30.35	980.97	0.031	1.15	4370.61	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L1	147.458 - 115.418 (1)	0.008	0.254	0.000	0.039	0.002	0.264	1.050	4.8.2
L2	115.418 - 74.2933 (2)	0.015	0.893	0.000	0.058	0.001	0.911	1.050	4.8.2
L3	74.2933 - 39.21 (3)	0.012	0.789	0.000	0.039	0.000	0.802	1.050	4.8.2
L4	39.21 - 0 (4)	0.013	0.796	0.000	0.031	0.000	0.810	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	147.458 - 115.418	Pole	TP31.25x24x0.2188	1	-9.44	1187.33	25.2	Pass
L2	115.418 - 74.2933	Pole	TP37.75x29.9413x0.2188	2	-20.69	1445.66	86.8	Pass
L3	74.2933 - 39.21	Pole	TP44.625x36.5034x0.3125	3	-28.06	2428.89	76.4	Pass
L4	39.21 - 0	Pole	TP51.25x42.8761x0.375	4	-41.13	3433.41	77.1	Pass
Summary								
Pole (L2)							86.8	Pass
RATING =							86.8	Pass

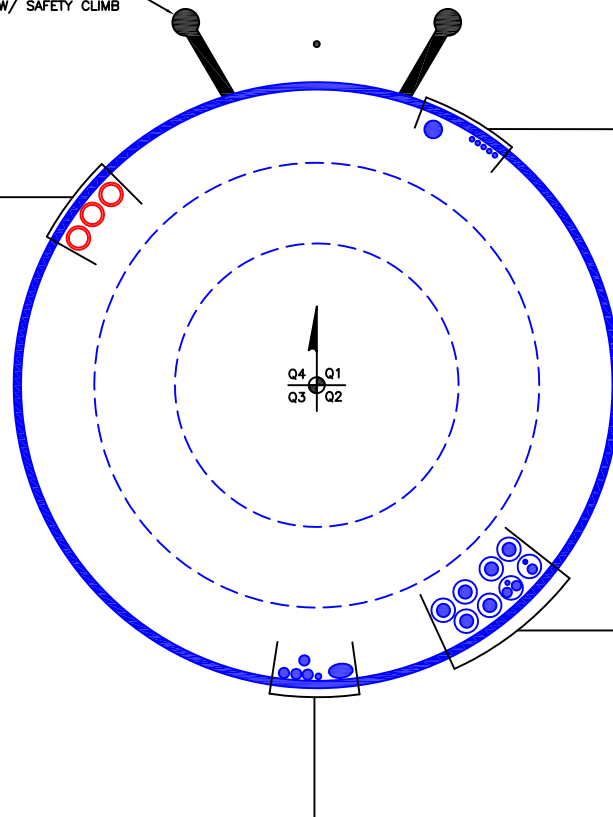
APPENDIX B
BASE LEVEL DRAWING



CLIMBING PEGS
W/ SAFETY CLIMB

(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 98 FT LEVEL
(5) 13/32" TO 85 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION - IN CONDUIT)
(3) 1-5/8" TO 108 FT LEVEL



(OTHER CONSIDERED EQUIPMENT - IN CONDUIT)
(2) 3/8" TO 129 FT LEVEL
(3) 13/16" TO 129 FT LEVEL
(6) 1-1/8" TO 129 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 7/8" TO 118 FT LEVEL
(1) ELLIPTICAL TO 140 FT LEVEL
(1) 1/2" TO 141 FT LEVEL
(2) 7/8" TO 141 FT LEVEL
(1) 7/8" TO 149 FT LEVEL

BUSINESS UNIT: 841793 TOWER ID: C_BASELEVEL

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

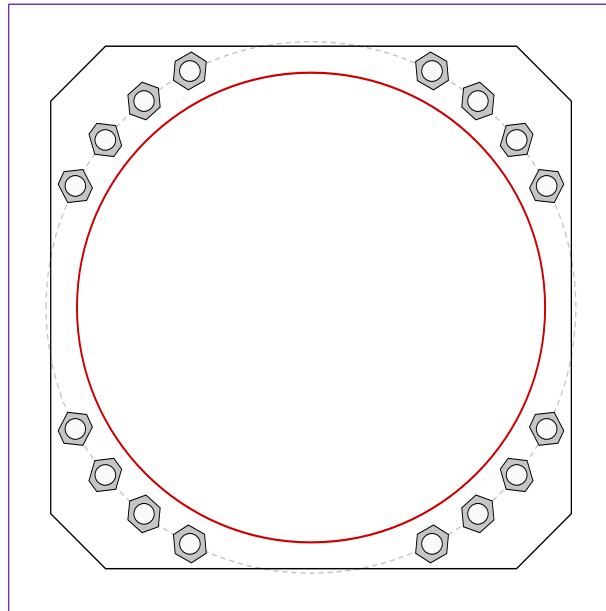


Site Info	
BU #	841793
Site Name	WINDSOR PINE LANE
Order #	567937 Rev. 7

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
I_{ar} (in)	2.1875

Applied Loads	
Moment (kip-ft)	3152.82
Axial Force (kips)	41.13
Shear Force (kips)	30.35

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
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Anchor Rod Data
(16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 58" BC <i>Anchor Spacing: 6 in</i>
Base Plate Data
57" W x 2.75" Plate (A36; $F_y=36$ ksi, $F_u=58$ ksi); Clip: 6 in
Stiffener Data
N/A
Pole Data
51.25" x 0.375" 18-sided pole (A607-60; $F_y=60$ ksi, $F_u=75$ ksi)

Anchor Rod Summary		<i>(units of kips, kip-in)</i>
$Pu_t = 160.41$	$\phi Pn_t = 243.75$	Stress Rating
$Vu = 1.9$	$\phi Vn = 149.1$	62.7%
$Mu = n/a$	$\phi Mn = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	30.38	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	89.3%	Pass

Drilled Pier Foundation

BU #:	841793
Site Name:	WINDSOR PINE LANE
Order Number:	567937 Rev. 7
TIA-222 Revisor:	H
Tower Type:	Monopole



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	3152.81	
Axial Force (kips)	41.15	
Shear Force (kips)	30.31	

Material Properties	
Concrete Strength, f _c :	3 ksi
Rebar Strength, F _y :	60 ksi
Tie Yield Strength, F _y :	40 ksi

Pier Design Data	
Depth	32 ft
Ext. Above Grade	0 ft
Pier Section 1	
<i>From 0' below grade to 32' below grade</i>	
Pier Diameter	7 ft
Rebar Quantity	30
Rebar Size	11
Clear Cover to Ties	3 in
Tie Size	4
Tie Spacing	in

[Rebar & Pier Options](#)

[Embedded Pole Inputs](#)

[Belled Pier Inputs](#)

Analysis Results

Soil Lateral Check	Compression	Uplift
D _{ve0} (ft from TOC)	4.77	-
Soil Safety Factor	1.71	-
Max Moment (kip-ft)	3301.19	-
Rating*	74.2%	-

Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	132.36	-
End Bearing (kips)	86.59	-
Weight of Concrete (kips)	149.60	-
Total Capacity (kips)	218.95	-
Axial (kips)	190.75	-
Rating*	83.0%	-

Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	4.72	-
Critical Moment (kip-ft)	3301.17	-
Critical Moment Capacity	7186.50	-
Rating*	43.7%	-

Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	17.73	-
Critical Shear (kip)	234.24	-
Critical Shear Capacity	2493.80	-
Rating*	8.9%	-

Shear-Friction Methodology is Applied

Structural Foundation Rating*	43.7%
Soil Interaction Rating*	83.0%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	<input checked="" type="checkbox"/>
N/A	<input type="checkbox"/>
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	<input type="checkbox"/>
Shear Design Options	
Check Shear along Depth of Pier:	<input checked="" type="checkbox"/>
Utilize Shear-Friction Methodology:	<input checked="" type="checkbox"/>
Override Critical Depth:	<input type="checkbox"/>

[Go to Soil Calculations](#)

Soil Profile													
Groundwater Depth	7			# of Layers	3								

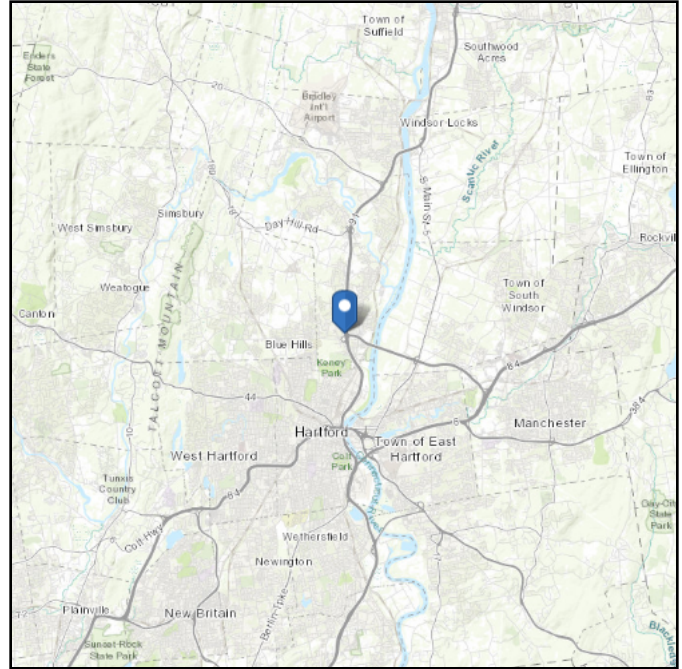
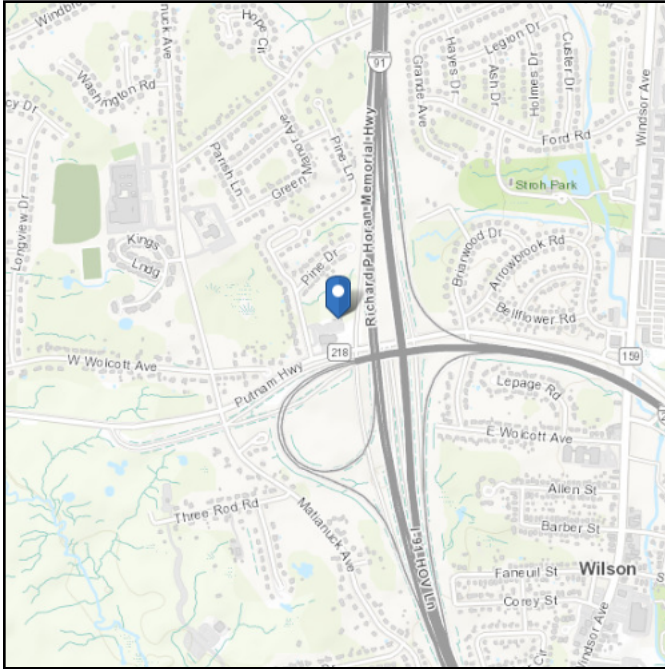
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3	3	120	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3	7	4	120	150		30	0.288	0.288				6	Cohesionless
3	7	32	25	50	87.6	0.5		0.275	0.275			3		Cohesive

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 93.75 ft (NAVD 88)
Latitude: 41.819842
Longitude: -72.667189

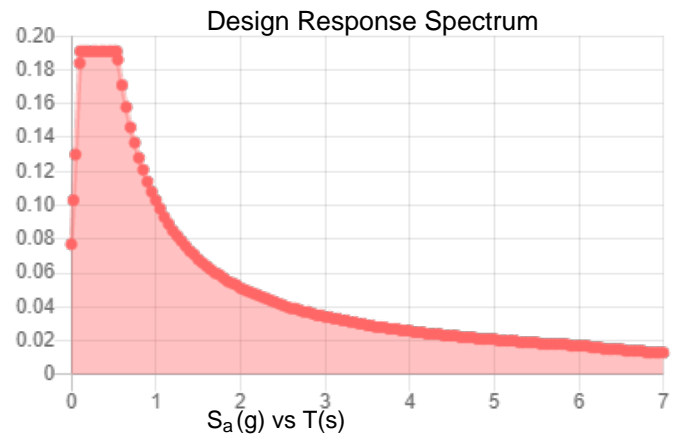
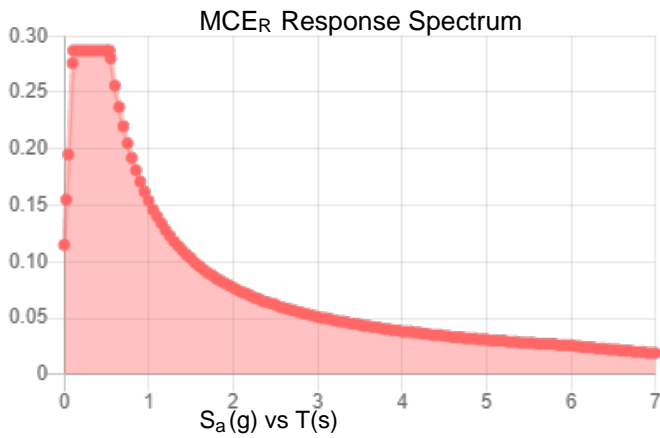


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.179	S_{DS} :	0.191
S_1 :	0.064	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.09
S_{MS} :	0.287	PGA_M :	0.144
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed: Wed Jan 12 2022

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 5 F

Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Wed Jan 12 2022

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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Exhibit E

Mount Analysis

Date: November 12, 2021



B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject: Mount Replacement Analysis Report

Carrier Designation: AT&T Mobility Equipment Change-Out
Carrier Site Number: CTL01137
Carrier Site Name: Windsor Pine Lane
Carrier FA Number: 10042353

Crown Castle Designation: BU Number: 841793
Site Name: Windsor Pine Lane
JDE Job Number: 649396
Order Number: 556506, Rev. 1

Engineering Firm Designation: B+T Group Report Designation: 141992.012.01

Site Data: 50 Pine Lane, Windsor, CT, Hartford County, 06095
Latitude 41° 49' 11.43" Longitude -72° 40' 1.88"

Structure Information: Tower Height & Type: 147.45 ft. Monopole
Mount Elevation: 129 ft.
Mount Type: 15 ft. Sector Mount

B+T Group is pleased to submit this “**Mount Replacement Analysis Report**” to determine the structural integrity of AT&T Mobility’s antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount’s stress level. Based on our analysis we have determined the stress level to be:

Sector Mount (typical)

*Sufficient upon completion of the changes listed in the 'Recommendations' section of the report.

Sufficient

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 117 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Krista Loyd, E.I.T.

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022

Chad E. Tuttle, P.E.

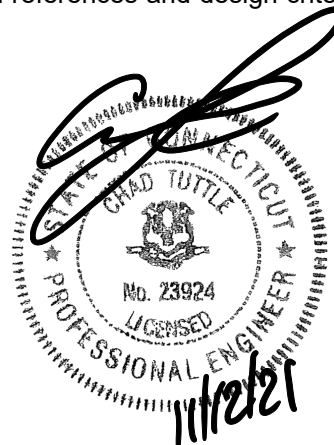


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Supplemental Drawings

1) INTRODUCTION

This is a proposed 3 - sector 15' Sector Mount, designed by Sabre (Part# C10857278C with C10-899-055 Mount Pipe Assembly).

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	117 mph
Exposure Category:	C
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.184
Seismic S₁:	0.055
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb.
Man Live Load at Mount Pipes:	500 lb.

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Qty.	Manufacturer	Model / Type	Mount / Modification Details
129	130	2	CCI Antennas	DMP65R-BU6D	15' Sector Mount
		1	CCI Antennas	DMP65R-BU8D	
		3	Ericsson	AIR 6419 B77G	
		3	Ericsson	AIR 6449 N77	
		3	Quintel	QD6616-7	
		3	Ericsson	RRUS 32 B30	
		3	Ericsson	RRUS 32 B66A	
		3	Ericsson	RRUS 4415 B25	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 4478 B14 CCIV2	
		3	Ericsson	RRUS E2 B29	
		3	Raycap	DC9-48-60-24-8C-EV	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 09/02/2021	Crown Castle
RFDS		Date: 07/27/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed by B+T Group, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision D). In addition, this analysis is in accordance with AT&T's *Mount Technical Directive – R15.0*.

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
5. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
6. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
7. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
8. The following material grades were assumed (Unless Noted Otherwise):
 - (a) Connection Bolts : ASTM A325
 - (b) Steel Pipe : ASTM A53 (GR. 35)
 - (c) HSS (Round) : ASTM 500 (GR. B-42)
 - (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - (e) Channel : ASTM A36 (GR. 36)
 - (f) Steel Solid Rod : ASTM A36 (GR. 36)
 - (g) Steel Plate : ASTM A36 (GR. 36)
 - (h) Steel Angle : ASTM A36 (GR. 36)
 - (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Sector Mount)

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1,2	Main Horizontals	129	99	61.7	Pass
	Support Arms	129	114	14.6	Pass
	Verticals	129	104	59.8	Pass
	Diagonals	129	97	27.6	Pass
	Connection Plates	129	96	38.7	Pass
	Mount Pipes	129	103	34.3	Pass
	Tiebacks	129	71	15.7	Pass
	Connection Pipes	129	139	26.4	Pass
3	Connection Bolts	129	-	45.5	Pass

Structure Rating (max from all components) =	61.7%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) All sectors are typical
- 3) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity reported.

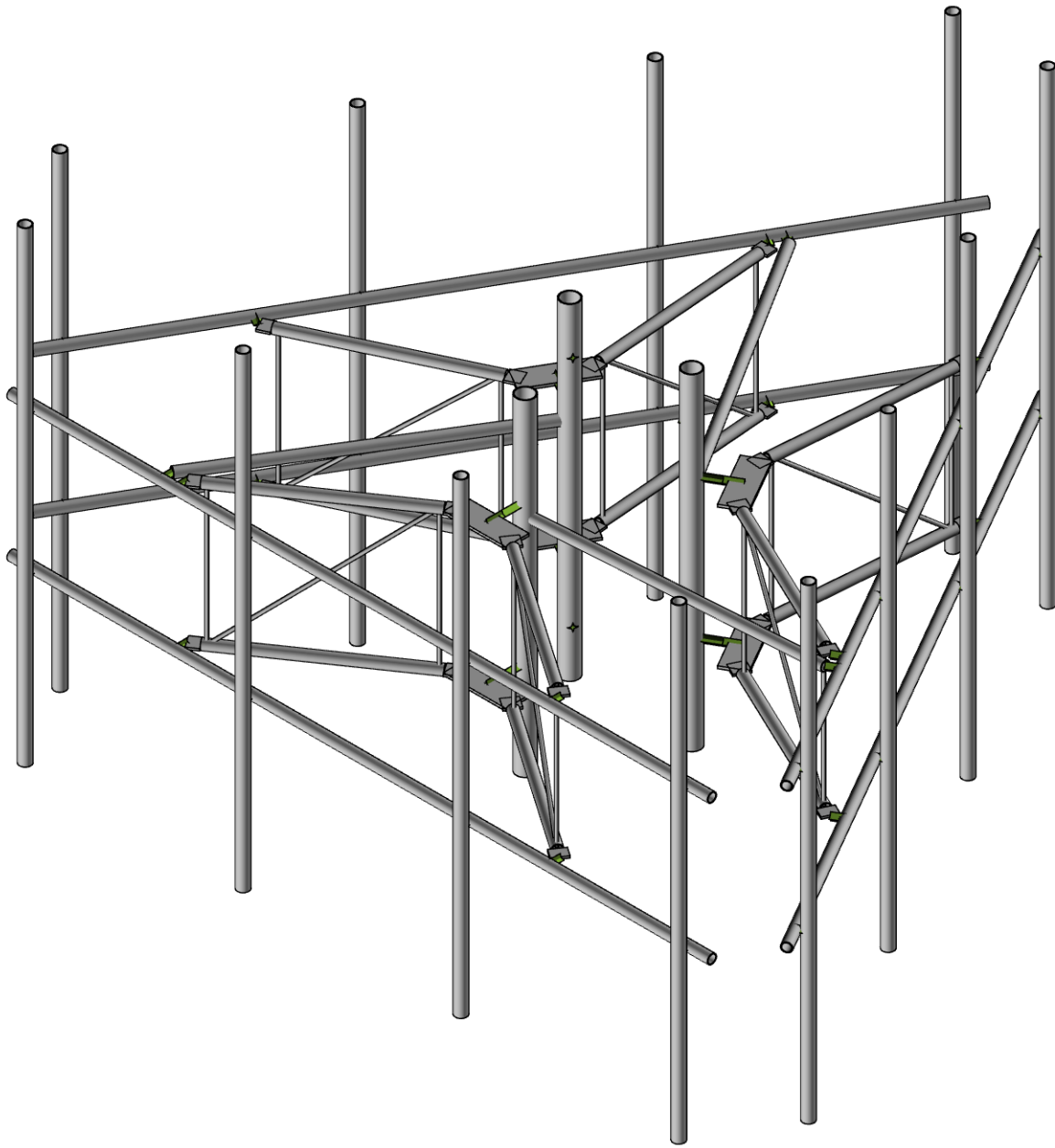
4.1) Recommendations

The proposed mount has sufficient capacity to support the proposed loading configuration. In order for the results of this analysis to be considered valid, the mount listed below shall be installed.

1. Mount replacement, Sabre (Part# C10857278C with C10-899-055 Mount Pipe Assembly)

Beyond the mount replacement, no structural modifications are required at this time, provided that the above-listed changes are implemented.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group

MP

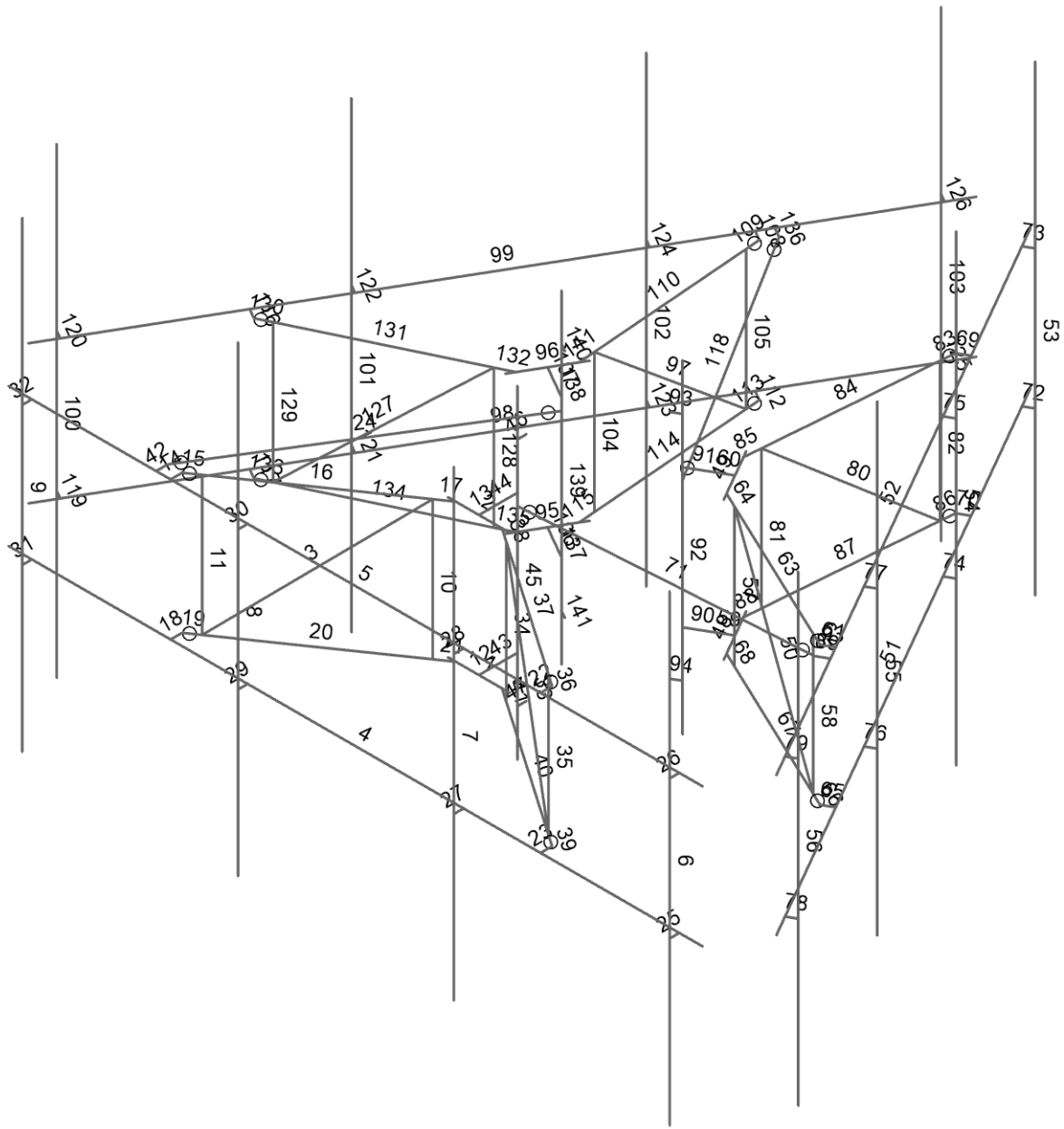
141992.012.01

841793 - Windsor Pine Lane

SK-1

Nov 11, 2021

141992_012_01_Windsor Pine La...



Envelope Only Solution

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MP

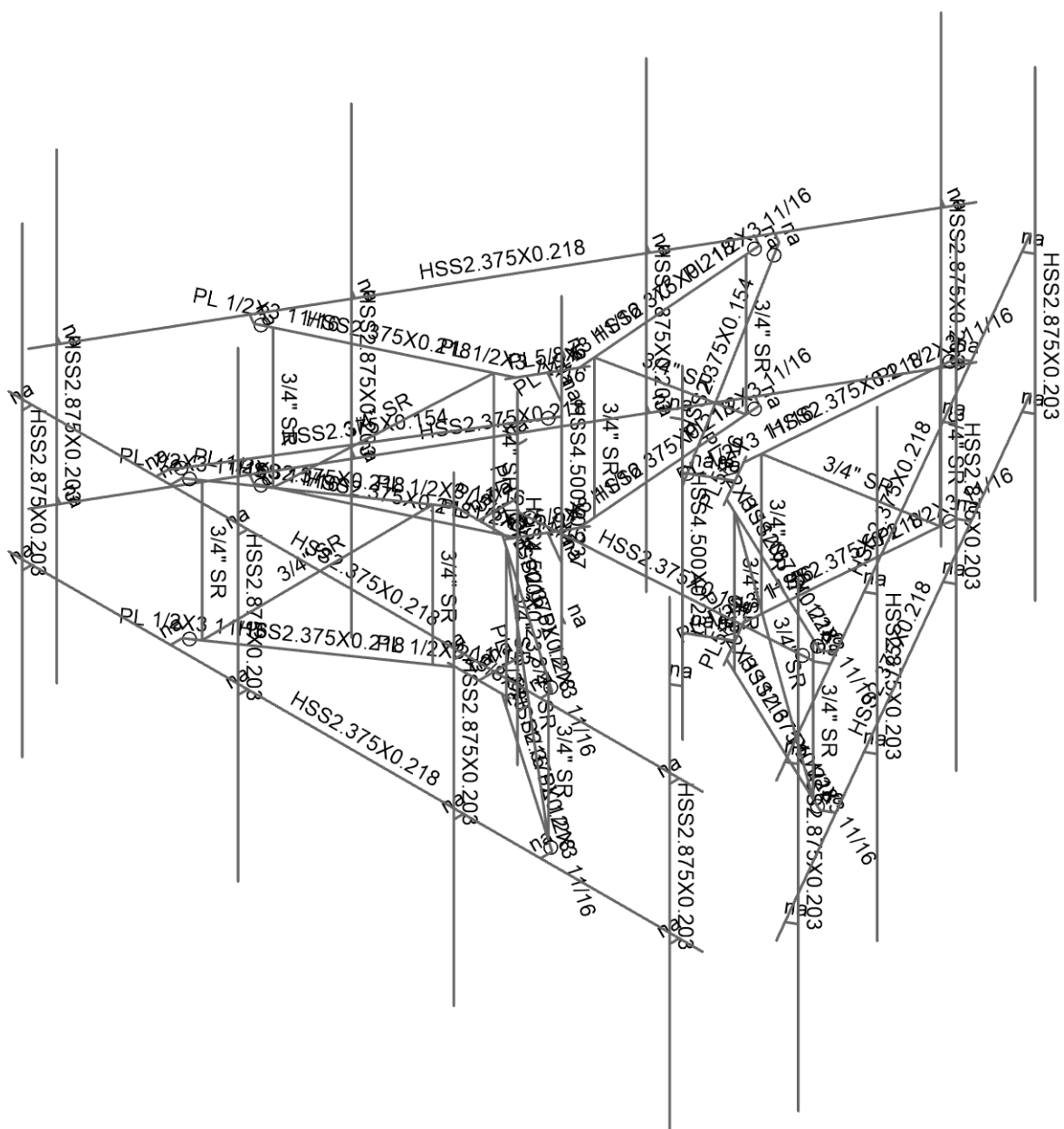
141992.012.01

841793 - Windsor Pine Lane

SK-2

Nov 11, 2021

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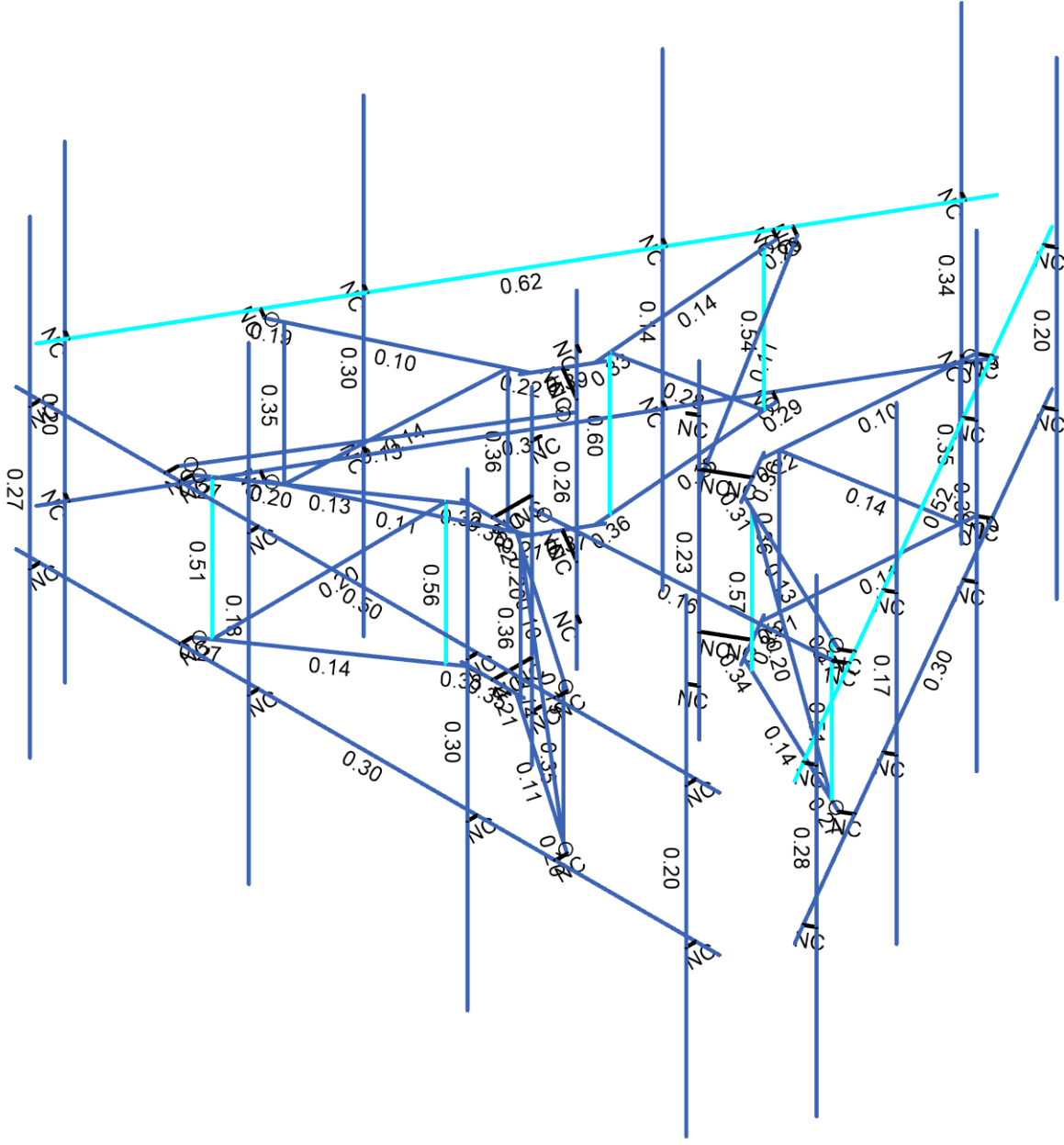
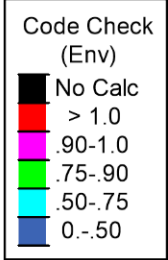


Envelope Only Solution

B+T Group
 MP
 141992.012.01

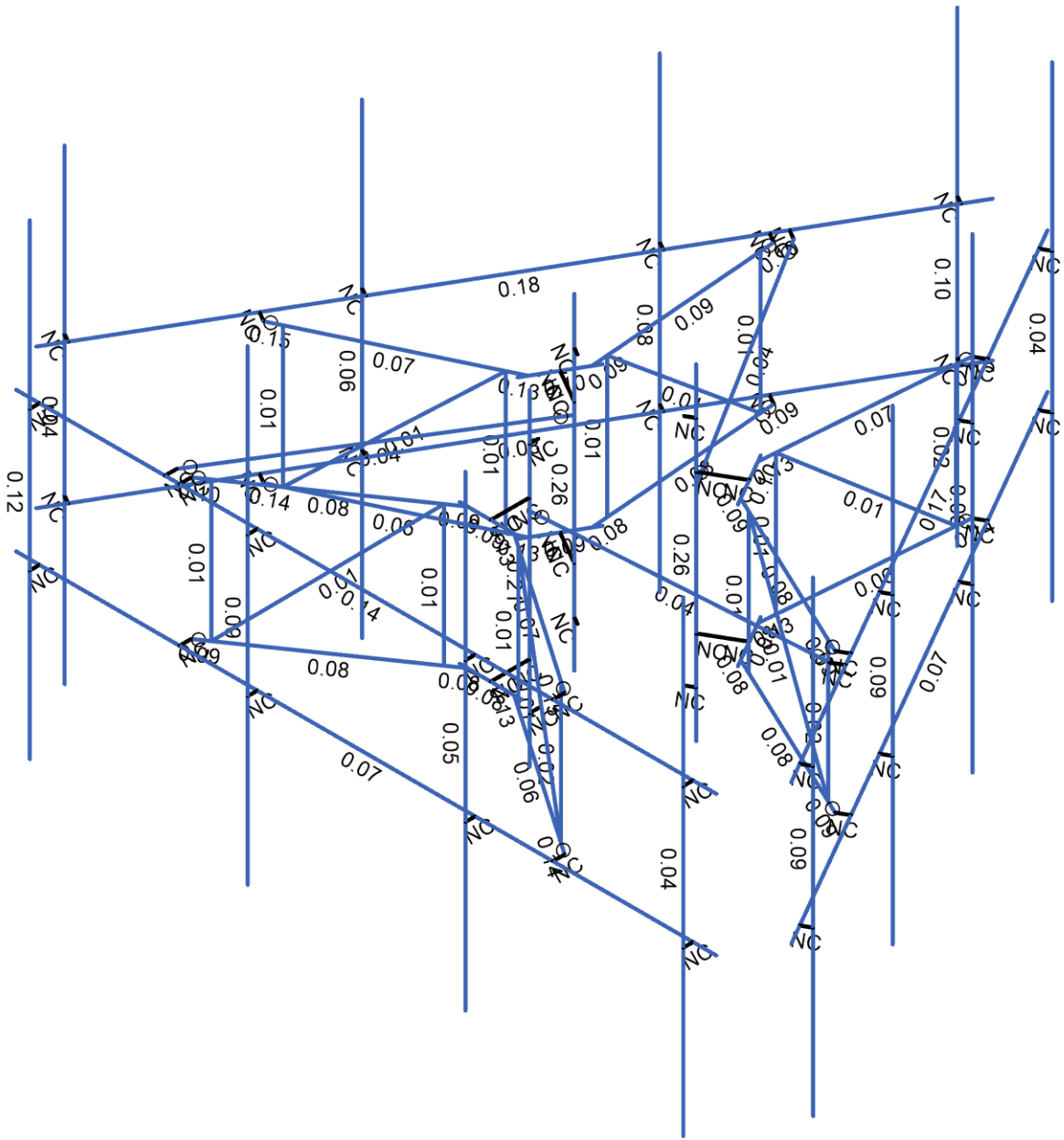
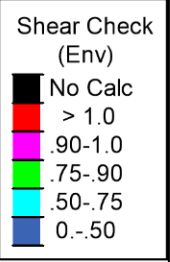
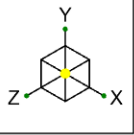
841793 - Windsor Pine Lane

SK-3
 Nov 11, 2021
 141992_012_01_Windsor Pine La...



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	841793 - Windsor Pine Lane	SK-4
MP		Nov 11, 2021
141992.012.01		141992_012_01_Windsor Pine La...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	841793 - Windsor Pine Lane	SK-5
MP		Nov 11, 2021
141992.012.01		141992_012_01_Windsor Pine La...

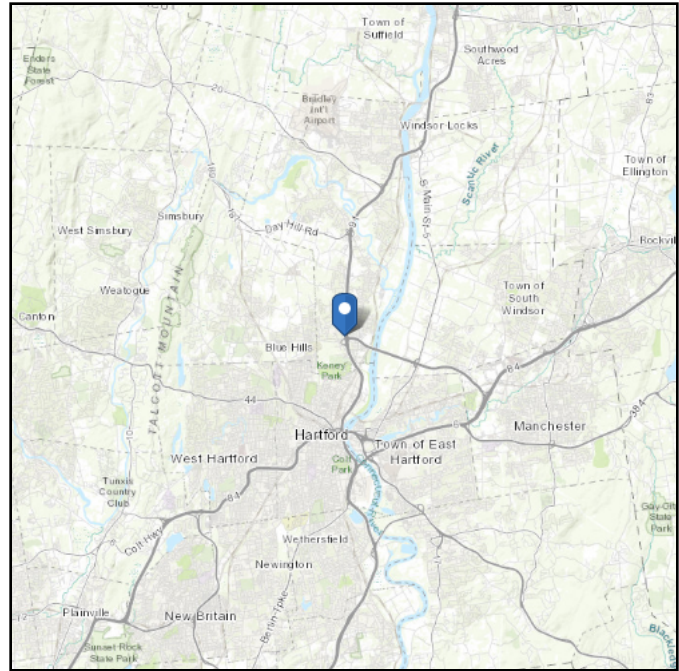
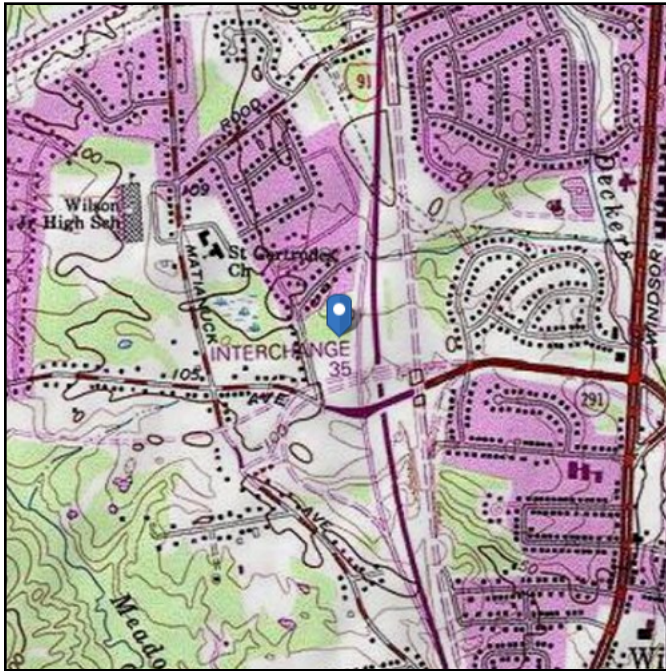
APPENDIX B
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 93.75 ft (NAVD 88)
Latitude: 41.819842
Longitude: -72.667189



Wind

Results:

Wind Speed:	117 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Wed Nov 10 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

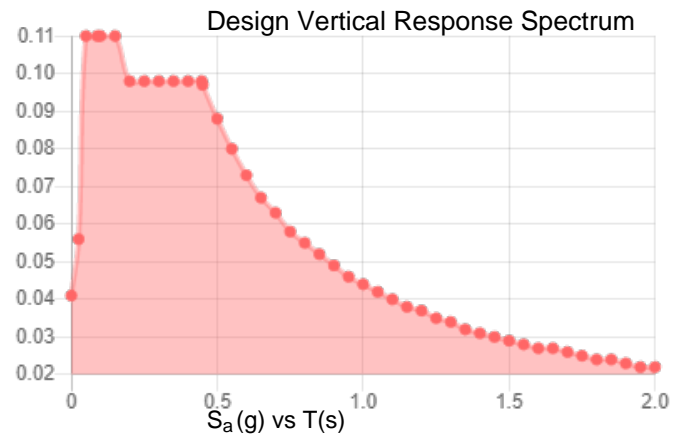
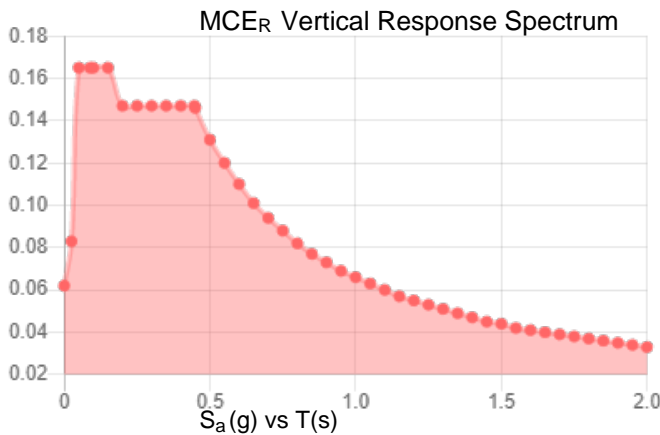
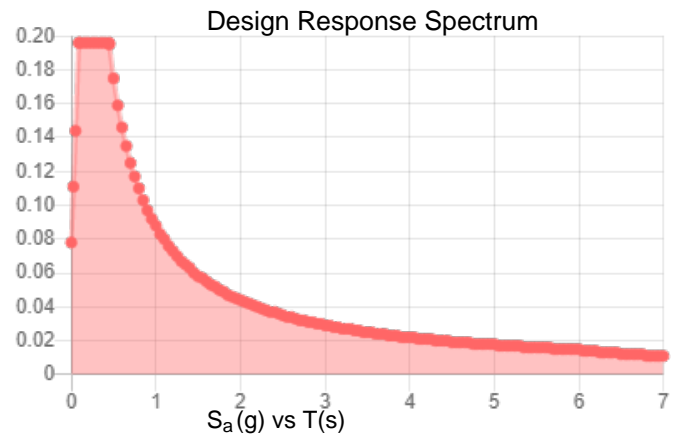
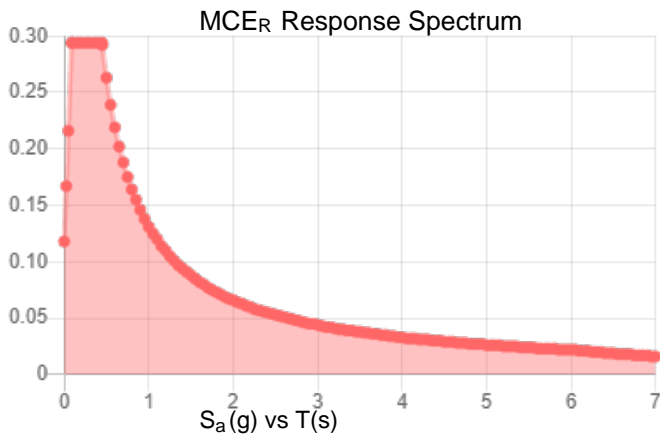
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	0.184	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.098
F_v :	2.4	PGA _M :	0.157
S_{MS} :	0.294	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.196	C_v :	0.7

Seismic Design Category B



Data Accessed:

Wed Nov 10 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.50 in.

Concurrent Temperature: 5 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Wed Nov 10 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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PROJECT	141992.012.01 - Windsor Pine	KSC
SUBJECT	Sector Mount Analysis	
DATE	11-11-21	PAGE OF



Tower Type	:	Monopole	
Ground Elevation	z_s :	94	ft [ASCE7 Hazard Tool]
Tower Height	:	147.46	ft
Mount Elevation	:	129.00	ft
Antenna Elevation	:	130.00	ft
Crest Height	:	0	ft
Risk Category	:	II	[Table 2-1]
Exposure Category	:	C	[Sec. 2.6.5.1.2]
Topography Category	:	1.00	[Sec. 2.6.6.2]
Wind Velocity	V :	117	mph [ASCE7 Hazard Tool]
Ice wind Velocity	V_i :	50	mph [ASCE7 Hazard Tool]
Service Velocity	V_s :	30	mph [ASCE7 Hazard Tool]
Base Ice thickness	t_i :	1.50	in [ASCE7 Hazard Tool]
Seismic Design Cat.	:	B	[ASCE7 Hazard Tool]
	S_S :	0.18	
	S_1 :	0.06	
	S_{DS} :	0.20	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	1.34	[Sec. 2.6.5.2]
Topography Factor	K_{zt} :	1.00	[Sec. 2.6.6]
Elevation Factor	K_e :	1.00	[Sec. 2.6.8]
Directionality Factor	K_d :	0.95	[Sec. 16.6]
Shielding Factor	K_a :	0.90	[Sec. 16.6]
Design Ice Thickness	t_{iz} :	1.72	in [Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.098	[Sec. 2.7.7.1]
Amplification	A_s :	2.499301	[Sec. 16.7]
	q_z :	44.30	psf

PROJECT	141992.012.01 - Windsor Pine		KSC
SUBJECT	Sector Mount Analysis		
DATE	11-11-21	PAGE	OF



Manufacturer	Model	Qty	Aspect Ratio	C _a	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-Ice} (ft ²)	EPA _{T-Ice} (ft ²)	F _A No Ice (N)	F _A No Ice (T)	F _A Ice (N)	F _A Ice (T)
				flat/round								
QJINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.66	3.42	0.27	0.12	0.05	0.02
QJINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.66	3.42	0.27	0.12	0.05	0.02
ERICSSON	TME-RRUS E2 B29	1	2.72	1.21	1.06	2.62	1.81	3.63	0.05	0.13	0.01	0.02
ERICSSON	RRUS 32 B66A	1	3.72	1.25	1.42	2.39	2.34	3.42	0.07	0.12	0.01	0.02
ERICSSON	RRUS 4478 B14_CCIV2	1	2.19	1.20	1.04	1.68	1.75	2.52	0.05	0.08	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.28	1.65	0.08	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.28	1.65	0.08	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.09	1.10	0.07	0.03	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.09	1.10	0.07	0.03	0.01	0.01
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	7.12	3.24	0.26	0.10	0.06	0.03
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	7.12	3.24	0.26	0.10	0.06	0.03
ERICSSON	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.46	1.91	0.08	0.06	0.01	0.01
ERICSSON	RRUS 32 B30	1	2.26	1.20	2.28	1.32	3.30	2.22	0.11	0.06	0.02	0.01
QJINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.66	3.42	0.27	0.12	0.05	0.02
QJINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.66	3.42	0.27	0.12	0.05	0.02
ERICSSON	TME-RRUS E2 B29	1	2.72	1.21	1.06	2.62	1.81	3.63	0.05	0.13	0.01	0.02
ERICSSON	RRUS 32 B66A	1	3.72	1.25	1.42	2.39	2.34	3.42	0.07	0.12	0.01	0.02
ERICSSON	RRUS 4478 B14_CCIV2	1	2.19	1.20	1.04	1.68	1.75	2.52	0.05	0.08	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.28	1.65	0.08	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.28	1.65	0.08	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.09	1.10	0.07	0.03	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.09	1.10	0.07	0.03	0.01	0.01
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	7.93	2.97	9.37	4.26	0.35	0.13	0.08	0.03
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	7.93	2.97	9.37	4.26	0.35	0.13	0.08	0.03
ERICSSON	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.46	1.91	0.08	0.06	0.01	0.01
ERICSSON	RRUS 32 B30	1	2.26	1.20	2.28	1.32	3.30	2.22	0.11	0.06	0.02	0.01

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Manufacturer	Model	Qty	Aspect Ratio	C _a	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-Ice} (ft ²)	EPA _{T-Ice} (ft ²)	F _{A No Ice (N)}	F _{A No Ice (T)}	F _{A Ice (N)}	F _{A Ice (T)}
				flat/round								
QUINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.66	3.42	0.27	0.12	0.05	0.02
QUINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.66	3.42	0.27	0.12	0.05	0.02
ERICSSON	TME-RRUS E2 B29	1	2.72	1.21	1.06	2.62	1.81	3.63	0.05	0.13	0.01	0.02
ERICSSON	RRUS 32 B66A	1	3.72	1.25	1.42	2.39	2.34	3.42	0.07	0.12	0.01	0.02
ERICSSON	RRUS 4478 B14_CCIV2	1	2.19	1.20	1.04	1.68	1.75	2.52	0.05	0.08	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.28	1.65	0.08	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.28	1.65	0.08	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.09	1.10	0.07	0.03	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.09	1.10	0.07	0.03	0.01	0.01
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	7.12	3.24	0.26	0.10	0.06	0.03
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	7.12	3.24	0.26	0.10	0.06	0.03
ERICSSON	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.46	1.91	0.08	0.06	0.01	0.01
ERICSSON	RRUS 32 B30	1	2.26	1.20	2.28	1.32	3.30	2.22	0.11	0.06	0.02	0.01
ERICSSON	RRUS 4415 B25	1	2.78	1.21	0.56	1.37	1.13	2.12	0.03	0.07	0.00	0.01
ERICSSON	RRUS 4415 B25	1	2.78	1.21	0.56	1.37	1.13	2.12	0.03	0.07	0.00	0.01
ERICSSON	RRUS 4415 B25	1	2.78	1.21	0.56	1.37	1.13	2.12	0.03	0.07	0.00	0.01

APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	-7.5	-3	5.00745	
2	2	7.5	-3	5.00745	
3	3	-7.5	0	5.00745	
4	4	7.5	0	5.00745	
5	5	-0.666667	0	2.34078	
6	6	-0.5	0	2.34078	
7	7	-7	3.5	5.215783	
8	8	-7	-6.5	5.215783	
9	9	-2.33333	3.5	5.215783	
10	10	-2.33333	-6.5	5.215783	
11	11	2.333333	3.5	5.215783	
12	12	2.333333	-6.5	5.215783	
13	13	7	3.5	5.215783	
14	14	7	-6.5	5.215783	
15	15	0.666667	-3	2.34078	
16	16	-0.666667	-3	2.34078	
17	17	-0.5	-3	2.34078	
18	18	0.666667	0	2.34078	
19	19	0	0	2.34078	
20	20	-7.	-3	5.00745	
21	21	-2.33333	-3	5.00745	
22	22	2.333333	-3	5.00745	
23	23	7	-3	5.00745	
24	24	-7.	0	5.00745	
25	25	-2.33333	0	5.00745	
26	26	2.333333	0	5.00745	
27	27	7	0	5.00745	
28	28	0	-3	2.34078	
29	29	0	0	2.007447	
30	30	0	-3	2.007447	
31	31	-4	0	4.75745	
32	32	-4	0	5.00745	
33	33	-4	-3	4.75745	
34	34	-4	-3	5.00745	
35	35	4	0	4.75745	
36	36	4	0	5.00745	
37	37	4	-3	4.75745	
38	38	4	-3	5.00745	
39	39	-7	-3	5.215783	
40	40	-2.33333	-3	5.215783	
41	41	2.333333	-3	5.215783	
42	42	7	-3	5.215783	
43	43	-7	0	5.215783	
44	44	-2.33333	0	5.215783	
45	45	2.333333	0	5.215783	
46	46	7	0	5.215783	
47	47	-3.812998	0	4.628327	
48	48	-3.812998	-3	4.628327	
49	49	-3.744423	0	4.580978	
50	50	-3.744423	-3	4.580978	
51	51	-0.79571	0	2.544961	
52	52	-0.79571	-3	2.544961	
53	53	-0.727135	0	2.497611	
54	54	-0.727135	-3	2.497611	
55	55	0.5	0	2.34078	



Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	0.5	-3	2.34078	
57	57	3.812998	0	4.628327	
58	58	3.812998	-3	4.628327	
59	59	3.744423	0	4.580978	
60	60	3.744423	-3	4.580978	
61	61	0.79571	0	2.544961	
62	62	0.79571	-3	2.544961	
63	63	0.727135	0	2.497611	
64	64	0.727135	-3	2.497611	
65	65	-4.3125	0	4.75745	
66	66	-4.3125	0	5.00745	
67	67	0	0	1.507447	
68	68	0	-3	1.507447	
69	69	0	2	1.507447	
70	70	0	-5	1.507447	
71	71	0	1	1.507447	
72	72	0	-4	1.507447	
73	73	0	1	1.319947	
74	74	0	-4	1.319947	
75	75	8.086579	-3	3.991466	
76	76	0.586579	-3	-8.998916	
77	77	8.086579	0	3.991466	
78	78	0.586579	0	-8.998916	
79	79	2.360508	0	-0.59304	
80	80	2.277175	0	-0.737377	
81	81	8.017001	3.5	3.454286	
82	82	8.017001	-6.5	3.454286	
83	83	5.683666	3.5	-0.587168	
84	84	5.683666	-6.5	-0.587168	
85	85	3.350336	3.5	-4.628615	
86	86	3.350336	-6.5	-4.628615	
87	87	1.017001	3.5	-8.670069	
88	88	1.017001	-6.5	-8.670069	
89	89	1.693842	-3	-1.74774	
90	90	2.360508	-3	-0.59304	
91	91	2.277175	-3	-0.737377	
92	92	1.693842	0	-1.74774	
93	93	2.027175	0	-1.17039	
94	94	7.836579	-3	3.558453	
95	95	5.503244	-3	-0.483002	
96	96	3.169914	-3	-4.524448	
97	97	0.836579	-3	-8.565903	
98	98	7.836579	0	3.558453	
99	99	5.503244	0	-0.483002	
100	100	3.169914	0	-4.524448	
101	101	0.836579	0	-8.565903	
102	102	2.027175	-3	-1.17039	
103	103	1.7385	0	-1.003723	
104	104	1.7385	-3	-1.003723	
105	105	6.120073	0	1.085377	
106	106	6.336579	0	0.960377	
107	107	6.120073	-3	1.085377	
108	108	6.336579	-3	0.960377	
109	109	2.120073	0	-5.842827	
110	110	2.336579	0	-5.967827	



Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	2.120073	-3	-5.842827	
112	112	2.336579	-3	-5.967827	
113	113	8.017001	-3	3.454286	
114	114	5.683666	-3	-0.587168	
115	115	3.350336	-3	-4.628615	
116	116	1.017001	-3	-8.670069	
117	117	8.017001	0	3.454286	
118	118	5.683666	0	-0.587168	
119	119	3.350336	0	-4.628615	
120	120	1.017001	0	-8.670069	
121	121	5.914748	0	0.987989	
122	122	5.914748	-3	0.987989	
123	123	5.839455	0	0.952276	
124	124	5.839455	-3	0.952276	
125	125	2.601855	0	-0.583376	
126	126	2.601855	-3	-0.583376	
127	127	2.526562	0	-0.619088	
128	128	2.526562	-3	-0.619088	
129	129	1.777175	0	-1.603403	
130	130	1.777175	-3	-1.603403	
131	131	2.10175	0	-5.616316	
132	132	2.10175	-3	-5.616316	
133	133	2.095032	0	-5.533254	
134	134	2.095032	-3	-5.533254	
135	135	1.806146	0	-1.961585	
136	136	1.806146	-3	-1.961585	
137	137	1.799427	0	-1.878523	
138	138	1.799427	-3	-1.878523	
139	139	6.276323	0	1.35601	
140	140	6.492829	0	1.23101	
141	141	1.305487	0	-0.753723	
142	142	1.305487	-3	-0.753723	
143	143	1.305487	2	-0.753723	
144	144	1.305487	-5	-0.753723	
145	145	1.305487	1	-0.753723	
146	146	1.305487	-4	-0.753723	
147	147	1.143107	1	-0.659973	
148	148	1.143107	-4	-0.659973	
149	149	-0.586579	-3	-8.998916	
150	150	-8.086579	-3	3.991466	
151	151	-0.586579	0	-8.998916	
152	152	-8.086579	0	3.991466	
153	153	-1.693842	0	-1.74774	
154	154	-1.777175	0	-1.603403	
155	155	-1.017001	3.5	-8.670069	
156	156	-1.017001	-6.5	-8.67007	
157	157	-3.350336	3.5	-4.628615	
158	158	-3.350336	-6.5	-4.628615	
159	159	-5.683651	3.5	-0.587194	
160	160	-5.683651	-6.5	-0.587195	
161	161	-8.017001	3.5	3.454286	
162	162	-8.017001	-6.5	3.454286	
163	163	-2.360508	-3	-0.59304	
164	164	-1.693842	-3	-1.74774	
165	165	-1.777175	-3	-1.603403	



Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	166	-2.360508	0	-0.59304	
167	167	-2.027175	0	-1.17039	
168	168	-0.836579	-3	-8.565903	
169	169	-3.169914	-3	-4.524448	
170	170	-5.503229	-3	-0.483028	
171	171	-7.836579	-3	3.558453	
172	172	-0.836579	0	-8.565903	
173	173	-3.169914	0	-4.524448	
174	174	-5.503229	0	-0.483028	
175	175	-7.836579	0	3.558453	
176	176	-2.027175	-3	-1.17039	
177	177	-1.7385	0	-1.003723	
178	178	-1.7385	-3	-1.003723	
179	179	-2.120073	0	-5.842827	
180	180	-2.336579	0	-5.967827	
181	181	-2.120073	-3	-5.842827	
182	182	-2.336579	-3	-5.967827	
183	183	-6.120073	0	1.085377	
184	184	-6.336579	0	0.960377	
185	185	-6.120073	-3	1.085377	
186	186	-6.336579	-3	0.960377	
187	187	-1.017001	-3	-8.670069	
188	188	-3.350336	-3	-4.628615	
189	189	-5.683651	-3	-0.587194	
190	190	-8.017001	-3	3.454286	
191	191	-1.017001	0	-8.670069	
192	192	-3.350336	0	-4.628615	
193	193	-5.683651	0	-0.587194	
194	194	-8.017001	0	3.454286	
195	195	-2.10175	0	-5.616316	
196	196	-2.10175	-3	-5.616316	
197	197	-2.095032	0	-5.533254	
198	198	-2.095032	-3	-5.533254	
199	199	-1.806146	0	-1.961585	
200	200	-1.806146	-3	-1.961585	
201	201	-1.799427	0	-1.878523	
202	202	-1.799427	-3	-1.878523	
203	203	-2.277175	0	-0.737377	
204	204	-2.277175	-3	-0.737377	
205	205	-5.914748	0	0.987989	
206	206	-5.914748	-3	0.987989	
207	207	-5.839455	0	0.952276	
208	208	-5.839455	-3	0.952276	
209	209	-2.601855	0	-0.583376	
210	210	-2.601855	-3	-0.583376	
211	211	-2.526562	0	-0.619088	
212	212	-2.526562	-3	-0.619088	
213	213	-1.963823	0	-6.11346	
214	214	-2.180329	0	-6.23846	
215	215	-1.305487	0	-0.753723	
216	216	-1.305487	-3	-0.753723	
217	217	-1.305487	2	-0.753723	
218	218	-1.305487	-5	-0.753723	
219	219	-1.305487	1	-0.753723	
220	220	-1.305487	-4	-0.753723	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
221	221	-1.143107	1	-0.659973	
222	222	-1.143107	-4	-0.659973	
223	223	0	-0.25	1.507447	
224	224	1.305487	-0.25	-0.753723	
225	225	-1.305487	-0.25	-0.753723	
226	226	0	0	0	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	73	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	74	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	147	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	148	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	221	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	222	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	A53 Gr.B 50	29000	11154	0.3	0.65	0.49	50	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	MF-H1	HSS2.375X0.218	Beam	Pipe	A53 Gr.B 50	Typical	1.39	0.824	0.824	1.65
2	F1-S1	HSS2.375X0.218	Beam	Pipe	A53 Gr.B 50	Typical	1.39	0.824	0.824	1.65
3	F1-V1	3/4" SR	Column	BAR	A572 Gr.50	Typical	0.442	0.016	0.016	0.031
4	F1-D1	3/4" SR	HBrace	BAR	A572 Gr.50	Typical	0.442	0.016	0.016	0.031
5	F1-CP1	PL5/8x6	Beam	RECT	A572 Gr.50	Typical	3.75	0.122	11.25	0.456
6	F1-CP2	PL 1/2X3 11/16	Beam	RECT	A572 Gr.50	Typical	1.844	0.038	2.089	0.141
7	MF-P1	HSS2.875X0.203	Column	Pipe	A53 Gr.B	Typical	1.59	1.45	1.45	2.89
8	Tieback	HSS2.375X0.154	Beam	Pipe	A53 Gr.B 50	Typical	1	0.627	0.627	1.25
9	F1-P1	HSS4.500X0.237	Column	Pipe	A53 Gr.B 50	Typical	2.96	6.79	6.79	13.6

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	16	15	90	F1-CP1	Beam	RECT	A572 Gr.50	Typical
2	2	5	18	90	F1-CP1	Beam	RECT	A572 Gr.50	Typical
3	3	50	51		F1-D1	HBrace	BAR	A572 Gr.50	Typical
4	4	1	2		MF-H1	Beam	Pipe	A53 Gr.B 50	Typical
5	5	3	4		MF-H1	Beam	Pipe	A53 Gr.B 50	Typical
6	6	13	14		MF-P1	Column	Pipe	A53 Gr.B	Typical
7	7	11	12		MF-P1	Column	Pipe	A53 Gr.B	Typical
8	8	9	10		MF-P1	Column	Pipe	A53 Gr.B	Typical
9	9	7	8		MF-P1	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
10	10	51	52		F1-V1	Column	BAR	A572 Gr.50	Typical
11	11	49	50		F1-V1	Column	BAR	A572 Gr.50	Typical
12	12	30	28		RIGID	None	None	RIGID	Typical
13	13	29	19		RIGID	None	None	RIGID	Typical
14	14	31	32		RIGID	None	None	RIGID	Typical
15	15	31	47	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
16	16	47	53		F1-S1	Beam	Pipe	A53 Gr.B 50	Typical
17	17	53	6	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
18	18	33	34		RIGID	None	None	RIGID	Typical
19	19	33	48	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
20	20	48	54		F1-S1	Beam	Pipe	A53 Gr.B 50	Typical
21	21	54	17	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
22	22	35	36		RIGID	None	None	RIGID	Typical
23	23	37	38		RIGID	None	None	RIGID	Typical
24	24	65	225		Tieback	Beam	Pipe	A53 Gr.B 50	Typical
25	25	42	23		RIGID	None	None	RIGID	Typical
26	26	46	27		RIGID	None	None	RIGID	Typical
27	27	41	22		RIGID	None	None	RIGID	Typical
28	28	45	26		RIGID	None	None	RIGID	Typical
29	29	40	21		RIGID	None	None	RIGID	Typical
30	30	44	25		RIGID	None	None	RIGID	Typical
31	31	39	20		RIGID	None	None	RIGID	Typical
32	32	43	24		RIGID	None	None	RIGID	Typical
33	33	60	61		F1-D1	HBrace	BAR	A572 Gr.50	Typical
34	34	61	62		F1-V1	Column	BAR	A572 Gr.50	Typical
35	35	59	60		F1-V1	Column	BAR	A572 Gr.50	Typical
36	36	35	57	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
37	37	57	63		F1-S1	Beam	Pipe	A53 Gr.B 50	Typical
38	38	63	55	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
39	39	37	58	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
40	40	58	64		F1-S1	Beam	Pipe	A53 Gr.B 50	Typical
41	41	64	56	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
42	42	65	66		RIGID	None	None	RIGID	Typical
43	43	30	68		RIGID	None	None	RIGID	Typical
44	44	29	67		RIGID	None	None	RIGID	Typical
45	45	69	70		F1-P1	Column	Pipe	A53 Gr.B 50	Typical
46	46	71	73		RIGID	None	None	RIGID	Typical
47	47	72	74		RIGID	None	None	RIGID	Typical
48	48	90	89	90	F1-CP1	Beam	RECT	A572 Gr.50	Typical
49	49	79	92	90	F1-CP1	Beam	RECT	A572 Gr.50	Typical
50	50	124	125		F1-D1	HBrace	BAR	A572 Gr.50	Typical
51	51	75	76		MF-H1	Beam	Pipe	A53 Gr.B 50	Typical
52	52	77	78		MF-H1	Beam	Pipe	A53 Gr.B 50	Typical
53	53	87	88		MF-P1	Column	Pipe	A53 Gr.B	Typical
54	54	85	86		MF-P1	Column	Pipe	A53 Gr.B	Typical
55	55	83	84		MF-P1	Column	Pipe	A53 Gr.B	Typical
56	56	81	82		MF-P1	Column	Pipe	A53 Gr.B	Typical
57	57	125	126		F1-V1	Column	BAR	A572 Gr.50	Typical
58	58	123	124		F1-V1	Column	BAR	A572 Gr.50	Typical
59	59	104	102		RIGID	None	None	RIGID	Typical
60	60	103	93		RIGID	None	None	RIGID	Typical
61	61	105	106		RIGID	None	None	RIGID	Typical
62	62	105	121	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
63	63	121	127		F1-S1	Beam	Pipe	A53 Gr.B 50	Typical
64	64	127	80	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical

Member Primary Data (Continued)

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
65	65	107	108		RIGID	None	RIGID	Typical
66	66	107	122	90	F1-CP2	Beam	RECT	A572 Gr.50
67	67	122	128		F1-S1	Beam	Pipe	A53 Gr.B 50
68	68	128	91	90	F1-CP2	Beam	RECT	A572 Gr.50
69	69	109	110		RIGID	None	RIGID	Typical
70	70	111	112		RIGID	None	RIGID	Typical
71	71	139	223		Tieback	Beam	Pipe	A53 Gr.B 50
72	72	116	97		RIGID	None	RIGID	Typical
73	73	120	101		RIGID	None	RIGID	Typical
74	74	115	96		RIGID	None	RIGID	Typical
75	75	119	100		RIGID	None	RIGID	Typical
76	76	114	95		RIGID	None	RIGID	Typical
77	77	118	99		RIGID	None	RIGID	Typical
78	78	113	94		RIGID	None	RIGID	Typical
79	79	117	98		RIGID	None	RIGID	Typical
80	80	134	135		F1-D1	HBrace	BAR	A572 Gr.50
81	81	135	136		F1-V1	Column	BAR	A572 Gr.50
82	82	133	134		F1-V1	Column	BAR	A572 Gr.50
83	83	109	131	90	F1-CP2	Beam	RECT	A572 Gr.50
84	84	131	137		F1-S1	Beam	Pipe	A53 Gr.B 50
85	85	137	129	90	F1-CP2	Beam	RECT	A572 Gr.50
86	86	111	132	90	F1-CP2	Beam	RECT	A572 Gr.50
87	87	132	138		F1-S1	Beam	Pipe	A53 Gr.B 50
88	88	138	130	90	F1-CP2	Beam	RECT	A572 Gr.50
89	89	139	140		RIGID	None	RIGID	Typical
90	90	104	142		RIGID	None	RIGID	Typical
91	91	103	141		RIGID	None	RIGID	Typical
92	92	143	144		F1-P1	Column	Pipe	A53 Gr.B 50
93	93	145	147		RIGID	None	RIGID	Typical
94	94	146	148		RIGID	None	RIGID	Typical
95	95	164	163	90	F1-CP1	Beam	RECT	A572 Gr.50
96	96	153	166	90	F1-CP1	Beam	RECT	A572 Gr.50
97	97	198	199		F1-D1	HBrace	BAR	A572 Gr.50
98	98	149	150		MF-H1	Beam	Pipe	A53 Gr.B 50
99	99	151	152		MF-H1	Beam	Pipe	A53 Gr.B 50
100	100	161	162		MF-P1	Column	Pipe	A53 Gr.B
101	101	159	160		MF-P1	Column	Pipe	A53 Gr.B
102	102	157	158		MF-P1	Column	Pipe	A53 Gr.B
103	103	155	156		MF-P1	Column	Pipe	A53 Gr.B
104	104	199	200		F1-V1	Column	BAR	A572 Gr.50
105	105	197	198		F1-V1	Column	BAR	A572 Gr.50
106	106	178	176		RIGID	None	RIGID	Typical
107	107	177	167		RIGID	None	RIGID	Typical
108	108	179	180		RIGID	None	RIGID	Typical
109	109	179	195	90	F1-CP2	Beam	RECT	A572 Gr.50
110	110	195	201		F1-S1	Beam	Pipe	A53 Gr.B 50
111	111	201	154	90	F1-CP2	Beam	RECT	A572 Gr.50
112	112	181	182		RIGID	None	RIGID	Typical
113	113	181	196	90	F1-CP2	Beam	RECT	A572 Gr.50
114	114	196	202		F1-S1	Beam	Pipe	A53 Gr.B 50
115	115	202	165	90	F1-CP2	Beam	RECT	A572 Gr.50
116	116	183	184		RIGID	None	RIGID	Typical
117	117	185	186		RIGID	None	RIGID	Typical
118	118	213	224		Tieback	Beam	Pipe	A53 Gr.B 50
119	119	190	171		RIGID	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
120	120	194	175		RIGID	None	None	RIGID	Typical
121	121	189	170		RIGID	None	None	RIGID	Typical
122	122	193	174		RIGID	None	None	RIGID	Typical
123	123	188	169		RIGID	None	None	RIGID	Typical
124	124	192	173		RIGID	None	None	RIGID	Typical
125	125	187	168		RIGID	None	None	RIGID	Typical
126	126	191	172		RIGID	None	None	RIGID	Typical
127	127	208	209		F1-D1	HBrace	BAR	A572 Gr.50	Typical
128	128	209	210		F1-V1	Column	BAR	A572 Gr.50	Typical
129	129	207	208		F1-V1	Column	BAR	A572 Gr.50	Typical
130	130	183	205	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
131	131	205	211		F1-S1	Beam	Pipe	A53 Gr.B 50	Typical
132	132	211	203	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
133	133	185	206	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
134	134	206	212		F1-S1	Beam	Pipe	A53 Gr.B 50	Typical
135	135	212	204	90	F1-CP2	Beam	RECT	A572 Gr.50	Typical
136	136	213	214		RIGID	None	None	RIGID	Typical
137	137	178	216		RIGID	None	None	RIGID	Typical
138	138	177	215		RIGID	None	None	RIGID	Typical
139	139	217	218		F1-P1	Column	Pipe	A53 Gr.B 50	Typical
140	140	219	221		RIGID	None	None	RIGID	Typical
141	141	220	222		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	1			Yes	N/A	None
2	2			Yes	N/A	None
3	3			Yes	** NA **	None
4	4			Yes	N/A	None
5	5			Yes	N/A	None
6	6			Yes	** NA **	None
7	7			Yes	** NA **	None
8	8			Yes	** NA **	None
9	9			Yes	** NA **	None
10	10			Yes	** NA **	None
11	11			Yes	** NA **	None
12	12			Yes	** NA **	None
13	13			Yes	** NA **	None
14	14			Yes	** NA **	None
15	15	BenPIN		Yes	N/A	None
16	16			Yes	N/A	None
17	17			Yes	N/A	None
18	18			Yes	** NA **	None
19	19	BenPIN		Yes	N/A	None
20	20			Yes	N/A	None
21	21			Yes	N/A	None
22	22			Yes	** NA **	None
23	23			Yes	** NA **	None
24	24	BenPIN	BenPIN	Yes	N/A	None
25	25			Yes	** NA **	None
26	26			Yes	** NA **	None
27	27			Yes	** NA **	None
28	28			Yes	** NA **	None
29	29			Yes	** NA **	None
30	30			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
31	31			Yes	** NA **	None
32	32			Yes	** NA **	None
33	33			Yes	** NA **	None
34	34			Yes	** NA **	None
35	35			Yes	** NA **	None
36	36	BenPIN		Yes	N/A	None
37	37			Yes	N/A	None
38	38			Yes	N/A	None
39	39	BenPIN		Yes	N/A	None
40	40			Yes	N/A	None
41	41			Yes	N/A	None
42	42			Yes	** NA **	None
43	43			Yes	** NA **	None
44	44			Yes	** NA **	None
45	45			Yes	** NA **	None
46	46			Yes	** NA **	None
47	47			Yes	** NA **	None
48	48			Yes	N/A	None
49	49			Yes	N/A	None
50	50			Yes	** NA **	None
51	51			Yes	N/A	None
52	52			Yes	N/A	None
53	53			Yes	** NA **	None
54	54			Yes	** NA **	None
55	55			Yes	** NA **	None
56	56			Yes	** NA **	None
57	57			Yes	** NA **	None
58	58			Yes	** NA **	None
59	59			Yes	** NA **	None
60	60			Yes	** NA **	None
61	61			Yes	** NA **	None
62	62	BenPIN		Yes	N/A	None
63	63			Yes	N/A	None
64	64			Yes	N/A	None
65	65			Yes	** NA **	None
66	66	BenPIN		Yes	N/A	None
67	67			Yes	N/A	None
68	68			Yes	N/A	None
69	69			Yes	** NA **	None
70	70			Yes	** NA **	None
71	71	BenPIN	BenPIN	Yes	N/A	None
72	72			Yes	** NA **	None
73	73			Yes	** NA **	None
74	74			Yes	** NA **	None
75	75			Yes	** NA **	None
76	76			Yes	** NA **	None
77	77			Yes	** NA **	None
78	78			Yes	** NA **	None
79	79			Yes	** NA **	None
80	80			Yes	** NA **	None
81	81			Yes	** NA **	None
82	82			Yes	** NA **	None
83	83	BenPIN		Yes	N/A	None
84	84			Yes	N/A	None
85	85			Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
86	86	BenPIN		Yes	N/A	None
87	87			Yes	N/A	None
88	88			Yes	N/A	None
89	89			Yes	** NA **	None
90	90			Yes	** NA **	None
91	91			Yes	** NA **	None
92	92			Yes	** NA **	None
93	93			Yes	** NA **	None
94	94			Yes	** NA **	None
95	95			Yes	N/A	None
96	96			Yes	N/A	None
97	97			Yes	** NA **	None
98	98			Yes	N/A	None
99	99			Yes	N/A	None
100	100			Yes	** NA **	None
101	101			Yes	** NA **	None
102	102			Yes	** NA **	None
103	103			Yes	** NA **	None
104	104			Yes	** NA **	None
105	105			Yes	** NA **	None
106	106			Yes	** NA **	None
107	107			Yes	** NA **	None
108	108			Yes	** NA **	None
109	109	BenPIN		Yes	N/A	None
110	110			Yes	N/A	None
111	111			Yes	N/A	None
112	112			Yes	** NA **	None
113	113	BenPIN		Yes	N/A	None
114	114			Yes	N/A	None
115	115			Yes	N/A	None
116	116			Yes	** NA **	None
117	117			Yes	** NA **	None
118	118	BenPIN	BenPIN	Yes	N/A	None
119	119			Yes	** NA **	None
120	120			Yes	** NA **	None
121	121			Yes	** NA **	None
122	122			Yes	** NA **	None
123	123			Yes	** NA **	None
124	124			Yes	** NA **	None
125	125			Yes	** NA **	None
126	126			Yes	** NA **	None
127	127			Yes	** NA **	None
128	128			Yes	** NA **	None
129	129			Yes	** NA **	None
130	130	BenPIN		Yes	N/A	None
131	131			Yes	N/A	None
132	132			Yes	N/A	None
133	133	BenPIN		Yes	N/A	None
134	134			Yes	N/A	None
135	135			Yes	N/A	None
136	136			Yes	** NA **	None
137	137			Yes	** NA **	None
138	138			Yes	** NA **	None
139	139			Yes	** NA **	None
140	140			Yes	** NA **	None



Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
141	141			Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	F1-CP1	1.333	Lbyy	Lateral
2	2	F1-CP1	1.333	Lbyy	Lateral
3	3	F1-D1	4.673	Lbyy	Lateral
4	4	MF-H1	15	Lbyy	Lateral
5	5	MF-H1	15	Lbyy	Lateral
6	6	MF-P1	10	Lbyy	Lateral
7	7	MF-P1	10	Lbyy	Lateral
8	8	MF-P1	10	Lbyy	Lateral
9	9	MF-P1	10	Lbyy	Lateral
10	10	F1-V1	3	Lbyy	Lateral
11	11	F1-V1	3	Lbyy	Lateral
12	15	F1-CP2	0.227	Lbyy	Lateral
13	16	F1-S1	3.75	Lbyy	Lateral
14	17	F1-CP2	0.276	Lbyy	Lateral
15	19	F1-CP2	0.227	Lbyy	Lateral
16	20	F1-S1	3.75	Lbyy	Lateral
17	21	F1-CP2	0.276	Lbyy	Lateral
18	24	Tieback	6.283	Lbyy	Lateral
19	33	F1-D1	4.673	Lbyy	Lateral
20	34	F1-V1	3	Lbyy	Lateral
21	35	F1-V1	3	Lbyy	Lateral
22	36	F1-CP2	0.227	Lbyy	Lateral
23	37	F1-S1	3.75	Lbyy	Lateral
24	38	F1-CP2	0.276	Lbyy	Lateral
25	39	F1-CP2	0.227	Lbyy	Lateral
26	40	F1-S1	3.75	Lbyy	Lateral
27	41	F1-CP2	0.276	Lbyy	Lateral
28	45	F1-P1	7	Lbyy	Lateral
29	48	F1-CP1	1.333	Lbyy	Lateral
30	49	F1-CP1	1.333	Lbyy	Lateral
31	50	F1-D1	4.673	Lbyy	Lateral
32	51	MF-H1	15	Lbyy	Lateral
33	52	MF-H1	15	Lbyy	Lateral
34	53	MF-P1	10	Lbyy	Lateral
35	54	MF-P1	10	Lbyy	Lateral
36	55	MF-P1	10	Lbyy	Lateral
37	56	MF-P1	10	Lbyy	Lateral
38	57	F1-V1	3	Lbyy	Lateral
39	58	F1-V1	3	Lbyy	Lateral
40	62	F1-CP2	0.227	Lbyy	Lateral
41	63	F1-S1	3.75	Lbyy	Lateral
42	64	F1-CP2	0.276	Lbyy	Lateral
43	66	F1-CP2	0.227	Lbyy	Lateral
44	67	F1-S1	3.75	Lbyy	Lateral
45	68	F1-CP2	0.276	Lbyy	Lateral
46	71	Tieback	6.283	Lbyy	Lateral
47	80	F1-D1	4.673	Lbyy	Lateral
48	81	F1-V1	3	Lbyy	Lateral
49	82	F1-V1	3	Lbyy	Lateral
50	83	F1-CP2	0.227	Lbyy	Lateral
51	84	F1-S1	3.75	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
52	85	F1-CP2	0.276	Lbyy	Lateral
53	86	F1-CP2	0.227	Lbyy	Lateral
54	87	F1-S1	3.75	Lbyy	Lateral
55	88	F1-CP2	0.276	Lbyy	Lateral
56	92	F1-P1	7	Lbyy	Lateral
57	95	F1-CP1	1.333	Lbyy	Lateral
58	96	F1-CP1	1.333	Lbyy	Lateral
59	97	F1-D1	4.673	Lbyy	Lateral
60	98	MF-H1	15	Lbyy	Lateral
61	99	MF-H1	15	Lbyy	Lateral
62	100	MF-P1	10	Lbyy	Lateral
63	101	MF-P1	10	Lbyy	Lateral
64	102	MF-P1	10	Lbyy	Lateral
65	103	MF-P1	10	Lbyy	Lateral
66	104	F1-V1	3	Lbyy	Lateral
67	105	F1-V1	3	Lbyy	Lateral
68	109	F1-CP2	0.227	Lbyy	Lateral
69	110	F1-S1	3.75	Lbyy	Lateral
70	111	F1-CP2	0.276	Lbyy	Lateral
71	113	F1-CP2	0.227	Lbyy	Lateral
72	114	F1-S1	3.75	Lbyy	Lateral
73	115	F1-CP2	0.276	Lbyy	Lateral
74	118	Tieback	6.283	Lbyy	Lateral
75	127	F1-D1	4.673	Lbyy	Lateral
76	128	F1-V1	3	Lbyy	Lateral
77	129	F1-V1	3	Lbyy	Lateral
78	130	F1-CP2	0.227	Lbyy	Lateral
79	131	F1-S1	3.75	Lbyy	Lateral
80	132	F1-CP2	0.276	Lbyy	Lateral
81	133	F1-CP2	0.227	Lbyy	Lateral
82	134	F1-S1	3.75	Lbyy	Lateral
83	135	F1-CP2	0.276	Lbyy	Lateral
84	139	F1-P1	7	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Y	-0.065	%5
2	7	Y	-0.065	%65
3	7	Y	-0.053	%20
4	7	Y	-0.055	%20
5	7	Y	-0.059	%50
6	8	Y	-0.048	%5
7	8	Y	-0.048	%35
8	8	Y	-0.033	%55
9	8	Y	-0.033	%85
10	8	Y	0	0
11	9	Y	-0.045	%5
12	9	Y	-0.045	%65
13	9	Y	-0.071	%20
14	9	Y	-0.053	%50
15	9	Y	0	0
16	101	Y	-0.065	%5
17	101	Y	-0.065	%65
18	101	Y	-0.053	%20
19	101	Y	-0.055	%20

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
20	101	Y	-0.059	%50
21	102	Y	-0.048	%5
22	102	Y	-0.048	%35
23	102	Y	-0.033	%55
24	102	Y	-0.033	%85
25	102	Y	0	0
26	103	Y	-0.053	%5
27	103	Y	-0.053	%65
28	103	Y	-0.071	%20
29	103	Y	-0.053	%50
30	103	Y	0	0
31	54	Y	-0.065	%5
32	54	Y	-0.065	%65
33	54	Y	-0.053	%20
34	54	Y	-0.055	%20
35	54	Y	-0.059	%50
36	55	Y	-0.048	%5
37	55	Y	-0.048	%35
38	55	Y	-0.033	%55
39	55	Y	-0.033	%85
40	55	Y	0	0
41	56	Y	-0.045	%5
42	56	Y	-0.045	%65
43	56	Y	-0.071	%20
44	56	Y	-0.053	%50
45	56	Y	0	0
46	7	Y	-0.071	%50
47	7	Y	0	0
48	7	Y	0	0
49	7	Y	0	0
50	7	Y	0	0
51	101	Y	-0.071	%50
52	101	Y	0	0
53	101	Y	0	0
54	101	Y	0	0
55	101	Y	0	0
56	54	Y	-0.071	%50
57	54	Y	0	0
58	54	Y	0	0
59	54	Y	0	0
60	54	Y	0	0
61	16	Y	-0.026	%80
62	16	Y	0	0
63	16	Y	0	0
64	16	Y	0	0
65	16	Y	0	0
66	110	Y	-0.026	%80
67	110	Y	0	0
68	110	Y	0	0
69	110	Y	0	0
70	110	Y	0	0
71	63	Y	-0.026	%80
72	63	Y	0	0
73	63	Y	0	0
74	63	Y	0	0



Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
75	63	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Z	-0.271	%5
2	7	Z	-0.271	%65
3	7	Z	-0.051	%20
4	7	Z	-0.071	%20
5	7	Z	-0.05	%50
6	8	Z	-0.081	%5
7	8	Z	-0.081	%35
8	8	Z	-0.073	%55
9	8	Z	-0.073	%85
10	8	Z	0	0
11	9	Z	-0.265	%5
12	9	Z	-0.265	%65
13	9	Z	-0.079	%20
14	9	Z	-0.109	%50
15	9	Z	0	0
16	101	Z	-0.271	%5
17	101	Z	-0.271	%65
18	101	Z	-0.051	%20
19	101	Z	-0.071	%20
20	101	Z	-0.05	%50
21	102	Z	-0.081	%5
22	102	Z	-0.081	%35
23	102	Z	-0.073	%55
24	102	Z	-0.073	%85
25	102	Z	0	0
26	103	Z	-0.352	%5
27	103	Z	-0.352	%65
28	103	Z	-0.079	%20
29	103	Z	-0.109	%50
30	103	Z	0	0
31	54	Z	-0.271	%5
32	54	Z	-0.271	%65
33	54	Z	-0.051	%20
34	54	Z	-0.071	%20
35	54	Z	-0.05	%50
36	55	Z	-0.081	%5
37	55	Z	-0.081	%35
38	55	Z	-0.073	%55
39	55	Z	-0.073	%85
40	55	Z	0	0
41	56	Z	-0.265	%5
42	56	Z	-0.265	%65
43	56	Z	-0.079	%20
44	56	Z	-0.109	%50
45	56	Z	0	0
46	7	Z	-0.027	%50
47	7	Z	0	0
48	7	Z	0	0
49	7	Z	0	0
50	7	Z	0	0
51	101	Z	-0.027	%50

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
52	101	Z	0	0
53	101	Z	0	0
54	101	Z	0	0
55	101	Z	0	0
56	54	Z	-0.027	%50
57	54	Z	0	0
58	54	Z	0	0
59	54	Z	0	0
60	54	Z	0	0
61	16	Z	-0.109	%80
62	16	Z	0	0
63	16	Z	0	0
64	16	Z	0	0
65	16	Z	0	0
66	110	Z	-0.109	%80
67	110	Z	0	0
68	110	Z	0	0
69	110	Z	0	0
70	110	Z	0	0
71	63	Z	-0.109	%80
72	63	Z	0	0
73	63	Z	0	0
74	63	Z	0	0
75	63	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	X	-0.118	%5
2	7	X	-0.118	%65
3	7	X	-0.127	%20
4	7	X	-0.12	%20
5	7	X	-0.081	%50
6	8	X	-0.054	%5
7	8	X	-0.054	%35
8	8	X	-0.031	%55
9	8	X	-0.031	%85
10	8	X	0	0
11	9	X	-0.099	%5
12	9	X	-0.099	%65
13	9	X	-0.056	%20
14	9	X	-0.063	%50
15	9	X	0	0
16	101	X	-0.118	%5
17	101	X	-0.118	%65
18	101	X	-0.127	%20
19	101	X	-0.12	%20
20	101	X	-0.081	%50
21	102	X	-0.054	%5
22	102	X	-0.054	%35
23	102	X	-0.031	%55
24	102	X	-0.031	%85
25	102	X	0	0
26	103	X	-0.132	%5
27	103	X	-0.132	%65
28	103	X	-0.056	%20

Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
29	103	X	-0.063	%50
30	103	X	0	0
31	54	X	-0.118	%5
32	54	X	-0.118	%65
33	54	X	-0.127	%20
34	54	X	-0.12	%20
35	54	X	-0.081	%50
36	55	X	-0.054	%5
37	55	X	-0.054	%35
38	55	X	-0.031	%55
39	55	X	-0.031	%85
40	55	X	0	0
41	56	X	-0.099	%5
42	56	X	-0.099	%65
43	56	X	-0.056	%20
44	56	X	-0.063	%50
45	56	X	0	0
46	7	X	-0.066	%50
47	7	X	0	0
48	7	X	0	0
49	7	X	0	0
50	7	X	0	0
51	101	X	-0.066	%50
52	101	X	0	0
53	101	X	0	0
54	101	X	0	0
55	101	X	0	0
56	54	X	-0.066	%50
57	54	X	0	0
58	54	X	0	0
59	54	X	0	0
60	54	X	0	0
61	16	X	-0.195	%80
62	16	X	0	0
63	16	X	0	0
64	16	X	0	0
65	16	X	0	0
66	110	X	-0.195	%80
67	110	X	0	0
68	110	X	0	0
69	110	X	0	0
70	110	X	0	0
71	63	X	-0.195	%80
72	63	X	0	0
73	63	X	0	0
74	63	X	0	0
75	63	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Z	-0.05	%5
2	7	Z	-0.05	%65
3	7	Z	-0.009	%20
4	7	Z	-0.013	%20
5	7	Z	-0.009	%50

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
6	8	Z	-0.015	%5
7	8	Z	-0.015	%35
8	8	Z	-0.013	%55
9	8	Z	-0.013	%85
10	8	Z	0	0
11	9	Z	-0.058	%5
12	9	Z	-0.058	%65
13	9	Z	-0.014	%20
14	9	Z	-0.02	%50
15	9	Z	0	0
16	101	Z	-0.05	%5
17	101	Z	-0.05	%65
18	101	Z	-0.009	%20
19	101	Z	-0.013	%20
20	101	Z	-0.009	%50
21	102	Z	-0.015	%5
22	102	Z	-0.015	%35
23	102	Z	-0.013	%55
24	102	Z	-0.013	%85
25	102	Z	0	0
26	103	Z	-0.076	%5
27	103	Z	-0.076	%65
28	103	Z	-0.014	%20
29	103	Z	-0.02	%50
30	103	Z	0	0
31	54	Z	-0.05	%5
32	54	Z	-0.05	%65
33	54	Z	-0.009	%20
34	54	Z	-0.013	%20
35	54	Z	-0.009	%50
36	55	Z	-0.015	%5
37	55	Z	-0.015	%35
38	55	Z	-0.013	%55
39	55	Z	-0.013	%85
40	55	Z	0	0
41	56	Z	-0.058	%5
42	56	Z	-0.058	%65
43	56	Z	-0.014	%20
44	56	Z	-0.02	%50
45	56	Z	0	0
46	7	Z	-0.005	%50
47	7	Z	0	0
48	7	Z	0	0
49	7	Z	0	0
50	7	Z	0	0
51	101	Z	-0.005	%50
52	101	Z	0	0
53	101	Z	0	0
54	101	Z	0	0
55	101	Z	0	0
56	54	Z	-0.005	%50
57	54	Z	0	0
58	54	Z	0	0
59	54	Z	0	0
60	54	Z	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
61	16	Z	-0.02	%80
62	16	Z	0	0
63	16	Z	0	0
64	16	Z	0	0
65	16	Z	0	0
66	110	Z	-0.02	%80
67	110	Z	0	0
68	110	Z	0	0
69	110	Z	0	0
70	110	Z	0	0
71	63	Z	-0.02	%80
72	63	Z	0	0
73	63	Z	0	0
74	63	Z	0	0
75	63	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	X	-0.022	%5
2	7	X	-0.022	%65
3	7	X	-0.023	%20
4	7	X	-0.022	%20
5	7	X	-0.015	%50
6	8	X	-0.01	%5
7	8	X	-0.01	%35
8	8	X	-0.006	%55
9	8	X	-0.006	%85
10	8	X	0	0
11	9	X	-0.026	%5
12	9	X	-0.026	%65
13	9	X	-0.01	%20
14	9	X	-0.012	%50
15	9	X	0	0
16	101	X	-0.022	%5
17	101	X	-0.022	%65
18	101	X	-0.023	%20
19	101	X	-0.022	%20
20	101	X	-0.015	%50
21	102	X	-0.01	%5
22	102	X	-0.01	%35
23	102	X	-0.006	%55
24	102	X	-0.006	%85
25	102	X	0	0
26	103	X	-0.035	%5
27	103	X	-0.035	%65
28	103	X	-0.01	%20
29	103	X	-0.012	%50
30	103	X	0	0
31	54	X	-0.022	%5
32	54	X	-0.022	%65
33	54	X	-0.023	%20
34	54	X	-0.022	%20
35	54	X	-0.015	%50
36	55	X	-0.01	%5
37	55	X	-0.01	%35

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
38	55	X	-0.006	%55
39	55	X	-0.006	%85
40	55	X	0	0
41	56	X	-0.026	%5
42	56	X	-0.026	%65
43	56	X	-0.01	%20
44	56	X	-0.012	%50
45	56	X	0	0
46	7	X	-0.012	%50
47	7	X	0	0
48	7	X	0	0
49	7	X	0	0
50	7	X	0	0
51	101	X	-0.012	%50
52	101	X	0	0
53	101	X	0	0
54	101	X	0	0
55	101	X	0	0
56	54	X	-0.012	%50
57	54	X	0	0
58	54	X	0	0
59	54	X	0	0
60	54	X	0	0
61	16	X	-0.036	%80
62	16	X	0	0
63	16	X	0	0
64	16	X	0	0
65	16	X	0	0
66	110	X	-0.036	%80
67	110	X	0	0
68	110	X	0	0
69	110	X	0	0
70	110	X	0	0
71	63	X	-0.036	%80
72	63	X	0	0
73	63	X	0	0
74	63	X	0	0
75	63	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Z	-0.018	%5
2	7	Z	-0.018	%65
3	7	Z	-0.003	%20
4	7	Z	-0.005	%20
5	7	Z	-0.003	%50
6	8	Z	-0.005	%5
7	8	Z	-0.005	%35
8	8	Z	-0.005	%55
9	8	Z	-0.005	%85
10	8	Z	0	0
11	9	Z	-0.017	%5
12	9	Z	-0.017	%65
13	9	Z	-0.005	%20
14	9	Z	-0.007	%50



Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
15	9	Z	0	0
16	101	Z	-0.018	%5
17	101	Z	-0.018	%65
18	101	Z	-0.003	%20
19	101	Z	-0.005	%20
20	101	Z	-0.003	%50
21	102	Z	-0.005	%5
22	102	Z	-0.005	%35
23	102	Z	-0.005	%55
24	102	Z	-0.005	%85
25	102	Z	0	0
26	103	Z	-0.023	%5
27	103	Z	-0.023	%65
28	103	Z	-0.005	%20
29	103	Z	-0.007	%50
30	103	Z	0	0
31	54	Z	-0.018	%5
32	54	Z	-0.018	%65
33	54	Z	-0.003	%20
34	54	Z	-0.005	%20
35	54	Z	-0.003	%50
36	55	Z	-0.005	%5
37	55	Z	-0.005	%35
38	55	Z	-0.005	%55
39	55	Z	-0.005	%85
40	55	Z	0	0
41	56	Z	-0.017	%5
42	56	Z	-0.017	%65
43	56	Z	-0.005	%20
44	56	Z	-0.007	%50
45	56	Z	0	0
46	7	Z	-0.002	%50
47	7	Z	0	0
48	7	Z	0	0
49	7	Z	0	0
50	7	Z	0	0
51	101	Z	-0.002	%50
52	101	Z	0	0
53	101	Z	0	0
54	101	Z	0	0
55	101	Z	0	0
56	54	Z	-0.002	%50
57	54	Z	0	0
58	54	Z	0	0
59	54	Z	0	0
60	54	Z	0	0
61	16	Z	-0.007	%80
62	16	Z	0	0
63	16	Z	0	0
64	16	Z	0	0
65	16	Z	0	0
66	110	Z	-0.007	%80
67	110	Z	0	0
68	110	Z	0	0
69	110	Z	0	0



Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
70	110	Z	0	0
71	63	Z	-0.007	%80
72	63	Z	0	0
73	63	Z	0	0
74	63	Z	0	0
75	63	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	X	-0.008	%5
2	7	X	-0.008	%65
3	7	X	-0.008	%20
4	7	X	-0.008	%20
5	7	X	-0.005	%50
6	8	X	-0.004	%5
7	8	X	-0.004	%35
8	8	X	-0.002	%55
9	8	X	-0.002	%85
10	8	X	0	0
11	9	X	-0.007	%5
12	9	X	-0.007	%65
13	9	X	-0.004	%20
14	9	X	-0.004	%50
15	9	X	0	0
16	101	X	-0.008	%5
17	101	X	-0.008	%65
18	101	X	-0.008	%20
19	101	X	-0.008	%20
20	101	X	-0.005	%50
21	102	X	-0.004	%5
22	102	X	-0.004	%35
23	102	X	-0.002	%55
24	102	X	-0.002	%85
25	102	X	0	0
26	103	X	-0.009	%5
27	103	X	-0.009	%65
28	103	X	-0.004	%20
29	103	X	-0.004	%50
30	103	X	0	0
31	54	X	-0.008	%5
32	54	X	-0.008	%65
33	54	X	-0.008	%20
34	54	X	-0.008	%20
35	54	X	-0.005	%50
36	55	X	-0.004	%5
37	55	X	-0.004	%35
38	55	X	-0.002	%55
39	55	X	-0.002	%85
40	55	X	0	0
41	56	X	-0.007	%5
42	56	X	-0.007	%65
43	56	X	-0.004	%20
44	56	X	-0.004	%50
45	56	X	0	0
46	7	X	-0.004	%50

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
47	7	X	0	0
48	7	X	0	0
49	7	X	0	0
50	7	X	0	0
51	101	X	-0.004	%50
52	101	X	0	0
53	101	X	0	0
54	101	X	0	0
55	101	X	0	0
56	54	X	-0.004	%50
57	54	X	0	0
58	54	X	0	0
59	54	X	0	0
60	54	X	0	0
61	16	X	-0.013	%80
62	16	X	0	0
63	16	X	0	0
64	16	X	0	0
65	16	X	0	0
66	110	X	-0.013	%80
67	110	X	0	0
68	110	X	0	0
69	110	X	0	0
70	110	X	0	0
71	63	X	-0.013	%80
72	63	X	0	0
73	63	X	0	0
74	63	X	0	0
75	63	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Y	-0.162	%5
2	7	Y	-0.162	%65
3	7	Y	-0.078	%20
4	7	Y	-0.078	%20
5	7	Y	-0.055	%50
6	8	Y	-0.056	%5
7	8	Y	-0.056	%35
8	8	Y	-0.046	%55
9	8	Y	-0.046	%85
10	8	Y	0	0
11	9	Y	-0.167	%5
12	9	Y	-0.167	%65
13	9	Y	-0.056	%20
14	9	Y	-0.075	%50
15	9	Y	0	0
16	101	Y	-0.162	%5
17	101	Y	-0.162	%65
18	101	Y	-0.078	%20
19	101	Y	-0.078	%20
20	101	Y	-0.055	%50
21	102	Y	-0.056	%5
22	102	Y	-0.056	%35
23	102	Y	-0.046	%55



Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
24	102	Y	-0.046	%85
25	102	Y	0	0
26	103	Y	-0.214	%5
27	103	Y	-0.214	%65
28	103	Y	-0.056	%20
29	103	Y	-0.075	%50
30	103	Y	0	0
31	54	Y	-0.162	%5
32	54	Y	-0.162	%65
33	54	Y	-0.078	%20
34	54	Y	-0.078	%20
35	54	Y	-0.055	%50
36	55	Y	-0.056	%5
37	55	Y	-0.056	%35
38	55	Y	-0.046	%55
39	55	Y	-0.046	%85
40	55	Y	0	0
41	56	Y	-0.167	%5
42	56	Y	-0.167	%65
43	56	Y	-0.056	%20
44	56	Y	-0.075	%50
45	56	Y	0	0
46	7	Y	-0.042	%50
47	7	Y	0	0
48	7	Y	0	0
49	7	Y	0	0
50	7	Y	0	0
51	101	Y	-0.042	%50
52	101	Y	0	0
53	101	Y	0	0
54	101	Y	0	0
55	101	Y	0	0
56	54	Y	-0.042	%50
57	54	Y	0	0
58	54	Y	0	0
59	54	Y	0	0
60	54	Y	0	0
61	16	Y	-0.125	%80
62	16	Y	0	0
63	16	Y	0	0
64	16	Y	0	0
65	16	Y	0	0
66	110	Y	-0.125	%80
67	110	Y	0	0
68	110	Y	0	0
69	110	Y	0	0
70	110	Y	0	0
71	63	Y	-0.125	%80
72	63	Y	0	0
73	63	Y	0	0
74	63	Y	0	0
75	63	Y	0	0



Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Z	-0.032	%5
2	7	Z	-0.032	%65
3	7	Z	-0.013	%20
4	7	Z	-0.014	%20
5	7	Z	-0.015	%50
6	8	Z	-0.024	%5
7	8	Z	-0.024	%35
8	8	Z	-0.016	%55
9	8	Z	-0.016	%85
10	8	Z	0	0
11	9	Z	-0.022	%5
12	9	Z	-0.022	%65
13	9	Z	-0.017	%20
14	9	Z	-0.013	%50
15	9	Z	0	0
16	101	Z	-0.032	%5
17	101	Z	-0.032	%65
18	101	Z	-0.013	%20
19	101	Z	-0.014	%20
20	101	Z	-0.015	%50
21	102	Z	-0.024	%5
22	102	Z	-0.024	%35
23	102	Z	-0.016	%55
24	102	Z	-0.016	%85
25	102	Z	0	0
26	103	Z	-0.026	%5
27	103	Z	-0.026	%65
28	103	Z	-0.017	%20
29	103	Z	-0.013	%50
30	103	Z	0	0
31	54	Z	-0.032	%5
32	54	Z	-0.032	%65
33	54	Z	-0.013	%20
34	54	Z	-0.014	%20
35	54	Z	-0.015	%50
36	55	Z	-0.024	%5
37	55	Z	-0.024	%35
38	55	Z	-0.016	%55
39	55	Z	-0.016	%85
40	55	Z	0	0
41	56	Z	-0.022	%5
42	56	Z	-0.022	%65
43	56	Z	-0.017	%20
44	56	Z	-0.013	%50
45	56	Z	0	0
46	7	Z	-0.017	%50
47	7	Z	0	0
48	7	Z	0	0
49	7	Z	0	0
50	7	Z	0	0
51	101	Z	-0.017	%50
52	101	Z	0	0
53	101	Z	0	0
54	101	Z	0	0
55	101	Z	0	0

Member Point Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
56	54	Z	-0.017	%50
57	54	Z	0	0
58	54	Z	0	0
59	54	Z	0	0
60	54	Z	0	0
61	16	Z	-0.006	%80
62	16	Z	0	0
63	16	Z	0	0
64	16	Z	0	0
65	16	Z	0	0
66	110	Z	-0.006	%80
67	110	Z	0	0
68	110	Z	0	0
69	110	Z	0	0
70	110	Z	0	0
71	63	Z	-0.006	%80
72	63	Z	0	0
73	63	Z	0	0
74	63	Z	0	0
75	63	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	X	-0.032	%5
2	7	X	-0.032	%65
3	7	X	-0.013	%20
4	7	X	-0.014	%20
5	7	X	-0.015	%50
6	8	X	-0.024	%5
7	8	X	-0.024	%35
8	8	X	-0.016	%55
9	8	X	-0.016	%85
10	8	X	0	0
11	9	X	-0.022	%5
12	9	X	-0.022	%65
13	9	X	-0.017	%20
14	9	X	-0.013	%50
15	9	X	0	0
16	101	X	-0.032	%5
17	101	X	-0.032	%65
18	101	X	-0.013	%20
19	101	X	-0.014	%20
20	101	X	-0.015	%50
21	102	X	-0.024	%5
22	102	X	-0.024	%35
23	102	X	-0.016	%55
24	102	X	-0.016	%85
25	102	X	0	0
26	103	X	-0.026	%5
27	103	X	-0.026	%65
28	103	X	-0.017	%20
29	103	X	-0.013	%50
30	103	X	0	0
31	54	X	-0.032	%5
32	54	X	-0.032	%65

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
33	54	X	-0.013	%20
34	54	X	-0.014	%20
35	54	X	-0.015	%50
36	55	X	-0.024	%5
37	55	X	-0.024	%35
38	55	X	-0.016	%55
39	55	X	-0.016	%85
40	55	X	0	0
41	56	X	-0.022	%5
42	56	X	-0.022	%65
43	56	X	-0.017	%20
44	56	X	-0.013	%50
45	56	X	0	0
46	7	X	-0.017	%50
47	7	X	0	0
48	7	X	0	0
49	7	X	0	0
50	7	X	0	0
51	101	X	-0.017	%50
52	101	X	0	0
53	101	X	0	0
54	101	X	0	0
55	101	X	0	0
56	54	X	-0.017	%50
57	54	X	0	0
58	54	X	0	0
59	54	X	0	0
60	54	X	0	0
61	16	X	-0.006	%80
62	16	X	0	0
63	16	X	0	0
64	16	X	0	0
65	16	X	0	0
66	110	X	-0.006	%80
67	110	X	0	0
68	110	X	0	0
69	110	X	0	0
70	110	X	0	0
71	63	X	-0.006	%80
72	63	X	0	0
73	63	X	0	0
74	63	X	0	0
75	63	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	99	Y	-0.25	%5



Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	51	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	52	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	4	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	5	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	99	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	51	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	52	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	4	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	5	Y	-0.25	%95



Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	114	Y	-0.25	%50

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	110	Y	-0.25	%50

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	134	Y	-0.25	%50

Member Point Loads (BLC 30 : Maint LL 16)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	131	Y	-0.25	%50

Member Point Loads (BLC 31 : Maint LL 17)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	67	Y	-0.25	%50

Member Point Loads (BLC 32 : Maint LL 18)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	63	Y	-0.25	%50

Member Point Loads (BLC 33 : Maint LL 19)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%50

Member Point Loads (BLC 34 : Maint LL 20)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	84	Y	-0.25	%50

Member Point Loads (BLC 35 : Maint LL 21)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	20	Y	-0.25	%50

Member Point Loads (BLC 36 : Maint LL 22)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	16	Y	-0.25	%50



Member Point Loads (BLC 37 : Maint LL 23)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	40	Y	-0.25	%50

Member Point Loads (BLC 38 : Maint LL 24)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Y	-0.25	%50

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.004	-0.004	0	%100
2	2	Z	-0.004	-0.004	0	%100
3	3	Z	-0.003	-0.003	0	%100
4	4	Z	-0.01	-0.01	0	%100
5	5	Z	-0.01	-0.01	0	%100
6	6	Z	-0.012	-0.012	0	%100
7	7	Z	-0.012	-0.012	0	%100
8	8	Z	-0.012	-0.012	0	%100
9	9	Z	-0.012	-0.012	0	%100
10	10	Z	-0.003	-0.003	0	%100
11	11	Z	-0.003	-0.003	0	%100
12	15	Z	-0.002	-0.002	0	%100
13	16	Z	-0.008	-0.008	0	%100
14	17	Z	-0.002	-0.002	0	%100
15	19	Z	-0.002	-0.002	0	%100
16	20	Z	-0.008	-0.008	0	%100
17	21	Z	-0.002	-0.002	0	%100
18	24	Z	-0.01	-0.01	0	%100
19	33	Z	-0.003	-0.003	0	%100
20	34	Z	-0.003	-0.003	0	%100
21	35	Z	-0.003	-0.003	0	%100
22	36	Z	-0.002	-0.002	0	%100
23	37	Z	-0.008	-0.008	0	%100
24	38	Z	-0.002	-0.002	0	%100
25	39	Z	-0.002	-0.002	0	%100
26	40	Z	-0.008	-0.008	0	%100
27	41	Z	-0.002	-0.002	0	%100
28	45	Z	-0.009	-0.009	0	%100
29	48	Z	-0.004	-0.004	0	%100
30	49	Z	-0.004	-0.004	0	%100
31	50	Z	-0.003	-0.003	0	%100
32	51	Z	-0.01	-0.01	0	%100
33	52	Z	-0.01	-0.01	0	%100
34	53	Z	-0.012	-0.012	0	%100
35	54	Z	-0.012	-0.012	0	%100
36	55	Z	-0.012	-0.012	0	%100
37	56	Z	-0.012	-0.012	0	%100
38	57	Z	-0.003	-0.003	0	%100
39	58	Z	-0.003	-0.003	0	%100
40	62	Z	-0.002	-0.002	0	%100
41	63	Z	-0.008	-0.008	0	%100
42	64	Z	-0.002	-0.002	0	%100
43	66	Z	-0.002	-0.002	0	%100
44	67	Z	-0.008	-0.008	0	%100



Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
45	68	Z	-0.002	-0.002	0	%100
46	71	Z	-0.01	-0.01	0	%100
47	80	Z	-0.003	-0.003	0	%100
48	81	Z	-0.003	-0.003	0	%100
49	82	Z	-0.003	-0.003	0	%100
50	83	Z	-0.002	-0.002	0	%100
51	84	Z	-0.008	-0.008	0	%100
52	85	Z	-0.002	-0.002	0	%100
53	86	Z	-0.002	-0.002	0	%100
54	87	Z	-0.008	-0.008	0	%100
55	88	Z	-0.002	-0.002	0	%100
56	92	Z	-0.009	-0.009	0	%100
57	95	Z	-0.004	-0.004	0	%100
58	96	Z	-0.004	-0.004	0	%100
59	97	Z	-0.003	-0.003	0	%100
60	98	Z	-0.01	-0.01	0	%100
61	99	Z	-0.01	-0.01	0	%100
62	100	Z	-0.012	-0.012	0	%100
63	101	Z	-0.012	-0.012	0	%100
64	102	Z	-0.012	-0.012	0	%100
65	103	Z	-0.012	-0.012	0	%100
66	104	Z	-0.003	-0.003	0	%100
67	105	Z	-0.003	-0.003	0	%100
68	109	Z	-0.002	-0.002	0	%100
69	110	Z	-0.008	-0.008	0	%100
70	111	Z	-0.002	-0.002	0	%100
71	113	Z	-0.002	-0.002	0	%100
72	114	Z	-0.008	-0.008	0	%100
73	115	Z	-0.002	-0.002	0	%100
74	118	Z	-0.01	-0.01	0	%100
75	127	Z	-0.003	-0.003	0	%100
76	128	Z	-0.003	-0.003	0	%100
77	129	Z	-0.003	-0.003	0	%100
78	130	Z	-0.002	-0.002	0	%100
79	131	Z	-0.008	-0.008	0	%100
80	132	Z	-0.002	-0.002	0	%100
81	133	Z	-0.002	-0.002	0	%100
82	134	Z	-0.008	-0.008	0	%100
83	135	Z	-0.002	-0.002	0	%100
84	139	Z	-0.009	-0.009	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.004	-0.004	0	%100
2	2	X	-0.004	-0.004	0	%100
3	3	X	-0.003	-0.003	0	%100
4	4	X	-0.01	-0.01	0	%100
5	5	X	-0.01	-0.01	0	%100
6	6	X	-0.012	-0.012	0	%100
7	7	X	-0.012	-0.012	0	%100
8	8	X	-0.012	-0.012	0	%100
9	9	X	-0.012	-0.012	0	%100
10	10	X	-0.003	-0.003	0	%100
11	11	X	-0.003	-0.003	0	%100
12	15	X	-0.002	-0.002	0	%100



Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
13	16	X	-0.008	-0.008	0	%100
14	17	X	-0.002	-0.002	0	%100
15	19	X	-0.002	-0.002	0	%100
16	20	X	-0.008	-0.008	0	%100
17	21	X	-0.002	-0.002	0	%100
18	24	X	-0.01	-0.01	0	%100
19	33	X	-0.003	-0.003	0	%100
20	34	X	-0.003	-0.003	0	%100
21	35	X	-0.003	-0.003	0	%100
22	36	X	-0.002	-0.002	0	%100
23	37	X	-0.008	-0.008	0	%100
24	38	X	-0.002	-0.002	0	%100
25	39	X	-0.002	-0.002	0	%100
26	40	X	-0.008	-0.008	0	%100
27	41	X	-0.002	-0.002	0	%100
28	45	X	-0.009	-0.009	0	%100
29	48	X	-0.004	-0.004	0	%100
30	49	X	-0.004	-0.004	0	%100
31	50	X	-0.003	-0.003	0	%100
32	51	X	-0.01	-0.01	0	%100
33	52	X	-0.01	-0.01	0	%100
34	53	X	-0.012	-0.012	0	%100
35	54	X	-0.012	-0.012	0	%100
36	55	X	-0.012	-0.012	0	%100
37	56	X	-0.012	-0.012	0	%100
38	57	X	-0.003	-0.003	0	%100
39	58	X	-0.003	-0.003	0	%100
40	62	X	-0.002	-0.002	0	%100
41	63	X	-0.008	-0.008	0	%100
42	64	X	-0.002	-0.002	0	%100
43	66	X	-0.002	-0.002	0	%100
44	67	X	-0.008	-0.008	0	%100
45	68	X	-0.002	-0.002	0	%100
46	71	X	-0.01	-0.01	0	%100
47	80	X	-0.003	-0.003	0	%100
48	81	X	-0.003	-0.003	0	%100
49	82	X	-0.003	-0.003	0	%100
50	83	X	-0.002	-0.002	0	%100
51	84	X	-0.008	-0.008	0	%100
52	85	X	-0.002	-0.002	0	%100
53	86	X	-0.002	-0.002	0	%100
54	87	X	-0.008	-0.008	0	%100
55	88	X	-0.002	-0.002	0	%100
56	92	X	-0.009	-0.009	0	%100
57	95	X	-0.004	-0.004	0	%100
58	96	X	-0.004	-0.004	0	%100
59	97	X	-0.003	-0.003	0	%100
60	98	X	-0.01	-0.01	0	%100
61	99	X	-0.01	-0.01	0	%100
62	100	X	-0.012	-0.012	0	%100
63	101	X	-0.012	-0.012	0	%100
64	102	X	-0.012	-0.012	0	%100
65	103	X	-0.012	-0.012	0	%100
66	104	X	-0.003	-0.003	0	%100
67	105	X	-0.003	-0.003	0	%100



Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
68	109	X	-0.002	-0.002	0	%100
69	110	X	-0.008	-0.008	0	%100
70	111	X	-0.002	-0.002	0	%100
71	113	X	-0.002	-0.002	0	%100
72	114	X	-0.008	-0.008	0	%100
73	115	X	-0.002	-0.002	0	%100
74	118	X	-0.01	-0.01	0	%100
75	127	X	-0.003	-0.003	0	%100
76	128	X	-0.003	-0.003	0	%100
77	129	X	-0.003	-0.003	0	%100
78	130	X	-0.002	-0.002	0	%100
79	131	X	-0.008	-0.008	0	%100
80	132	X	-0.002	-0.002	0	%100
81	133	X	-0.002	-0.002	0	%100
82	134	X	-0.008	-0.008	0	%100
83	135	X	-0.002	-0.002	0	%100
84	139	X	-0.009	-0.009	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.006	-0.006	0	%100
2	2	Z	-0.006	-0.006	0	%100
3	3	Z	-0.003	-0.003	0	%100
4	4	Z	-0.002	-0.002	0	%100
5	5	Z	-0.002	-0.002	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.002	-0.002	0	%100
9	9	Z	-0.002	-0.002	0	%100
10	10	Z	-0.003	-0.003	0	%100
11	11	Z	-0.003	-0.003	0	%100
12	15	Z	-0.007	-0.007	0	%100
13	16	Z	-0.002	-0.002	0	%100
14	17	Z	-0.007	-0.007	0	%100
15	19	Z	-0.007	-0.007	0	%100
16	20	Z	-0.002	-0.002	0	%100
17	21	Z	-0.007	-0.007	0	%100
18	24	Z	-0.002	-0.002	0	%100
19	33	Z	-0.003	-0.003	0	%100
20	34	Z	-0.003	-0.003	0	%100
21	35	Z	-0.003	-0.003	0	%100
22	36	Z	-0.007	-0.007	0	%100
23	37	Z	-0.002	-0.002	0	%100
24	38	Z	-0.007	-0.007	0	%100
25	39	Z	-0.007	-0.007	0	%100
26	40	Z	-0.002	-0.002	0	%100
27	41	Z	-0.007	-0.007	0	%100
28	45	Z	-0.003	-0.003	0	%100
29	48	Z	-0.006	-0.006	0	%100
30	49	Z	-0.006	-0.006	0	%100
31	50	Z	-0.003	-0.003	0	%100
32	51	Z	-0.002	-0.002	0	%100
33	52	Z	-0.002	-0.002	0	%100
34	53	Z	-0.002	-0.002	0	%100
35	54	Z	-0.002	-0.002	0	%100



Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
36	55	Z	-0.002	-0.002	0	%100
37	56	Z	-0.002	-0.002	0	%100
38	57	Z	-0.003	-0.003	0	%100
39	58	Z	-0.003	-0.003	0	%100
40	62	Z	-0.007	-0.007	0	%100
41	63	Z	-0.002	-0.002	0	%100
42	64	Z	-0.007	-0.007	0	%100
43	66	Z	-0.007	-0.007	0	%100
44	67	Z	-0.002	-0.002	0	%100
45	68	Z	-0.007	-0.007	0	%100
46	71	Z	-0.002	-0.002	0	%100
47	80	Z	-0.003	-0.003	0	%100
48	81	Z	-0.003	-0.003	0	%100
49	82	Z	-0.003	-0.003	0	%100
50	83	Z	-0.007	-0.007	0	%100
51	84	Z	-0.002	-0.002	0	%100
52	85	Z	-0.007	-0.007	0	%100
53	86	Z	-0.007	-0.007	0	%100
54	87	Z	-0.002	-0.002	0	%100
55	88	Z	-0.007	-0.007	0	%100
56	92	Z	-0.003	-0.003	0	%100
57	95	Z	-0.006	-0.006	0	%100
58	96	Z	-0.006	-0.006	0	%100
59	97	Z	-0.003	-0.003	0	%100
60	98	Z	-0.002	-0.002	0	%100
61	99	Z	-0.002	-0.002	0	%100
62	100	Z	-0.002	-0.002	0	%100
63	101	Z	-0.002	-0.002	0	%100
64	102	Z	-0.002	-0.002	0	%100
65	103	Z	-0.002	-0.002	0	%100
66	104	Z	-0.003	-0.003	0	%100
67	105	Z	-0.003	-0.003	0	%100
68	109	Z	-0.007	-0.007	0	%100
69	110	Z	-0.002	-0.002	0	%100
70	111	Z	-0.007	-0.007	0	%100
71	113	Z	-0.007	-0.007	0	%100
72	114	Z	-0.002	-0.002	0	%100
73	115	Z	-0.007	-0.007	0	%100
74	118	Z	-0.002	-0.002	0	%100
75	127	Z	-0.003	-0.003	0	%100
76	128	Z	-0.003	-0.003	0	%100
77	129	Z	-0.003	-0.003	0	%100
78	130	Z	-0.007	-0.007	0	%100
79	131	Z	-0.002	-0.002	0	%100
80	132	Z	-0.007	-0.007	0	%100
81	133	Z	-0.007	-0.007	0	%100
82	134	Z	-0.002	-0.002	0	%100
83	135	Z	-0.007	-0.007	0	%100
84	139	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.006	-0.006	0	%100
2	2	X	-0.006	-0.006	0	%100
3	3	X	-0.003	-0.003	0	%100



Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
4	4	X	-0.002	-0.002	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.002	-0.002	0	%100
9	9	X	-0.002	-0.002	0	%100
10	10	X	-0.003	-0.003	0	%100
11	11	X	-0.003	-0.003	0	%100
12	15	X	-0.007	-0.007	0	%100
13	16	X	-0.002	-0.002	0	%100
14	17	X	-0.007	-0.007	0	%100
15	19	X	-0.007	-0.007	0	%100
16	20	X	-0.002	-0.002	0	%100
17	21	X	-0.007	-0.007	0	%100
18	24	X	-0.002	-0.002	0	%100
19	33	X	-0.003	-0.003	0	%100
20	34	X	-0.003	-0.003	0	%100
21	35	X	-0.003	-0.003	0	%100
22	36	X	-0.007	-0.007	0	%100
23	37	X	-0.002	-0.002	0	%100
24	38	X	-0.007	-0.007	0	%100
25	39	X	-0.007	-0.007	0	%100
26	40	X	-0.002	-0.002	0	%100
27	41	X	-0.007	-0.007	0	%100
28	45	X	-0.003	-0.003	0	%100
29	48	X	-0.006	-0.006	0	%100
30	49	X	-0.006	-0.006	0	%100
31	50	X	-0.003	-0.003	0	%100
32	51	X	-0.002	-0.002	0	%100
33	52	X	-0.002	-0.002	0	%100
34	53	X	-0.002	-0.002	0	%100
35	54	X	-0.002	-0.002	0	%100
36	55	X	-0.002	-0.002	0	%100
37	56	X	-0.002	-0.002	0	%100
38	57	X	-0.003	-0.003	0	%100
39	58	X	-0.003	-0.003	0	%100
40	62	X	-0.007	-0.007	0	%100
41	63	X	-0.002	-0.002	0	%100
42	64	X	-0.007	-0.007	0	%100
43	66	X	-0.007	-0.007	0	%100
44	67	X	-0.002	-0.002	0	%100
45	68	X	-0.007	-0.007	0	%100
46	71	X	-0.002	-0.002	0	%100
47	80	X	-0.003	-0.003	0	%100
48	81	X	-0.003	-0.003	0	%100
49	82	X	-0.003	-0.003	0	%100
50	83	X	-0.007	-0.007	0	%100
51	84	X	-0.002	-0.002	0	%100
52	85	X	-0.007	-0.007	0	%100
53	86	X	-0.007	-0.007	0	%100
54	87	X	-0.002	-0.002	0	%100
55	88	X	-0.007	-0.007	0	%100
56	92	X	-0.003	-0.003	0	%100
57	95	X	-0.006	-0.006	0	%100
58	96	X	-0.006	-0.006	0	%100



Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
59	97	X	-0.003	-0.003	0	%100
60	98	X	-0.002	-0.002	0	%100
61	99	X	-0.002	-0.002	0	%100
62	100	X	-0.002	-0.002	0	%100
63	101	X	-0.002	-0.002	0	%100
64	102	X	-0.002	-0.002	0	%100
65	103	X	-0.002	-0.002	0	%100
66	104	X	-0.003	-0.003	0	%100
67	105	X	-0.003	-0.003	0	%100
68	109	X	-0.007	-0.007	0	%100
69	110	X	-0.002	-0.002	0	%100
70	111	X	-0.007	-0.007	0	%100
71	113	X	-0.007	-0.007	0	%100
72	114	X	-0.002	-0.002	0	%100
73	115	X	-0.007	-0.007	0	%100
74	118	X	-0.002	-0.002	0	%100
75	127	X	-0.003	-0.003	0	%100
76	128	X	-0.003	-0.003	0	%100
77	129	X	-0.003	-0.003	0	%100
78	130	X	-0.007	-0.007	0	%100
79	131	X	-0.002	-0.002	0	%100
80	132	X	-0.007	-0.007	0	%100
81	133	X	-0.007	-0.007	0	%100
82	134	X	-0.002	-0.002	0	%100
83	135	X	-0.007	-0.007	0	%100
84	139	X	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.0003	-0.0003	0	%100
2	2	Z	-0.0003	-0.0003	0	%100
3	3	Z	-0.0002	-0.0002	0	%100
4	4	Z	-0.0003	-0.0003	0	%100
5	5	Z	-0.0003	-0.0003	0	%100
6	6	Z	-0.0004	-0.0004	0	%100
7	7	Z	-0.0004	-0.0004	0	%100
8	8	Z	-0.0004	-0.0004	0	%100
9	9	Z	-0.0004	-0.0004	0	%100
10	10	Z	-0.0002	-0.0002	0	%100
11	11	Z	-0.0002	-0.0002	0	%100
12	15	Z	-1e-04	-1e-04	0	%100
13	16	Z	-0.0003	-0.0003	0	%100
14	17	Z	-1e-04	-1e-04	0	%100
15	19	Z	-1e-04	-1e-04	0	%100
16	20	Z	-0.0003	-0.0003	0	%100
17	21	Z	-1e-04	-1e-04	0	%100
18	24	Z	-0.0003	-0.0003	0	%100
19	33	Z	-0.0002	-0.0002	0	%100
20	34	Z	-0.0002	-0.0002	0	%100
21	35	Z	-0.0002	-0.0002	0	%100
22	36	Z	-1e-04	-1e-04	0	%100
23	37	Z	-0.0003	-0.0003	0	%100
24	38	Z	-1e-04	-1e-04	0	%100
25	39	Z	-1e-04	-1e-04	0	%100
26	40	Z	-0.0003	-0.0003	0	%100



Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
27	41	Z	-1e-04	-1e-04	0	%100
28	45	Z	-0.0006	-0.0006	0	%100
29	48	Z	-0.0003	-0.0003	0	%100
30	49	Z	-0.0003	-0.0003	0	%100
31	50	Z	-0.0002	-0.0002	0	%100
32	51	Z	-0.0003	-0.0003	0	%100
33	52	Z	-0.0003	-0.0003	0	%100
34	53	Z	-0.0004	-0.0004	0	%100
35	54	Z	-0.0004	-0.0004	0	%100
36	55	Z	-0.0004	-0.0004	0	%100
37	56	Z	-0.0004	-0.0004	0	%100
38	57	Z	-0.0002	-0.0002	0	%100
39	58	Z	-0.0002	-0.0002	0	%100
40	62	Z	-1e-04	-1e-04	0	%100
41	63	Z	-0.0003	-0.0003	0	%100
42	64	Z	-1e-04	-1e-04	0	%100
43	66	Z	-1e-04	-1e-04	0	%100
44	67	Z	-0.0003	-0.0003	0	%100
45	68	Z	-1e-04	-1e-04	0	%100
46	71	Z	-0.0003	-0.0003	0	%100
47	80	Z	-0.0002	-0.0002	0	%100
48	81	Z	-0.0002	-0.0002	0	%100
49	82	Z	-0.0002	-0.0002	0	%100
50	83	Z	-1e-04	-1e-04	0	%100
51	84	Z	-0.0003	-0.0003	0	%100
52	85	Z	-1e-04	-1e-04	0	%100
53	86	Z	-1e-04	-1e-04	0	%100
54	87	Z	-0.0003	-0.0003	0	%100
55	88	Z	-1e-04	-1e-04	0	%100
56	92	Z	-0.0006	-0.0006	0	%100
57	95	Z	-0.0003	-0.0003	0	%100
58	96	Z	-0.0003	-0.0003	0	%100
59	97	Z	-0.0002	-0.0002	0	%100
60	98	Z	-0.0003	-0.0003	0	%100
61	99	Z	-0.0003	-0.0003	0	%100
62	100	Z	-0.0004	-0.0004	0	%100
63	101	Z	-0.0004	-0.0004	0	%100
64	102	Z	-0.0004	-0.0004	0	%100
65	103	Z	-0.0004	-0.0004	0	%100
66	104	Z	-0.0002	-0.0002	0	%100
67	105	Z	-0.0002	-0.0002	0	%100
68	109	Z	-1e-04	-1e-04	0	%100
69	110	Z	-0.0003	-0.0003	0	%100
70	111	Z	-1e-04	-1e-04	0	%100
71	113	Z	-1e-04	-1e-04	0	%100
72	114	Z	-0.0003	-0.0003	0	%100
73	115	Z	-1e-04	-1e-04	0	%100
74	118	Z	-0.0003	-0.0003	0	%100
75	127	Z	-0.0002	-0.0002	0	%100
76	128	Z	-0.0002	-0.0002	0	%100
77	129	Z	-0.0002	-0.0002	0	%100
78	130	Z	-1e-04	-1e-04	0	%100
79	131	Z	-0.0003	-0.0003	0	%100
80	132	Z	-1e-04	-1e-04	0	%100
81	133	Z	-1e-04	-1e-04	0	%100



Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
82	134	Z	-0.0003	-0.0003	0	%100
83	135	Z	-1e-04	-1e-04	0	%100
84	139	Z	-0.0006	-0.0006	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.0003	-0.0003	0	%100
2	2	X	-0.0003	-0.0003	0	%100
3	3	X	-0.0002	-0.0002	0	%100
4	4	X	-0.0003	-0.0003	0	%100
5	5	X	-0.0003	-0.0003	0	%100
6	6	X	-0.0004	-0.0004	0	%100
7	7	X	-0.0004	-0.0004	0	%100
8	8	X	-0.0004	-0.0004	0	%100
9	9	X	-0.0004	-0.0004	0	%100
10	10	X	-0.0002	-0.0002	0	%100
11	11	X	-0.0002	-0.0002	0	%100
12	15	X	-1e-04	-1e-04	0	%100
13	16	X	-0.0003	-0.0003	0	%100
14	17	X	-1e-04	-1e-04	0	%100
15	19	X	-1e-04	-1e-04	0	%100
16	20	X	-0.0003	-0.0003	0	%100
17	21	X	-1e-04	-1e-04	0	%100
18	24	X	-0.0003	-0.0003	0	%100
19	33	X	-0.0002	-0.0002	0	%100
20	34	X	-0.0002	-0.0002	0	%100
21	35	X	-0.0002	-0.0002	0	%100
22	36	X	-1e-04	-1e-04	0	%100
23	37	X	-0.0003	-0.0003	0	%100
24	38	X	-1e-04	-1e-04	0	%100
25	39	X	-1e-04	-1e-04	0	%100
26	40	X	-0.0003	-0.0003	0	%100
27	41	X	-1e-04	-1e-04	0	%100
28	45	X	-0.0006	-0.0006	0	%100
29	48	X	-0.0003	-0.0003	0	%100
30	49	X	-0.0003	-0.0003	0	%100
31	50	X	-0.0002	-0.0002	0	%100
32	51	X	-0.0003	-0.0003	0	%100
33	52	X	-0.0003	-0.0003	0	%100
34	53	X	-0.0004	-0.0004	0	%100
35	54	X	-0.0004	-0.0004	0	%100
36	55	X	-0.0004	-0.0004	0	%100
37	56	X	-0.0004	-0.0004	0	%100
38	57	X	-0.0002	-0.0002	0	%100
39	58	X	-0.0002	-0.0002	0	%100
40	62	X	-1e-04	-1e-04	0	%100
41	63	X	-0.0003	-0.0003	0	%100
42	64	X	-1e-04	-1e-04	0	%100
43	66	X	-1e-04	-1e-04	0	%100
44	67	X	-0.0003	-0.0003	0	%100
45	68	X	-1e-04	-1e-04	0	%100
46	71	X	-0.0003	-0.0003	0	%100
47	80	X	-0.0002	-0.0002	0	%100
48	81	X	-0.0002	-0.0002	0	%100
49	82	X	-0.0002	-0.0002	0	%100



Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
50	83	X	-1e-04	-1e-04	0	%100
51	84	X	-0.0003	-0.0003	0	%100
52	85	X	-1e-04	-1e-04	0	%100
53	86	X	-1e-04	-1e-04	0	%100
54	87	X	-0.0003	-0.0003	0	%100
55	88	X	-1e-04	-1e-04	0	%100
56	92	X	-0.0006	-0.0006	0	%100
57	95	X	-0.0003	-0.0003	0	%100
58	96	X	-0.0003	-0.0003	0	%100
59	97	X	-0.0002	-0.0002	0	%100
60	98	X	-0.0003	-0.0003	0	%100
61	99	X	-0.0003	-0.0003	0	%100
62	100	X	-0.0004	-0.0004	0	%100
63	101	X	-0.0004	-0.0004	0	%100
64	102	X	-0.0004	-0.0004	0	%100
65	103	X	-0.0004	-0.0004	0	%100
66	104	X	-0.0002	-0.0002	0	%100
67	105	X	-0.0002	-0.0002	0	%100
68	109	X	-1e-04	-1e-04	0	%100
69	110	X	-0.0003	-0.0003	0	%100
70	111	X	-1e-04	-1e-04	0	%100
71	113	X	-1e-04	-1e-04	0	%100
72	114	X	-0.0003	-0.0003	0	%100
73	115	X	-1e-04	-1e-04	0	%100
74	118	X	-0.0003	-0.0003	0	%100
75	127	X	-0.0002	-0.0002	0	%100
76	128	X	-0.0002	-0.0002	0	%100
77	129	X	-0.0002	-0.0002	0	%100
78	130	X	-1e-04	-1e-04	0	%100
79	131	X	-0.0003	-0.0003	0	%100
80	132	X	-1e-04	-1e-04	0	%100
81	133	X	-1e-04	-1e-04	0	%100
82	134	X	-0.0003	-0.0003	0	%100
83	135	X	-1e-04	-1e-04	0	%100
84	139	X	-0.0006	-0.0006	0	%100

Member Distributed Loads (BLC 8 : Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.016	-0.016	0	%100
2	2	Y	-0.016	-0.016	0	%100
3	3	Y	-0.005	-0.005	0	%100
4	4	Y	-0.009	-0.009	0	%100
5	5	Y	-0.009	-0.009	0	%100
6	6	Y	-0.01	-0.01	0	%100
7	7	Y	-0.01	-0.01	0	%100
8	8	Y	-0.01	-0.01	0	%100
9	9	Y	-0.01	-0.01	0	%100
10	10	Y	-0.005	-0.005	0	%100
11	11	Y	-0.005	-0.005	0	%100
12	15	Y	-0.011	-0.011	0	%100
13	16	Y	-0.009	-0.009	0	%100
14	17	Y	-0.011	-0.011	0	%100
15	19	Y	-0.011	-0.011	0	%100
16	20	Y	-0.009	-0.009	0	%100
17	21	Y	-0.011	-0.011	0	%100



Member Distributed Loads (BLC 8 : Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
18	24	Y	-0.009	-0.009	0	%100
19	33	Y	-0.005	-0.005	0	%100
20	34	Y	-0.005	-0.005	0	%100
21	35	Y	-0.005	-0.005	0	%100
22	36	Y	-0.011	-0.011	0	%100
23	37	Y	-0.009	-0.009	0	%100
24	38	Y	-0.011	-0.011	0	%100
25	39	Y	-0.011	-0.011	0	%100
26	40	Y	-0.009	-0.009	0	%100
27	41	Y	-0.011	-0.011	0	%100
28	45	Y	-0.013	-0.013	0	%100
29	48	Y	-0.016	-0.016	0	%100
30	49	Y	-0.016	-0.016	0	%100
31	50	Y	-0.005	-0.005	0	%100
32	51	Y	-0.009	-0.009	0	%100
33	52	Y	-0.009	-0.009	0	%100
34	53	Y	-0.01	-0.01	0	%100
35	54	Y	-0.01	-0.01	0	%100
36	55	Y	-0.01	-0.01	0	%100
37	56	Y	-0.01	-0.01	0	%100
38	57	Y	-0.005	-0.005	0	%100
39	58	Y	-0.005	-0.005	0	%100
40	62	Y	-0.011	-0.011	0	%100
41	63	Y	-0.009	-0.009	0	%100
42	64	Y	-0.011	-0.011	0	%100
43	66	Y	-0.011	-0.011	0	%100
44	67	Y	-0.009	-0.009	0	%100
45	68	Y	-0.011	-0.011	0	%100
46	71	Y	-0.009	-0.009	0	%100
47	80	Y	-0.005	-0.005	0	%100
48	81	Y	-0.005	-0.005	0	%100
49	82	Y	-0.005	-0.005	0	%100
50	83	Y	-0.011	-0.011	0	%100
51	84	Y	-0.009	-0.009	0	%100
52	85	Y	-0.011	-0.011	0	%100
53	86	Y	-0.011	-0.011	0	%100
54	87	Y	-0.009	-0.009	0	%100
55	88	Y	-0.011	-0.011	0	%100
56	92	Y	-0.013	-0.013	0	%100
57	95	Y	-0.016	-0.016	0	%100
58	96	Y	-0.016	-0.016	0	%100
59	97	Y	-0.005	-0.005	0	%100
60	98	Y	-0.009	-0.009	0	%100
61	99	Y	-0.009	-0.009	0	%100
62	100	Y	-0.01	-0.01	0	%100
63	101	Y	-0.01	-0.01	0	%100
64	102	Y	-0.01	-0.01	0	%100
65	103	Y	-0.01	-0.01	0	%100
66	104	Y	-0.005	-0.005	0	%100
67	105	Y	-0.005	-0.005	0	%100
68	109	Y	-0.011	-0.011	0	%100
69	110	Y	-0.009	-0.009	0	%100
70	111	Y	-0.011	-0.011	0	%100
71	113	Y	-0.011	-0.011	0	%100
72	114	Y	-0.009	-0.009	0	%100



Member Distributed Loads (BLC 8 : Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
73	115	Y	-0.011	-0.011	0	%100
74	118	Y	-0.009	-0.009	0	%100
75	127	Y	-0.005	-0.005	0	%100
76	128	Y	-0.005	-0.005	0	%100
77	129	Y	-0.005	-0.005	0	%100
78	130	Y	-0.011	-0.011	0	%100
79	131	Y	-0.009	-0.009	0	%100
80	132	Y	-0.011	-0.011	0	%100
81	133	Y	-0.011	-0.011	0	%100
82	134	Y	-0.009	-0.009	0	%100
83	135	Y	-0.011	-0.011	0	%100
84	139	Y	-0.013	-0.013	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.003	-0.003	0	%100
2	2	Z	-0.003	-0.003	0	%100
3	3	Z	-0.0006	-0.0006	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.001	-0.001	0	%100
7	7	Z	-0.001	-0.001	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.001	-0.001	0	%100
10	10	Z	-0.0006	-0.0006	0	%100
11	11	Z	-0.0006	-0.0006	0	%100
12	15	Z	-0.001	-0.001	0	%100
13	16	Z	-0.001	-0.001	0	%100
14	17	Z	-0.001	-0.001	0	%100
15	19	Z	-0.001	-0.001	0	%100
16	20	Z	-0.001	-0.001	0	%100
17	21	Z	-0.001	-0.001	0	%100
18	24	Z	-0.0009	-0.0009	0	%100
19	33	Z	-0.0006	-0.0006	0	%100
20	34	Z	-0.0006	-0.0006	0	%100
21	35	Z	-0.0006	-0.0006	0	%100
22	36	Z	-0.001	-0.001	0	%100
23	37	Z	-0.001	-0.001	0	%100
24	38	Z	-0.001	-0.001	0	%100
25	39	Z	-0.001	-0.001	0	%100
26	40	Z	-0.001	-0.001	0	%100
27	41	Z	-0.001	-0.001	0	%100
28	45	Z	-0.003	-0.003	0	%100
29	48	Z	-0.003	-0.003	0	%100
30	49	Z	-0.003	-0.003	0	%100
31	50	Z	-0.0006	-0.0006	0	%100
32	51	Z	-0.001	-0.001	0	%100
33	52	Z	-0.001	-0.001	0	%100
34	53	Z	-0.001	-0.001	0	%100
35	54	Z	-0.001	-0.001	0	%100
36	55	Z	-0.001	-0.001	0	%100
37	56	Z	-0.001	-0.001	0	%100
38	57	Z	-0.0006	-0.0006	0	%100
39	58	Z	-0.0006	-0.0006	0	%100
40	62	Z	-0.001	-0.001	0	%100



Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
41	63	Z	-0.001	-0.001	0	%100
42	64	Z	-0.001	-0.001	0	%100
43	66	Z	-0.001	-0.001	0	%100
44	67	Z	-0.001	-0.001	0	%100
45	68	Z	-0.001	-0.001	0	%100
46	71	Z	-0.0009	-0.0009	0	%100
47	80	Z	-0.0006	-0.0006	0	%100
48	81	Z	-0.0006	-0.0006	0	%100
49	82	Z	-0.0006	-0.0006	0	%100
50	83	Z	-0.001	-0.001	0	%100
51	84	Z	-0.001	-0.001	0	%100
52	85	Z	-0.001	-0.001	0	%100
53	86	Z	-0.001	-0.001	0	%100
54	87	Z	-0.001	-0.001	0	%100
55	88	Z	-0.001	-0.001	0	%100
56	92	Z	-0.003	-0.003	0	%100
57	95	Z	-0.003	-0.003	0	%100
58	96	Z	-0.003	-0.003	0	%100
59	97	Z	-0.0006	-0.0006	0	%100
60	98	Z	-0.001	-0.001	0	%100
61	99	Z	-0.001	-0.001	0	%100
62	100	Z	-0.001	-0.001	0	%100
63	101	Z	-0.001	-0.001	0	%100
64	102	Z	-0.001	-0.001	0	%100
65	103	Z	-0.001	-0.001	0	%100
66	104	Z	-0.0006	-0.0006	0	%100
67	105	Z	-0.0006	-0.0006	0	%100
68	109	Z	-0.001	-0.001	0	%100
69	110	Z	-0.001	-0.001	0	%100
70	111	Z	-0.001	-0.001	0	%100
71	113	Z	-0.001	-0.001	0	%100
72	114	Z	-0.001	-0.001	0	%100
73	115	Z	-0.001	-0.001	0	%100
74	118	Z	-0.0009	-0.0009	0	%100
75	127	Z	-0.0006	-0.0006	0	%100
76	128	Z	-0.0006	-0.0006	0	%100
77	129	Z	-0.0006	-0.0006	0	%100
78	130	Z	-0.001	-0.001	0	%100
79	131	Z	-0.001	-0.001	0	%100
80	132	Z	-0.001	-0.001	0	%100
81	133	Z	-0.001	-0.001	0	%100
82	134	Z	-0.001	-0.001	0	%100
83	135	Z	-0.001	-0.001	0	%100
84	139	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.003	-0.003	0	%100
2	2	X	-0.003	-0.003	0	%100
3	3	X	-0.0006	-0.0006	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.001	-0.001	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100



Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
9	9	X	-0.001	-0.001	0	%100
10	10	X	-0.0006	-0.0006	0	%100
11	11	X	-0.0006	-0.0006	0	%100
12	15	X	-0.001	-0.001	0	%100
13	16	X	-0.001	-0.001	0	%100
14	17	X	-0.001	-0.001	0	%100
15	19	X	-0.001	-0.001	0	%100
16	20	X	-0.001	-0.001	0	%100
17	21	X	-0.001	-0.001	0	%100
18	24	X	-0.0009	-0.0009	0	%100
19	33	X	-0.0006	-0.0006	0	%100
20	34	X	-0.0006	-0.0006	0	%100
21	35	X	-0.0006	-0.0006	0	%100
22	36	X	-0.001	-0.001	0	%100
23	37	X	-0.001	-0.001	0	%100
24	38	X	-0.001	-0.001	0	%100
25	39	X	-0.001	-0.001	0	%100
26	40	X	-0.001	-0.001	0	%100
27	41	X	-0.001	-0.001	0	%100
28	45	X	-0.003	-0.003	0	%100
29	48	X	-0.003	-0.003	0	%100
30	49	X	-0.003	-0.003	0	%100
31	50	X	-0.0006	-0.0006	0	%100
32	51	X	-0.001	-0.001	0	%100
33	52	X	-0.001	-0.001	0	%100
34	53	X	-0.001	-0.001	0	%100
35	54	X	-0.001	-0.001	0	%100
36	55	X	-0.001	-0.001	0	%100
37	56	X	-0.001	-0.001	0	%100
38	57	X	-0.0006	-0.0006	0	%100
39	58	X	-0.0006	-0.0006	0	%100
40	62	X	-0.001	-0.001	0	%100
41	63	X	-0.001	-0.001	0	%100
42	64	X	-0.001	-0.001	0	%100
43	66	X	-0.001	-0.001	0	%100
44	67	X	-0.001	-0.001	0	%100
45	68	X	-0.001	-0.001	0	%100
46	71	X	-0.0009	-0.0009	0	%100
47	80	X	-0.0006	-0.0006	0	%100
48	81	X	-0.0006	-0.0006	0	%100
49	82	X	-0.0006	-0.0006	0	%100
50	83	X	-0.001	-0.001	0	%100
51	84	X	-0.001	-0.001	0	%100
52	85	X	-0.001	-0.001	0	%100
53	86	X	-0.001	-0.001	0	%100
54	87	X	-0.001	-0.001	0	%100
55	88	X	-0.001	-0.001	0	%100
56	92	X	-0.003	-0.003	0	%100
57	95	X	-0.003	-0.003	0	%100
58	96	X	-0.003	-0.003	0	%100
59	97	X	-0.0006	-0.0006	0	%100
60	98	X	-0.001	-0.001	0	%100
61	99	X	-0.001	-0.001	0	%100
62	100	X	-0.001	-0.001	0	%100
63	101	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
64	102	X	-0.001	-0.001	0	%100
65	103	X	-0.001	-0.001	0	%100
66	104	X	-0.0006	-0.0006	0	%100
67	105	X	-0.0006	-0.0006	0	%100
68	109	X	-0.001	-0.001	0	%100
69	110	X	-0.001	-0.001	0	%100
70	111	X	-0.001	-0.001	0	%100
71	113	X	-0.001	-0.001	0	%100
72	114	X	-0.001	-0.001	0	%100
73	115	X	-0.001	-0.001	0	%100
74	118	X	-0.0009	-0.0009	0	%100
75	127	X	-0.0006	-0.0006	0	%100
76	128	X	-0.0006	-0.0006	0	%100
77	129	X	-0.0006	-0.0006	0	%100
78	130	X	-0.001	-0.001	0	%100
79	131	X	-0.001	-0.001	0	%100
80	132	X	-0.001	-0.001	0	%100
81	133	X	-0.001	-0.001	0	%100
82	134	X	-0.001	-0.001	0	%100
83	135	X	-0.001	-0.001	0	%100
84	139	X	-0.003	-0.003	0	%100

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

Node	Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	20	L	Y	-0.5
2	94	L	Y	-0.5
3	168	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 12 : Live Load b)

Node	Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	21	L	Y	-0.5
2	95	L	Y	-0.5
3	169	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

Node	Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	22	L	Y	-0.5
2	96	L	Y	-0.5
3	170	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 14 : Live Load d)

Node	Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	23	L	Y	-0.5
2	97	L	Y	-0.5
3	171	L	Y	-0.5



Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed
1	Dead	DL	-1		75	
2	0 Wind - No Ice	WLZ			75	84
3	90 Wind - No Ice	WLX			75	84
4	0 Wind - Ice	WLZ			75	84
5	90 Wind - Ice	WLX			75	84
6	0 Wind - Service	WLZ			75	84
7	90 Wind - Service	WLX			75	84
8	Ice	OL1			75	84
9	0 Seismic	ELZ			75	84
10	90 Seismic	ELX			75	84
11	Live Load a	LL		3		
12	Live Load b	LL		3		
13	Live Load c	LL		3		
14	Live Load d	LL		3		
15	Maint LL 1	LL			1	
16	Maint LL 2	LL			1	
17	Maint LL 3	LL			1	
18	Maint LL 4	LL			1	
19	Maint LL 5	LL			1	
20	Maint LL 6	LL			1	
21	Maint LL 7	LL			1	
22	Maint LL 8	LL			1	
23	Maint LL 9	LL			1	
24	Maint LL 10	LL			1	
25	Maint LL 11	LL			1	
26	Maint LL 12	LL			1	
27	Maint LL 13	LL			1	
28	Maint LL 14	LL			1	
29	Maint LL 15	LL			1	
30	Maint LL 16	LL			1	
31	Maint LL 17	LL			1	
32	Maint LL 18	LL			1	
33	Maint LL 19	LL			1	
34	Maint LL 20	LL			1	
35	Maint LL 21	LL			1	
36	Maint LL 22	LL			1	
37	Maint LL 23	LL			1	
38	Maint LL 24	LL			1	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5
101	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					30	1.5
102	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					31	1.5
103	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					32	1.5
104	1.2 D + 1.5 LL Maint (19)	Yes	Y	1	1.2					33	1.5
105	1.2 D + 1.5 LL Maint (20)	Yes	Y	1	1.2					34	1.5
106	1.2 D + 1.5 LL Maint (21)	Yes	Y	1	1.2					35	1.5
107	1.2 D + 1.5 LL Maint (22)	Yes	Y	1	1.2					36	1.5
108	1.2 D + 1.5 LL Maint (23)	Yes	Y	1	1.2					37	1.5
109	1.2 D + 1.5 LL Maint (24)	Yes	Y	1	1.2					38	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	73	max	3.461	7	2.156	20	0.719	12	1.761	6	1.984	5	2.616	7
2		min	-2.757	13	0.655	2	-3.688	18	-0.981	12	-1.642	11	-2.238	13
3	74	max	1.028	78	2.046	23	3.361	25	1.166	25	0.794	5	1.065	13
4		min	-1.659	48	0.7	5	0.621	7	-0.146	7	-1.222	11	-0.731	7
5	147	max	2.573	4	2.149	24	1.939	76	1.158	10	2.411	9	2.297	4
6		min	-5.182	10	0.694	6	-1.188	10	-1.205	4	-2.07	3	-3.167	10
7	148	max	3.498	16	2.053	15	0.465	39	0.49	3	1.045	9	0.522	10
8		min	0.286	10	0.663	9	-1.847	81	-0.8	82	-1.474	3	-1.403	4
9	221	max	2.293	14	2.21	16	5.906	2	3.187	8	2.523	13	0.772	81
10		min	0.807	7	0.692	10	-3.898	8	-3.959	2	-2.148	7	0.052	39
11	222	max	-0.599	5	2.1	19	0.346	2	0.983	2	0.992	13	0.821	85



Envelope Node Reactions (Continued)

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
12	min	-2.373	23	0.707	13	-2.977	20	-1.718	8	-1.461	7	0.075	6
13	Totals: max	7.228	5	12.533	15	9.028	2						
14	min	-7.228	11	4.954	9	-9.028	8						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

Member	Shape	Code Check	Loc [ft]	LC	Shear	Check	Loc [ft]	Dir	Cphi*	Pnc [k]	phi*	Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	PL5/8x6	0.348	0.667	24	0.085	0.667	y	21	94.955	168.75	2.197	21.094	1.507	H1-1b	
2	2	PL5/8x6	0.361	0.667	18	0.094	0.667	y	18	94.955	168.75	2.197	21.094	1.553	H1-1b	
3	3	3/4" SR	0.197	4.673	22	0.007	0		23	1.116	19.88	0.249	0.249	2.388	H1-1b*	
4	4	HSS2.375X0.218	0.303	0.625	43	0.073	3.594		20	5.745	62.55	3.6	3.6	2.588	H1-1b	
5	5	HSS2.375X0.218	0.498	3.281	9	0.14	3.438		11	5.745	62.55	3.6	3.6	2.449	H1-1a	
6	6	HSS2.875X0.203	0.201	6.458	80	0.04	3.542		82	22.321	50.085	3.596	3.596	3	H1-1b	
7	7	HSS2.875X0.203	0.296	3.438	8	0.051	3.542		7	22.321	50.085	3.596	3.596	2.715	H1-1b	
8	8	HSS2.875X0.203	0.182	3.542	8	0.095	3.542		9	22.321	50.085	3.596	3.596	3	H1-1b	
9	9	HSS2.875X0.203	0.271	3.438	8	0.123	3.542		8	22.321	50.085	3.596	3.596	3	H1-1b	
10	10	3/4" SR	0.564	3	23	0.006	0		41	2.707	19.88	0.249	0.249	2.256	H1-1a	
11	11	3/4" SR	0.508	3	23	0.014	0		10	2.707	19.88	0.249	0.249	2.42	H1-1a	
12	15	PL 1/2X3 11/16	0.269	0.227	23	0.101	0	y	8	80.831	82.969	0.864	6.374	1.616	H1-1b	
13	16	HSS2.375X0.218	0.129	3.672	18	0.084	3.75		19	48.725	62.55	3.6	3.6	1.804	H1-1b	
14	17	PL 1/2X3 11/16	0.315	0	19	0.093	0.276	y	18	79.835	82.969	0.864	6.374	1.048	H1-1b	
15	19	PL 1/2X3 11/16	0.273	0.227	20	0.086	0.227	y	54	80.831	82.969	0.864	6.374	1.745	H1-1b	
16	20	HSS2.375X0.218	0.137	3.672	23	0.079	3.75		23	48.725	62.55	3.6	3.6	2.128	H1-1b	
17	21	PL 1/2X3 11/16	0.334	0	23	0.083	0.276	y	21	79.835	82.969	0.864	6.374	1.04	H1-1b	
18	24	HSS2.375X0.154	0.128	6.283	4	0.041	6.283		49	23.19	45	2.674	2.674	1.136	H1-1b*	
19	33	3/4" SR	0.138	4.673	74	0.006	0		4	1.116	19.88	0.249	0.249	2.384	H1-1b*	
20	34	3/4" SR	0.359	3	76	0.006	0		43	2.707	19.88	0.249	0.249	2.247	H1-1a	
21	35	3/4" SR	0.349	3	85	0.016	0		9	2.707	19.88	0.249	0.249	2.252	H1-1a	
22	36	PL 1/2X3 11/16	0.192	0.227	85	0.147	0	y	20	80.831	82.969	0.864	6.374	1.666	H1-1b	
23	37	HSS2.375X0.218	0.095	1.875	109	0.067	3.75		21	48.725	62.55	3.6	3.6	1.337	H1-1b	
24	38	PL 1/2X3 11/16	0.217	0	79	0.134	0.276	y	21	79.835	82.969	0.864	6.374	1.01	H1-1b	
25	39	PL 1/2X3 11/16	0.204	0.227	78	0.139	0.227	y	24	80.831	82.969	0.864	6.374	1.668	H1-1b	
26	40	HSS2.375X0.218	0.105	1.875	108	0.065	3.75		19	48.725	62.55	3.6	3.6	1.342	H1-1b	
27	41	PL 1/2X3 11/16	0.208	0	23	0.13	0	y	20	79.835	82.969	0.864	6.374	1.034	H1-1b	
28	45	HSS4.500X0.237	0.205	1.021	7	0.211	1.021		5	106.372	133.2	15.113	15.113	3	H1-1b	
29	48	PL5/8x6	0.351	0.667	16	0.085	0.667	y	25	94.955	168.75	2.197	21.094	1.499	H1-1b	
30	49	PL5/8x6	0.364	0.667	22	0.095	0.667	y	21	94.955	168.75	2.197	21.094	1.552	H1-1b	
31	50	3/4" SR	0.198	4.673	14	0.007	0		15	1.116	19.88	0.249	0.249	2.387	H1-1b*	
32	51	HSS2.375X0.218	0.304	0.625	45	0.071	3.437		41	5.745	62.55	3.6	3.6	2.603	H1-1b	
33	52	HSS2.375X0.218	0.522	3.437	3	0.174	3.437		3	5.745	62.55	3.6	3.6	2.847	H1-1a	
34	53	HSS2.875X0.203	0.201	3.542	74	0.04	3.542		74	22.321	50.085	3.596	3.596	3	H1-1b	
35	54	HSS2.875X0.203	0.295	3.438	8	0.057	3.542		11	22.321	50.085	3.596	3.596	3	H1-1b	
36	55	HSS2.875X0.203	0.168	3.542	13	0.094	3.542		13	22.321	50.085	3.596	3.596	1.687	H1-1b	
37	56	HSS2.875X0.203	0.28	3.542	8	0.09	3.542		7	22.321	50.085	3.596	3.596	3	H1-1b	
38	57	3/4" SR	0.57	3	15	0.005	0		44	2.707	19.88	0.249	0.249	2.206	H1-1a	
39	58	3/4" SR	0.513	3	15	0.016	0		2	2.707	19.88	0.249	0.249	2.356	H1-1a	
40	62	PL 1/2X3 11/16	0.274	0.227	15	0.091	0.002	y	60	80.831	82.969	0.864	6.374	1.619	H1-1b	
41	63	HSS2.375X0.218	0.13	3.672	22	0.083	3.75		23	48.725	62.55	3.6	3.6	1.802	H1-1b	
42	64	PL 1/2X3 11/16	0.315	0	24	0.092	0.276	y	21	79.835	82.969	0.864	6.374	1.185	H1-1b	
43	66	PL 1/2X3 11/16	0.27	0.227	25	0.086	0.227	y	57	80.831	82.969	0.864	6.374	1.713	H1-1b	
44	67	HSS2.375X0.218	0.138	3.672	15	0.08	3.75		15	48.725	62.55	3.6	3.6	2.128	H1-1b	
45	68	PL 1/2X3 11/16	0.338	0	15	0.083	0.276	y	25	79.835	82.969	0.864	6.374	1.039	H1-1b	
46	71	HSS2.375X0.154	0.157	6.283	8	0.041	6.283		40	23.19	45	2.674	2.674	1.136	H1-1b*	
47	80	3/4" SR	0.138	4.673	79	0.008	0		9	1.116	19.88	0.249	0.249	2.389	H1-1b*	
48	81	3/4" SR	0.359	3	80	0.006	3		45	2.707	19.88	0.249	0.249	2.27	H1-1a	
49	82	3/4" SR	0.348	3	77	0.017	0		2	2.707	19.88	0.249	0.249	2.265	H1-1a	

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	Cphi*	Pnc [k]	phi*	Pnt [k]	phi*	Mn y-y [k-ft]	phi*	Mn z-z [k-ft]	Cb	Eqn
50	83	PL 1/2X3 11/16	0.191	0.227	76	0.146	0	y	24	80.831	82.969	0.864	6.374	1.666	H1-1b				
51	84	HSS2.375X0.218	0.095	1.875	105	0.067	3.75	y	25	48.725	62.55	3.6	3.6	1.337	H1-1b				
52	85	PL 1/2X3 11/16	0.218	0	83	0.134	0.276	y	25	79.835	82.969	0.864	6.374	1.011	H1-1b				
53	86	PL 1/2X3 11/16	0.204	0.227	81	0.139	0.227	y	16	80.831	82.969	0.864	6.374	1.667	H1-1b				
54	87	HSS2.375X0.218	0.105	1.875	104	0.065	3.75	y	22	48.725	62.55	3.6	3.6	1.342	H1-1b				
55	88	PL 1/2X3 11/16	0.21	0	16	0.13	0	y	24	79.835	82.969	0.864	6.374	1.037	H1-1b				
56	92	HSS4.500X0.237	0.227	1.021	10	0.256	1.021	y	9	106.372	133.2	15.113	15.113	3	H1-1b				
57	95	PL5/8x6	0.37	0.667	20	0.087	0.667	y	17	94.955	168.75	2.197	21.094	1.516	H1-1b				
58	96	PL5/8x6	0.387	0.667	14	0.1	0.667	y	14	94.955	168.75	2.197	21.094	1.567	H1-1b				
59	97	3/4" SR	0.276	0	19	0.008	0	y	19	1.116	19.88	0.249	0.249	2.405	H1-1a				
60	98	HSS2.375X0.218	0.311	0.625	38	0.078	3.594	y	15	5.745	62.55	3.6	3.6	2.606	H1-1b				
61	99	HSS2.375X0.218	0.617	3.438	8	0.181	3.438	y	7	5.745	62.55	3.6	3.6	2.944	H1-1a				
62	100	HSS2.875X0.203	0.201	3.542	78	0.04	3.542	y	78	22.321	50.085	3.596	3.596	3	H1-1b				
63	101	HSS2.875X0.203	0.295	3.438	2	0.057	3.542	y	3	22.321	50.085	3.596	3.596	2.391	H1-1b				
64	102	HSS2.875X0.203	0.144	3.542	4	0.084	3.542	y	5	22.321	50.085	3.596	3.596	2.71	H1-1b				
65	103	HSS2.875X0.203	0.343	3.438	2	0.102	3.542	y	3	22.321	50.085	3.596	3.596	3	H1-1b				
66	104	3/4" SR	0.598	3	19	0.006	0	y	48	2.707	19.88	0.249	0.249	2.299	H1-1a				
67	105	3/4" SR	0.544	3	19	0.012	0	y	6	2.707	19.88	0.249	0.249	2.31	H1-1a				
68	109	PL 1/2X3 11/16	0.291	0.227	19	0.099	0	y	3	80.831	82.969	0.864	6.374	1.238	H1-1b				
69	110	HSS2.375X0.218	0.138	3.672	14	0.087	3.75	y	15	48.725	62.55	3.6	3.6	1.823	H1-1b				
70	111	PL 1/2X3 11/16	0.334	0	16	0.095	0.276	y	14	79.835	82.969	0.864	6.374	1.204	H1-1b				
71	113	PL 1/2X3 11/16	0.291	0.227	15	0.085	0.227	y	50	80.831	82.969	0.864	6.374	1.734	H1-1b				
72	114	HSS2.375X0.218	0.146	3.672	19	0.083	3.75	y	19	48.725	62.55	3.6	3.6	2.132	H1-1b				
73	115	PL 1/2X3 11/16	0.355	0	19	0.082	0.276	y	17	79.835	82.969	0.864	6.374	1.039	H1-1b				
74	118	HSS2.375X0.154	0.112	6.283	12	0.042	6.283	y	45	23.19	45	2.674	2.674	1.136	H1-1b*				
75	127	3/4" SR	0.138	4.673	82	0.006	0	y	13	1.116	19.88	0.249	0.249	2.384	H1-1b*				
76	128	3/4" SR	0.358	3	84	0.006	3	y	25	2.707	19.88	0.249	0.249	2.22	H1-1a				
77	129	3/4" SR	0.349	3	81	0.014	0	y	6	2.707	19.88	0.249	0.249	2.297	H1-1a				
78	130	PL 1/2X3 11/16	0.192	0.227	80	0.146	0	y	16	80.831	82.969	0.864	6.374	1.666	H1-1b				
79	131	HSS2.375X0.218	0.095	1.875	101	0.067	3.75	y	18	48.725	62.55	3.6	3.6	1.337	H1-1b				
80	132	PL 1/2X3 11/16	0.217	0	77	0.135	0.276	y	17	79.835	82.969	0.864	6.374	1.006	H1-1b				
81	133	PL 1/2X3 11/16	0.204	0.227	74	0.14	0.227	y	20	80.831	82.969	0.864	6.374	1.668	H1-1b				
82	134	HSS2.375X0.218	0.105	1.875	100	0.065	3.75	y	14	48.725	62.55	3.6	3.6	1.342	H1-1b				
83	135	PL 1/2X3 11/16	0.208	0	85	0.131	0	y	16	79.835	82.969	0.864	6.374	1.049	H1-1b				
84	139	HSS4.500X0.237	0.264	1.021	2	0.264	1.021	y	2	106.372	133.2	15.113	15.113	2.1	H1-1b				

APPENDIX D
ADDITIONAL CALCUATIONS

PROJECT	141992.012.01 - Windsor Pine Lane, C KSC			
SUBJECT	Sector Mount Analysis			
DATE	11/12/21	PAGE	1	OF 1



B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 (918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	5.906	k
Vertical Shear	:	2.21	k
Horizontal Shear	:	2.293	k
Torsion	:	0.772	k.ft
Moment from Horizontal Forces	:	2.523	k.ft
Moment from Vertical Forces	:	3.187	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in ²
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	3.18	k
Force from Horz. Moment	:	4.57	k
Force from Vert. Moment	:	5.77	k
Shear Load / Bolt	:	0.80	k
Tension Load / Bolt	:	1.48	k
Resultant from Moments / Bolt	:	3.68	k

Bolt Checks

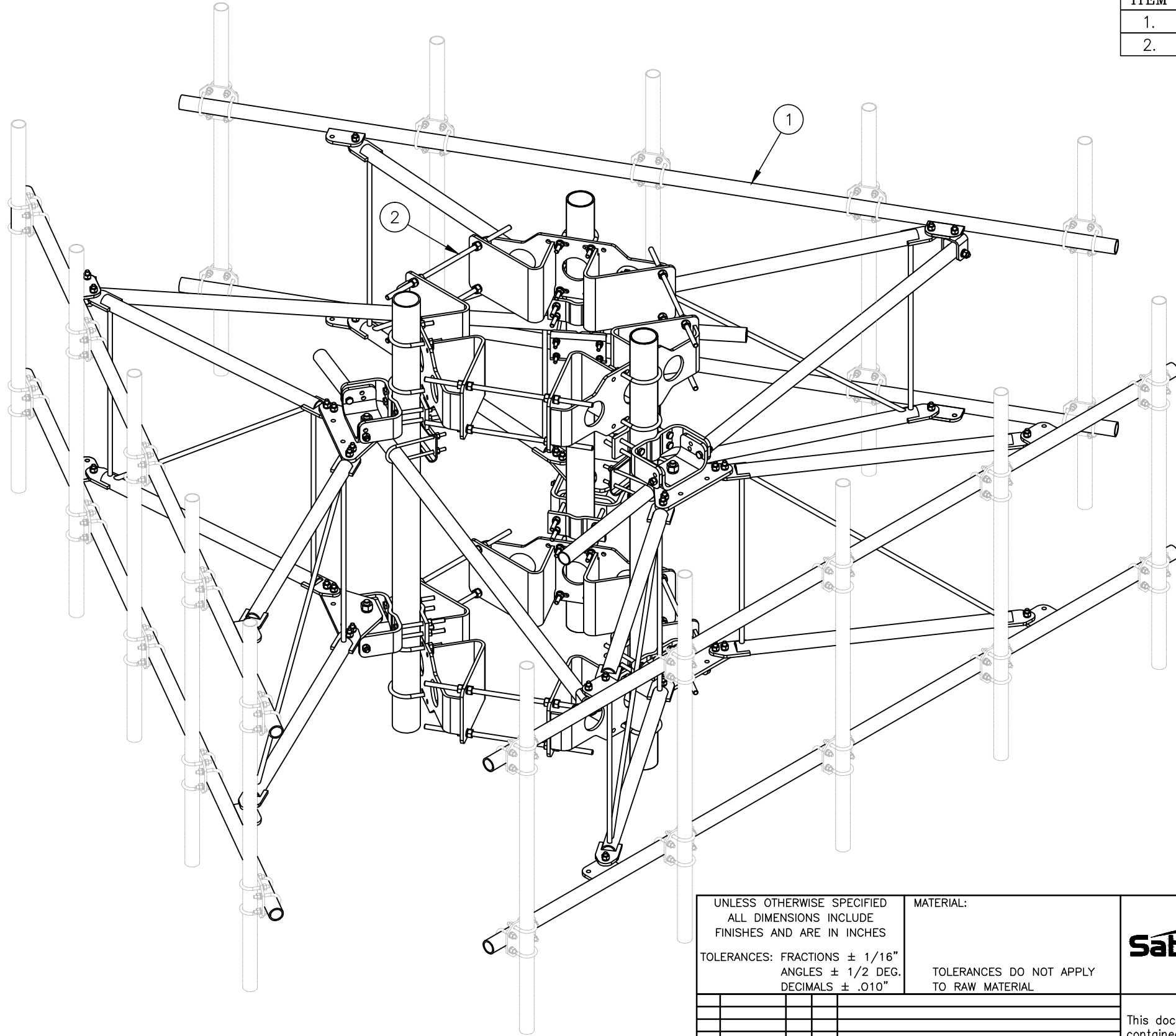
Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	24.89%		OKAY
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	20.56%		OKAY
Unity Check, Combined	:	45.45%		OKAY
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	2.30%		OKAY

APPENDIX E
SUPPLEMENTAL DRAWINGS



C10857802 12' HD V-BOOM ASSEMBLIES W/TIEBACK

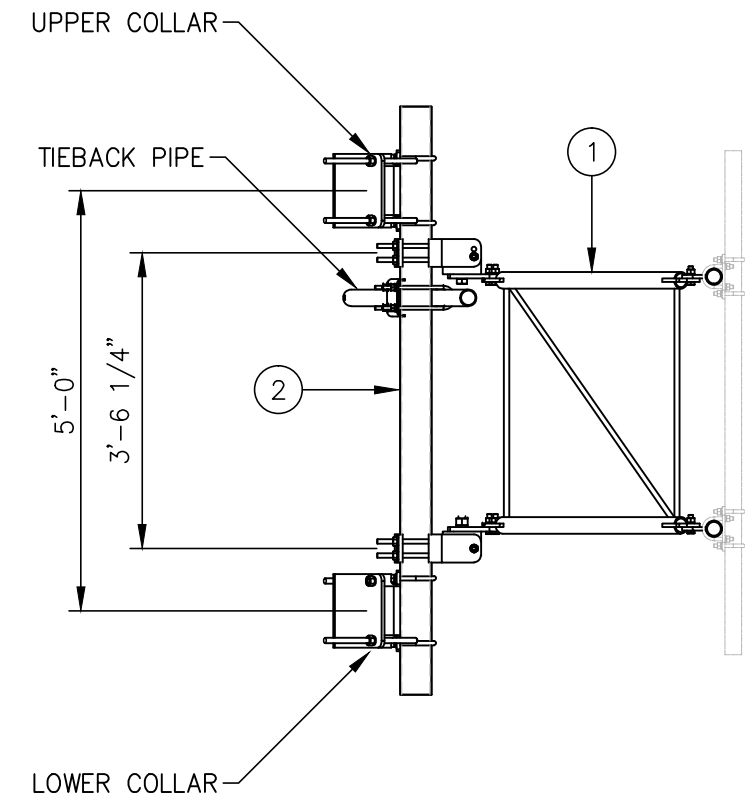
ITEM	QTY.	PART NO.	DESCRIPTION	WEIGHT
1.	3	C10857001C	12' HD V-BOOM ASSEMBLY W/TIE BACK	1386
2.	1	C10899055	4 1/2" O.D. MONOPOLE PIPE MOUNT ASSEMBLY	994
			TOTAL WEIGHT	2380



ISOMETRIC VIEW

NOTES:

1. MOUNTING PIPES & CROSSOVER PLATE KITS MUST BE PURCHASED SEPARATELY.
2. SEE DRAWING C10857001C FOR 12' V-BOOM ASSEMBLY.
3. SEE DRAWING C10899055 FOR 4 1/2" O.D. MONOPOLE PIPE MOUNT ASSEMBLY.



VIEW A-A
FROM PAGE 2

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS INCLUDE
FINISHES AND ARE IN INCHES

TOLERANCES: FRACTIONS $\pm 1/16"$
ANGLES $\pm 1/2$ DEG.
DECIMALS $\pm .010"$

MATERIAL:

TOLERANCES DO NOT APPLY
TO RAW MATERIAL

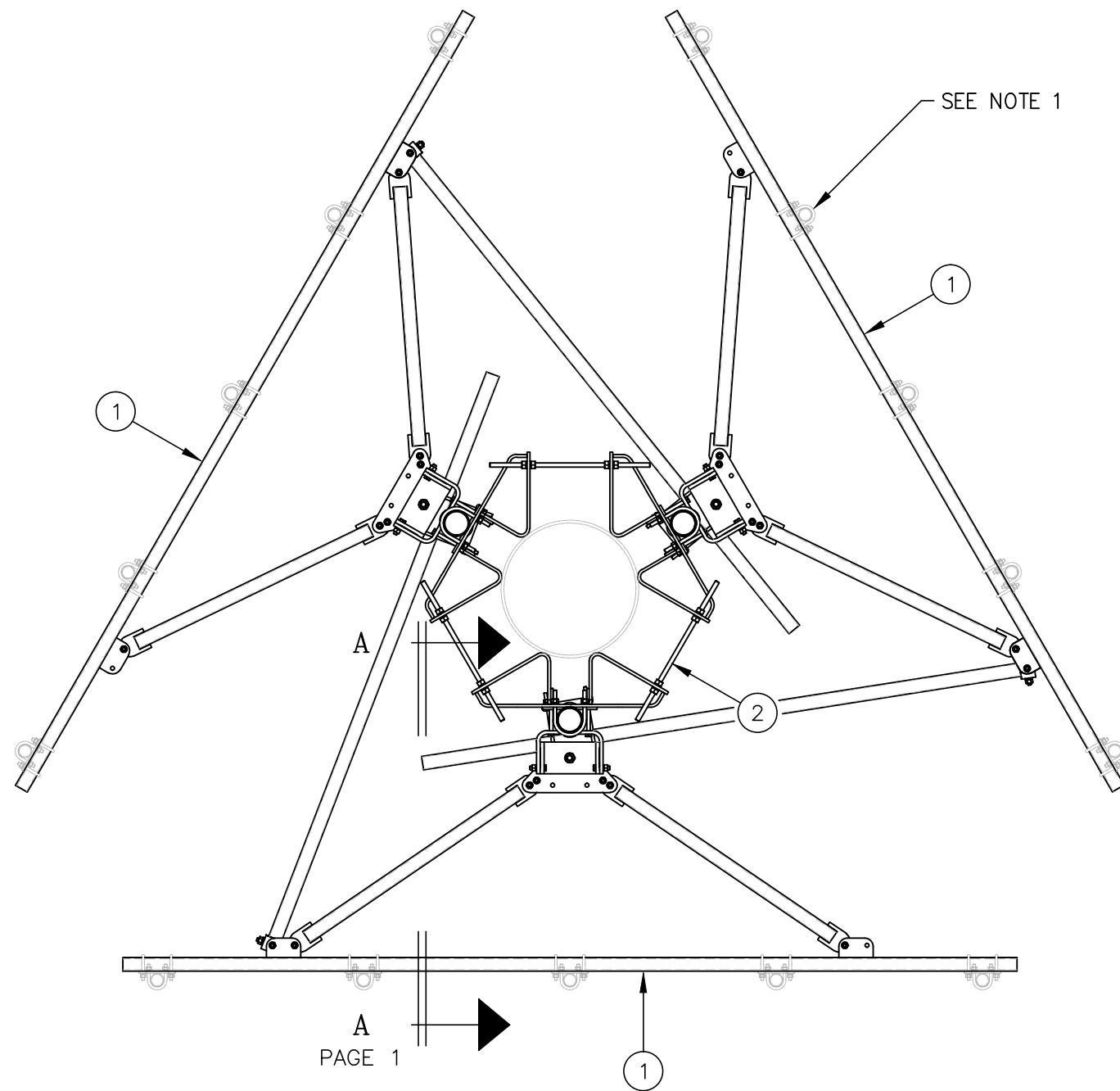


12' HD V-BOOM ASSEMBLIES W/TIEBACK
(3' STANDOFF)
ON MONOPOLE PIPE MOUNT ASSEMBLY
W/NO ANTENNA MOUNTING PIPES

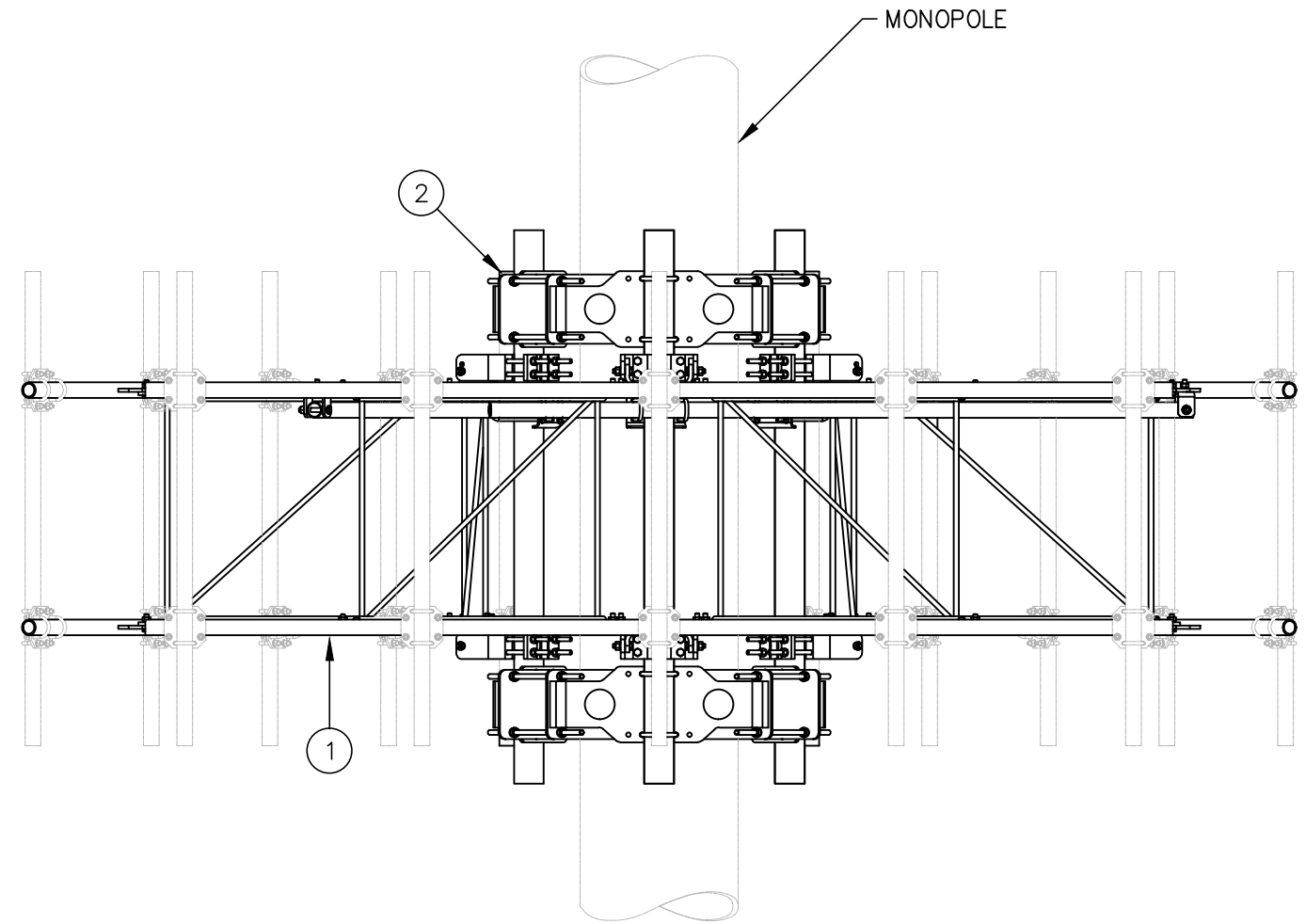
REV	DATE	DRW	CHK	DESCRIPTION

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DATE	9/24/18	SIZE	B	DRAWING NO.	C10857802	REV	0
DRAWN BY	WRF	CHECKED BY	WMN	SCALE	None	PAGE	1 OF 2



PLAN VIEW



ELEVATION VIEW

A
PAGE 1

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS INCLUDE
FINISHES AND ARE IN INCHES

TOLERANCES: FRACTIONS $\pm 1/16"$
ANGLES $\pm 1/2$ DEG.
DECIMALS $\pm .010"$

MATERIAL:
TOLERANCES DO NOT APPLY
TO RAW MATERIAL



12' HD V-BOOM ASSEMBLIES W/TIEBACK
(3' STANDOFF)
ON MONOPOLE PIPE MOUNT ASSEMBLY
W/NO ANTENNA MOUNTING PIPES

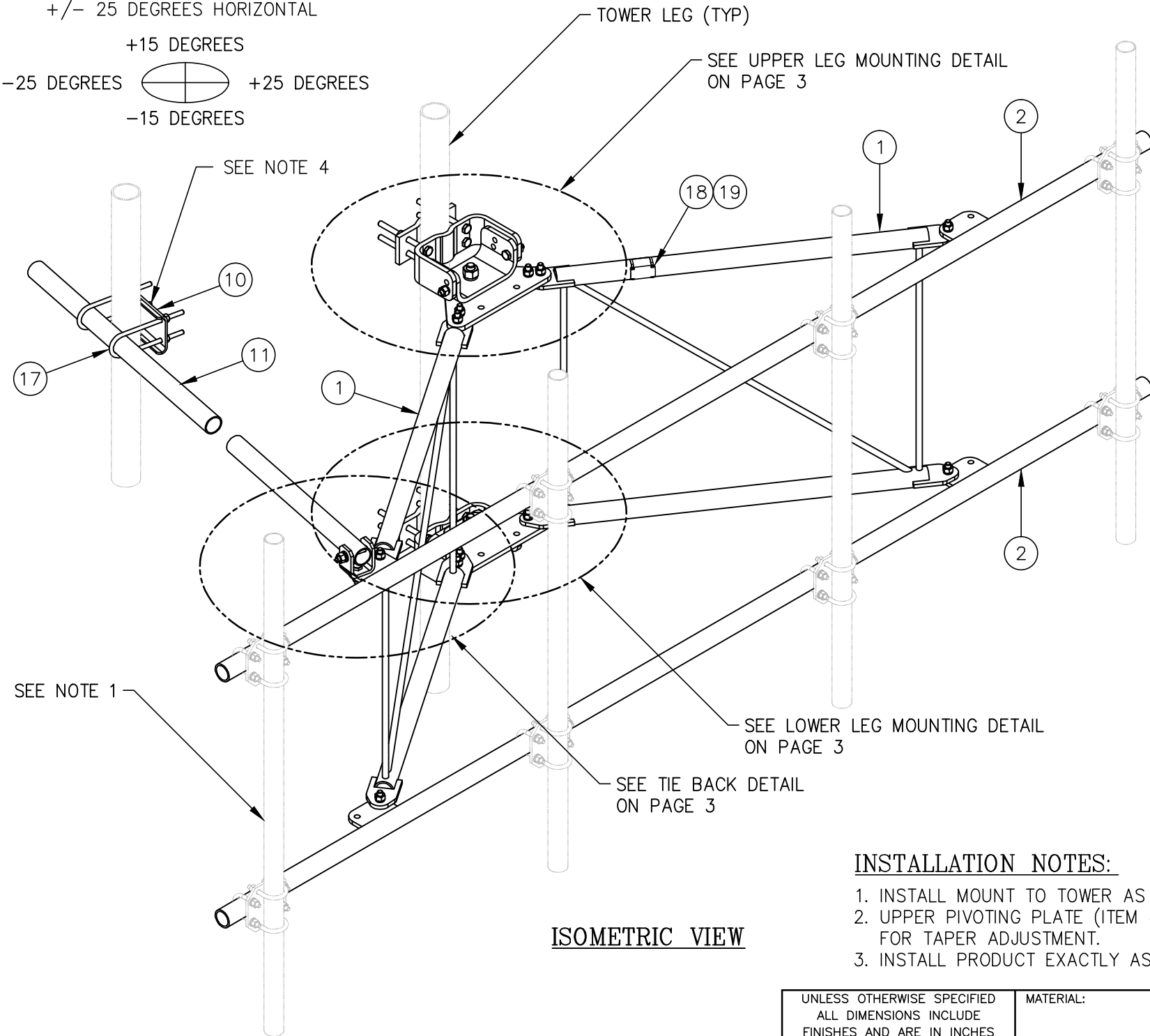
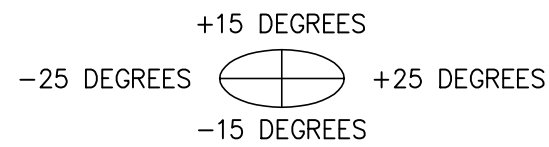
REV	DATE	DRW	CHK	DESCRIPTION

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DATE	09/24/18	SIZE	B	DRAWING NO.	C10857802	REV	0
DRAWN BY	WRF	SCALE		PAGE		2 OF 2	
CHECKED BY	WMN	None					

TIEBACK ANGLE RANGE DETAIL

+/- 15 DEGREES VERTICAL
 +/- 25 DEGREES HORIZONTAL



ISOMETRIC VIEW

NOTES:

1. MOUNTING PIPES & CROSSOVER PLATE KITS MUST BE PURCHASED SEPARATELY.
2. QUANTITIES SHOWN IN LISTS OF MATERIAL ARE FOR ONE (1) V-BOOM ONLY.
3. THIS V-BOOM WILL MOUNT TO THE FOLLOWING: 1 1/2"φ TO 5 9/16"φ ROUND LEG.
4. TIEBACK MUST BE CONNECTED TO A RIGID MEMBER THAT PROVIDES ADEQUATE SUPPORT WITHIN THE LIMITS NOTED ABOVE IN THE TIEBACK ANGLE RANGE DETAIL UNLESS APPROVED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES:

1. INSTALL MOUNT TO TOWER AS SHOWN, SO THAT WELDED STANDOFF DIAGONAL IS SLOPING DOWNWARD FROM TOWER END TO FACE PIPE END.
2. UPPER PIVOTING PLATE (ITEM 4) HAS THREE HOLES ON EACH SIDE AND UPPER LEG CLAMP PLATE (ITEM 5) HAS TWO HOLES ON EACH SIDE FOR TAPER ADJUSTMENT.
3. INSTALL PRODUCT EXACTLY AS SHOWN IN DRAWING, WITH ALL BOLTS FACING UPWARDS.

C10857001C 12' HD V-BOOM ASSEMBLY W/TIEBACK

ITEM	QTY.	PART NO.	DESCRIPTION	WEIGHT
1.	2	CW01222	WELDMENT, STANDOFF ARM	126
2.	2	CW01223	WELDMENT, FACE PIPE	147
3.	2	CS03109	PLATE, ROTATING	34
4.	1	CS03110	PLATE, PIVOTING (UPPER)	16
5.	1	CS03111	PLATE, LEG CLAMP (UPPER)	17
6.	1	CS03112	PLATE, PIVOTING (LOWER)	14
7.	1	CS03113	PLATE, LEG CLAMP (LOWER)	17
8.	2	CS03114	PLATE, LEG CLAMP (BACK)	14
9.	1	CS00098	PLATE, TIE BACK SWIVEL	3
10.	1	CS03285	PLATE, TIE BACK CLAMP	4
11.	1	CS03333	PIPE, TIE BACK	38
12.	2	C40026073	BOLT ASSEMBLY, 1 φ X 3 A325	4
13.	8	C40140004	BOLT ASSEMBLY, 5/8 φ X 8 A307	13
14.	1	C40026033	BOLT ASSEMBLY, 5/8 φ X 4 1/2 A325	1
15.	12	C40026025	BOLT ASSEMBLY, 5/8 φ X 2 1/2 A325	6
16.	5	C40026024	BOLT ASSEMBLY, 5/8 φ X 2 1/4 A325	3
17.	2	C40034183	U-BOLT ASSEMBLY, 1/2 φ X 2 15/16 C-C	3
18.	1	Z30992001	MOUNT CLASSIFICATION TAG C10857001C	1
19.	2	C40062103	STAINLESS STEEL SELF-LOCKING CABLE TIE	1
TOTAL WEIGHT				462

PACKAGING NOTE

CK00386 INCLUDES ITEMS 1, 3, 4, 5, 6, 7, 12 & 15 (8 QTY)
 CK00387-HDW INCLUDES ITEMS 8, 9, 10, 13, 14, 15 (4 QTY), 16, 17, 18 & 19
 CK00387-STL INCLUDES ITEMS 2 & 11

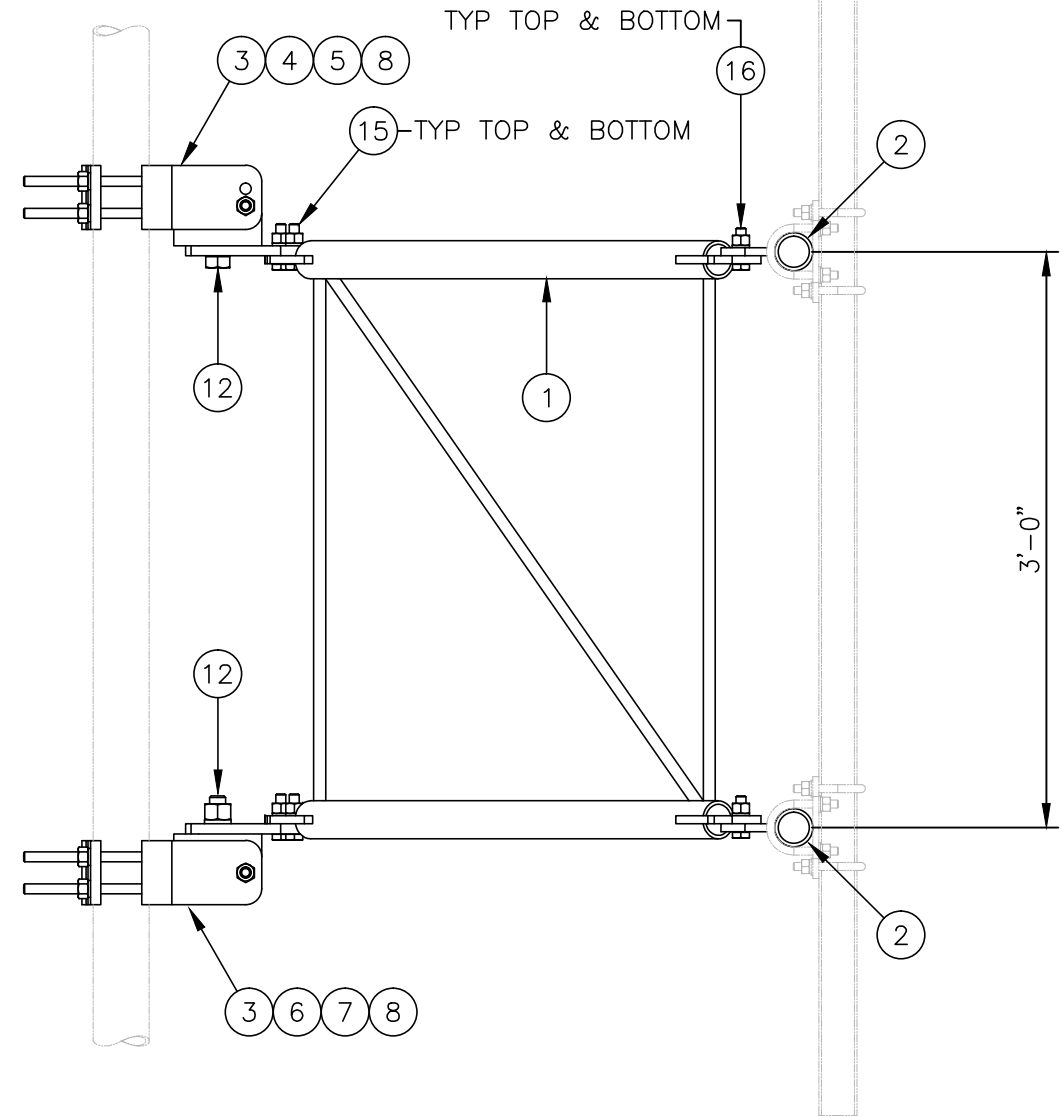
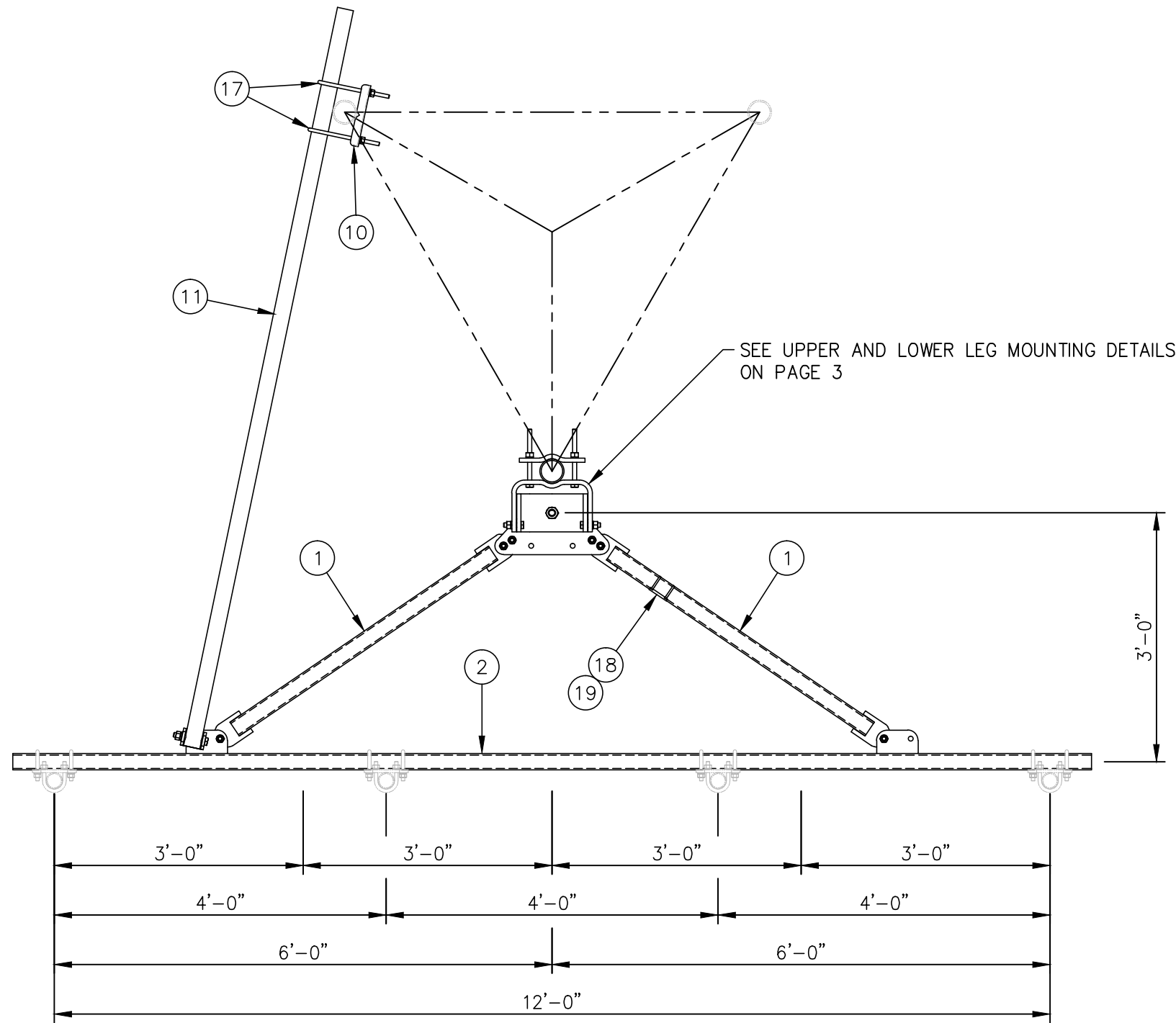
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS INCLUDE FINISHES AND ARE IN INCHES		MATERIAL:	
TOLERANCES: FRACTIONS ± 1/16" ANGLES ± 1/2 DEG. DECIMALS ± .010"		TOLERANCES DO NOT APPLY TO RAW MATERIAL	
REV	DATE	DRW/CHK	DESCRIPTION
4	04/11/17	KLE/EK	REVISED PACKAGING NOTE
3	10/19/16	KLE/DEL	ADDED INSTALLATION NOTES
2	02/05/16	DLW/DEL	ADDED PACKAGING NOTE
1	01/21/16	KLE/EK	REVISED NOTES & ADDED TIEBACK ANGLE RANGE DETAIL



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**12' HD V-BOOM ASSEMBLY W/TIEBACK
 (3' STANDOFF)
 W/NO ANTENNA MOUNTING PIPES**

DATE	12/22/15	SIZE	B	DRAWING NO.	C10857001C	REV	4
DRAWN BY	WRF	CHECKED BY	EK	SCALE	None	PAGE	1 OF 3



SIDE VIEW

MOUNTING OPTIONS
SHOWING MOUNTING PIPE PLACEMENTS

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS INCLUDE FINISHES AND ARE IN INCHES				MATERIAL:	
TOLERANCES: FRACTIONS ± 1/16" ANGLES ± 1/2 DEG. DECIMALS ± .010"				TOLERANCES DO NOT APPLY TO RAW MATERIAL	
REV	DATE	DRW	CHK	DESCRIPTION	
4	04/11/17	KLE	EK	REVISED PACKAGING NOTE	
3	10/19/16	KLE	DEL	ADDED INSTALLATION NOTES	
2	02/05/16	DLW	DEL	ADDED PACKAGING NOTE	
1	01/21/16	KLE	EK	REVISED NOTES & ADDED TIEBACK ANGLE RANGE DETAIL	

Sabre Industries™
Towers and Poles

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12' HD V-BOOM ASSEMBLY W/TIEBACK (3' STANDOFF) W/NO ANTENNA MOUNTING PIPES					
DATE	12/22/15	SIZE	B	DRAWING NO.	REV
DRAWN BY	WRF			C10857001C	4
CHECKED BY	EK	SCALE	None	PAGE 2 OF 3	

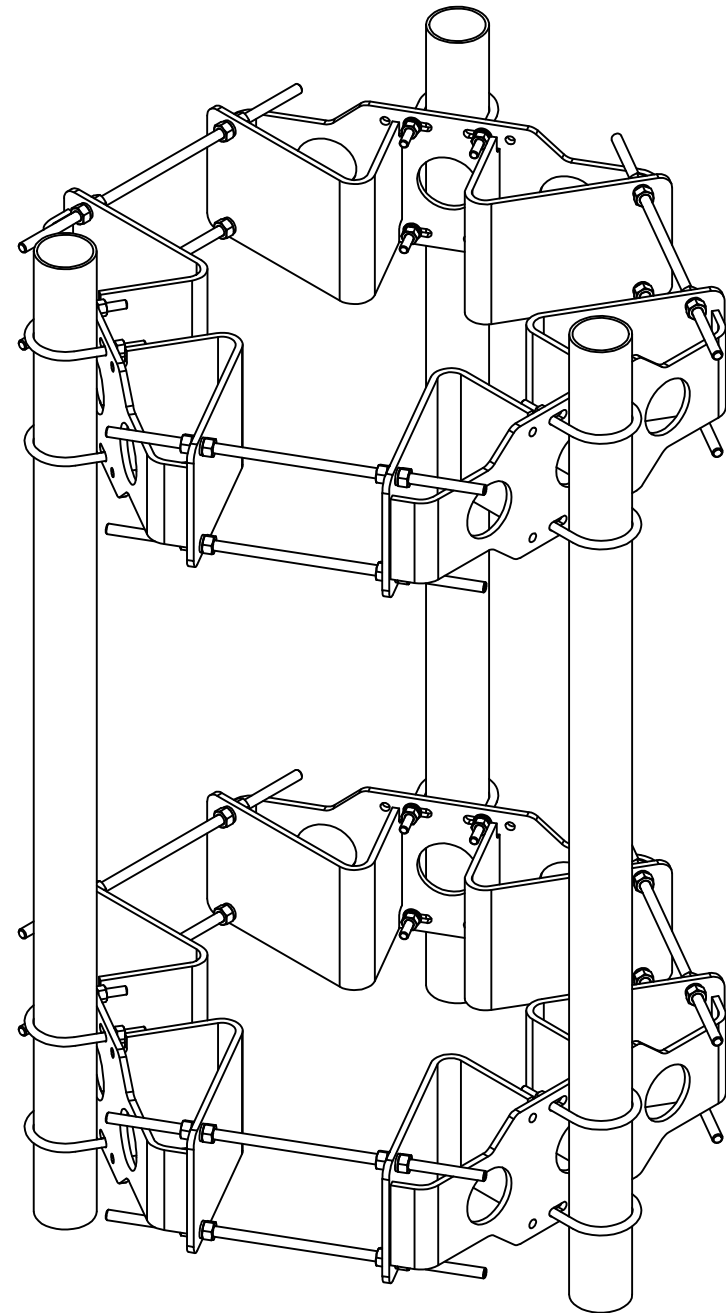


NOTE:

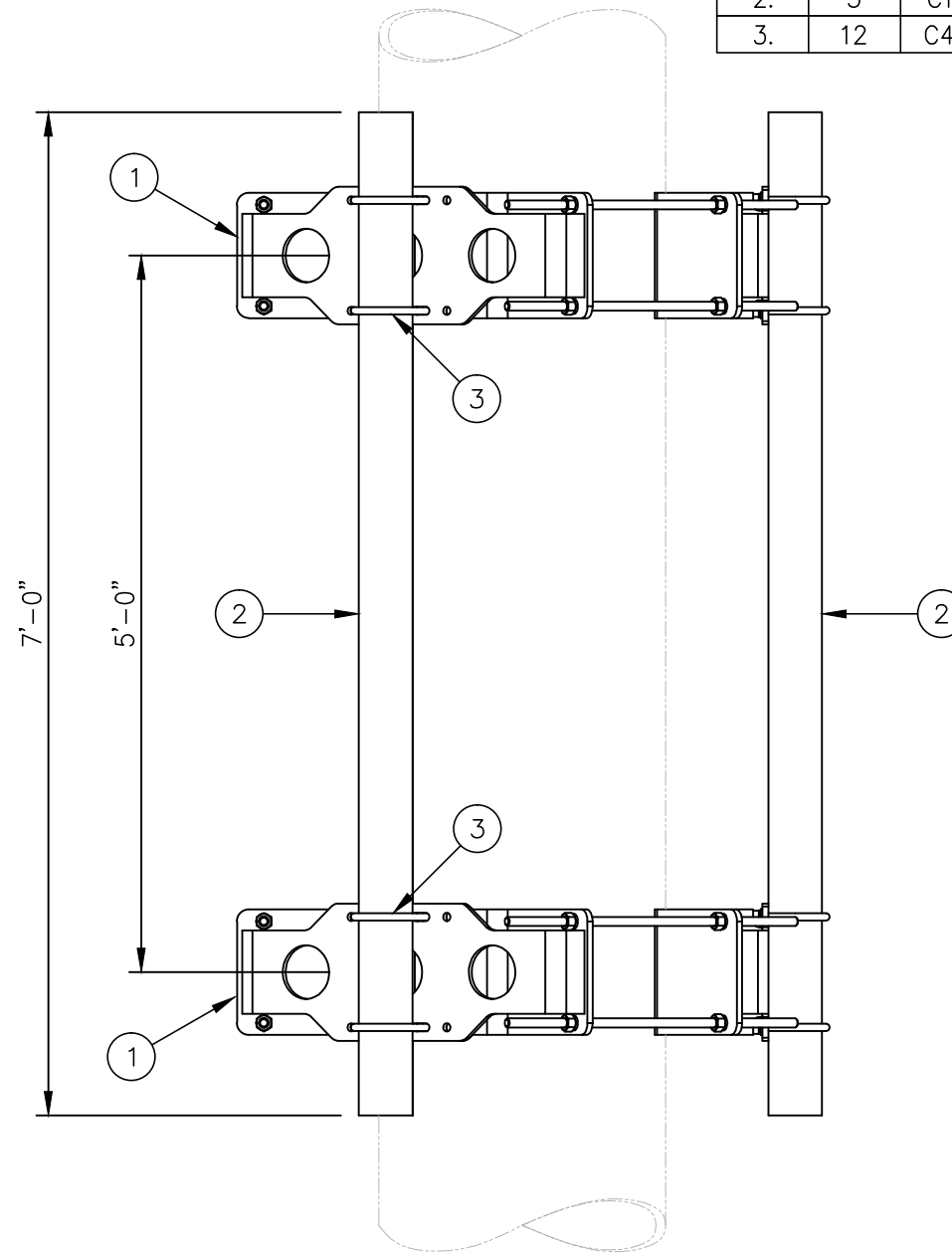
SEE DRAWING C10112378 FOR INSTALLATION OF TRI-COLLAR BRACKET ASSEMBLY

C10899055 4 1/2" O.D. PIPE MOUNT ASSEMBLY

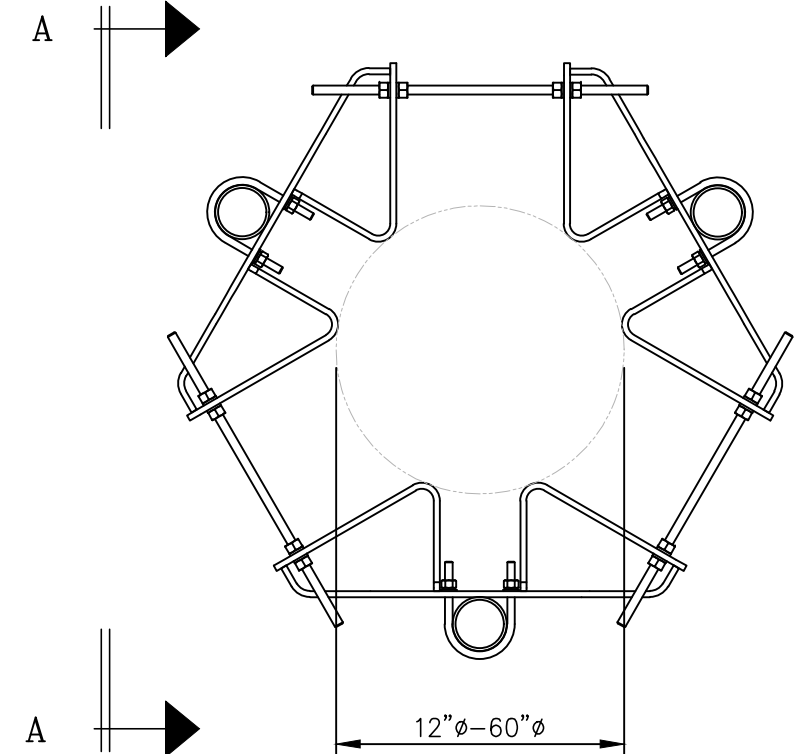
ITEM	QTY.	PART NO.	DESCRIPTION	WEIGHT
1.	2	C10112378	TRI-COLLAR BRACKET ASSEMBLY	732
2.	3	C10901407	PIPE, 4 1/2 O.D. X .237 X 7'-0	236
3.	12	C40034032	U-BOLT ASSEMBLY, 5/8 ϕ X 5 3/16 C-C	26
TOTAL WEIGHT				994



ISOMETRIC VIEW



VIEW A-A



PLAN VIEW

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS INCLUDE
FINISHES AND ARE IN INCHES

TOLERANCES: FRACTIONS $\pm 1/16"$
ANGLES $\pm 1/2$ DEG.
DECIMALS $\pm .010"$

MATERIAL:

TOLERANCES DO NOT APPLY
TO RAW MATERIAL



**4 1/2" O.D. PIPE MOUNT ASSEMBLY
FOR MONOPOLES
(FITS 12" TO 60" DIAMETER)**

REV	DATE	DRW	CHK	DESCRIPTION
1	02/03/17	WRF	KLE	COLLAR WAS C10112301

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DATE	01/26/16	SIZE	B	DRAWING NO.	C10899055	REV	1
DRAWN BY	WRF	CHECKED BY	DLW	SCALE	None	PAGE	1 OF 1

Exhibit F

Power Density/RF Emissions Report

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS

AT&T Existing Facility

Site ID: CTL01137

841793

50 Pine Lane

Windsor, Connecticut 06095

January 20, 2022

EBI Project Number: 6222000346

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	26.13%

January 20, 2022

AT&T

Emissions Analysis for Site: CTL01137 - 841793

EBI Consulting was directed to analyze the proposed AT&T facility located at **50 Pine Lane** in **Windsor, Connecticut** for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at 50 Pine Lane in Windsor, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 4 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 2) 2 LTE DE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 4 LTE FN channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 4) 4 5G channels (850 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 4 LTE / 5G channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 6) 4 LTE / 5G channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

- 7) 4 LTE channels (WCS Band – 2300 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 25 Watts per Channel.
- 8) 2 C-Band Channels (3700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 144.58 Watts per Channel.
- 9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antennas used in this modeling are the Quintel QD6616-7 for the 700 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU6DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector A, the Quintel QD6616-7 for the 700 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU6DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector B, the Quintel QD6616-7 for the 700 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU6DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antenna mounting height centerline of the proposed antennas is 130 feet above ground level (AGL).

- 13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 14) All calculations were done with respect to uncontrolled / general population threshold limits.

AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Quintel QD6616-7	Make / Model:	Quintel QD6616-7	Make / Model:	Quintel QD6616-7
Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz
Gain:	11.9711 dBd / 11.9711 dBd / 15.1151 dBd / 15.624 dBd	Gain:	11.9711 dBd / 11.9711 dBd / 15.1151 dBd / 15.624 dBd	Gain:	11.9711 dBd / 11.9711 dBd / 15.1151 dBd / 15.624 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	14	Channel Count:	14	Channel Count:	14
Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts
ERP (W):	14,815.49	ERP (W):	14,815.49	ERP (W):	14,815.49
Antenna A1 MPE %:	4.47%	Antenna B1 MPE %:	4.47%	Antenna C1 MPE %:	4.47%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz
Gain:	23.45 dBd	Gain:	23.45 dBd	Gain:	23.45 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts
ERP (W):	31,996.92	ERP (W):	31,996.92	ERP (W):	31,996.92
Antenna A2 MPE %:	7.48%	Antenna B2 MPE %:	7.48%	Antenna C2 MPE %:	7.48%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz
Gain:	23.45 dBd	Gain:	23.45 dBd	Gain:	23.45 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts
ERP (W):	31,996.92	ERP (W):	31,996.92	ERP (W):	31,996.92
Antenna A3 MPE %:	7.48%	Antenna B3 MPE %:	7.48%	Antenna C3 MPE %:	7.48%
Antenna #:	4	Antenna #:	4	Antenna #:	4
Make / Model:	CCI DMP65R-BU6DA	Make / Model:	CCI DMP65R-BU6DA	Make / Model:	CCI DMP65R-BU6DA
Frequency Bands:	700 MHz / 850 MHz / 2300 MHz	Frequency Bands:	700 MHz / 850 MHz / 2300 MHz	Frequency Bands:	700 MHz / 850 MHz / 2300 MHz
Gain:	11.75 dBd / 11.45 dBd / 14.15 dBd	Gain:	11.75 dBd / 11.45 dBd / 14.15 dBd	Gain:	11.75 dBd / 11.45 dBd / 14.15 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	420 Watts	Total TX Power (W):	420 Watts	Total TX Power (W):	420 Watts
ERP (W):	7,228.33	ERP (W):	7,228.33	ERP (W):	7,228.33
Antenna A4 MPE %:	2.73%	Antenna B4 MPE %:	2.73%	Antenna C4 MPE %:	2.73%

• An adjusted power reduction factor of 0.32 was applied to the AIR 6449 antennas per guidance from AT&T.

- Pattern files were not available for the Ericsson AIR 6419 antenna. Per AT&T, pattern files for the AIR 6449 antenna were used to model the 6419 due to its similarity.

Site Composite MPE %	
Carrier	MPE %
AT&T (Max at Sector A):	22.16%
Town	0.27%
Metro PCS	0.94%
Clearwire	0.17%
Nextel	1.65%
Police	0.37%
Hartford County Fire	0.08%
State Police	0.36%
NPSAC	0.01%
RAFS	0.12%
Site Total MPE % :	26.13%

AT&T MPE % Per Sector	
AT&T Sector A Total:	22.16%
AT&T Sector B Total:	22.16%
AT&T Sector C Total:	22.16%
Site Total MPE % :	26.13%

AT&T Maximum MPE Power Values (Sector A)							
AT&T Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 700 MHz LTE FN	4	629.75	130.0	5.89	700 MHz LTE FN	467	1.26%
AT&T 700 MHz LTE	2	629.75	130.0	2.94	700 MHz LTE	467	0.63%
AT&T 1900 MHz LTE/5G	4	1298.88	130.0	12.15	1900 MHz LTE/5G	1000	1.21%
AT&T 2100 MHz LTE/5G	4	1460.36	130.0	13.66	2100 MHz LTE/5G	1000	1.37%
AT&T 3700 MHz C-Band	1	31996.92	130.0	74.81	3700 MHz C-Band	1000	7.48%
AT&T 3700 MHz C-Band	1	31996.92	130.0	74.81	3700 MHz C-Band	1000	7.48%
AT&T 700 MHz LTE	4	598.49	130.0	5.60	700 MHz LTE	467	1.20%
AT&T 850 MHz 5G	4	558.55	130.0	5.22	850 MHz 5G	567	0.92%
AT&T 2300 MHz LTE	4	650.04	130.0	6.08	2300 MHz LTE	1000	0.61%
						Total:	22.16%

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	22.16%
Sector B:	22.16%
Sector C:	22.16%
AT&T Maximum MPE % (Sector A):	22.16%
Site Total:	26.13%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **26.13%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.